

**H. B. ROBINSON
UNIT 2**

INTERVAL 3, PERIOD 1, OUTAGE 1

INSERVICE INSPECTION

FINAL REPORT

**Prepared for
Carolina Power and Light Company**

TABLE OF CONTENTS

TAB A	NIS Forms
TAB B	Summary
TAB C	Program Plan
TAB D	Data Sheets
TAB E	Exams by Others
TAB F	Indications and Resolutions
TAB G	Procedures
TAB Consumables	PT, MT and Couplant Certification
TAB UT Equip.	Instrument Certification
TAB Transducers	Listing of Transducers
TAB Personnel	NDE Personnel Certifications
TAB Cal. Blocks	Listing of Calibration Blocks

FORM NIS-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS

As required by the Provisions of the ASME Code Rules

1. Owner CAROLINA POWER & LIGHT COMPANY, 411 FAYETTEVILLE ST., RALEIGH, NC 27602
(Name and Address of Owner)
2. Plant H.B.ROBINSON, HWY.151 & SC 23 HARTSVILLE, SC 29550
(Name and Address of Plant)
3. Plant Unit HBR2 4. Owner Certificate of Authorization (if required) N/A
5. Commercial Service Date 3/7/71 6. National Board Number for Unit N/A
7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
R.C.PUMP A	WESTINGHOUSE	CPLRCPCPC1	N/A	N/A
R.C.PUMP B	WESTINGHOUSE	CPLRCPCPC2	N/A	N/A
R.C.PUMP C	WESTINGHOUSE	CPLRCPCPC3	N/A	N/A
BORON INJ. TANK	SOUTH. FABRICATORS	0049	N/A	368
RHR H.X. A	WESTINGHOUSE	CPLACAHRS1	N/A	731
S.W.INJ.FILTER A	WESTINGHOUSE	CPLCHFLS11	N/A	929
LETDOWN H.X.	WESTINGHOUSE	CPLCHAHNR	N/A	685
PIPING	EBASCO SVCS. INC.	N/A	N/A	N/A
SUPPORTS	EBASCO SVCS. INC.	N/A	N/A	N/A
CHARGING PUMP 1A	UNION PUMP CO.	274158	N/A	N/A
PULS.DAMPENER A	JOHNSON CONTROLS	M-0391	N/A	N/A
STEAM GENERATOR A	WESTINGHOUSE	CPLRCPCSG1	N/A	N/A
STEAM GENERATOR C	WESTINGHOUSE	CPLRCPCSG3	N/A	N/A

Note: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00029) may be obtained from the ASME Order Dept., Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM NIS-1 (Back)

8. Examination Dates 3/1/92 to 6/30/92 9. Inspection Interval from 2/19/92 to 2/19/0210. Applicable Editions of Section XI 1986 Addenda N/A

11. Abstract of Examinations. Include a list of examinations and a statement concerning status of work required for current interval. SEE TABS B & C VOLUME I

12. Abstract of Conditions Noted. SEE TAB B VOLUME I

13. Abstract of Corrective Measures Recommended and Taken. SEE TABS D & F VOLUME I & II

We certify that the statements made in this report are correct and the examinations and corrective measures taken conform to the rules of the ASME Code, Section XI.

Certificate of Authorization No. (if applicable) N/A Expiration Date N/ADate 9/18/92 19 92 Signed CP&L By Ray H. [Signature]
Owner

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by The Hartford Steam Boiler Insp. and Ins. Co. of Hartford, Connecticut have inspected the components described in this Owner's Report during the period 5-23-91 to 9-18-92, and state to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in the Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Inspector's Signature Ramon P. Valladares Commissions TN-971
National Board, State, Province, and EndorsementDate 9-18-92 19 92

Sheet 2 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/16/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 MOD-993
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by NED Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 1 Expiration Date N/A
 Address

4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPING	EBASCO	N/A	N/A	N/A	1971	REPLACED	NO
PIPING	NED	N/A	N/A	LINE 432 DWG.	1990	REPLACEMENT	NO
				FSM-993-2816R5			

7. Description of Work ADDED SERVICE WATER SUPPLY FOR CONTROL ROOM HABITABILITY.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 165 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE MOD-993 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/16, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 8-29-89 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-17, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/27/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B. ROBINSON Unit HBR2
 Name
HWY. 151 & SC 23 HARTSVILLE, SC 29550 MOD-1121
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by NED Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 1 Expiration Date N/A
 Address
4. Identification of System SERVICE WATER SYSTEM CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPING	EBASCO	N/A	N/A	N/A	1971	REPLACED	NO
PIPING	NED	N/A	N/A	N/A	1992	REPLACEMENT	NO

7. Description of Work REMOVED ABOUT 2" LENGTH OF PIPING ADJACENT TO VALVE V6-12D AND RE-WELDED.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 115 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE MOD-1121 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. SpecialistDate 9/9, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 3-4-92 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-17, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/27/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by NED Type Code Symbol Stamp N/A
Name
SAME AS ITEM 1 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System REACTOR COOLANT SYSTEM CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SUPPORTS	EBASCO	N/A	N/A	SPRINGS	1971	REPLACED	NO
SUPPORTS	NED	N/A	N/A	SPRINGS	1992	REPLACEMENT	NO

7. Description of Work UPGRADE OF SPRING SUPPORTS ON PRESSURIZER SURGE LINE DUE TO POSTULATED EFFECTS OF THERMAL STRATIFICATION.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE MOD-1109 TURNOVER PACKAGE.Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Richard B. Weber Sr. Specialist
Owner or Owner's Designee, Title

Date 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 3-2-92 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN 971

National Board, State, Province, and Endorsements

Date 9-17, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/27/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address
3. Work Performed by NED Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 1 Expiration Date N/A
 Address
4. Identification of System AUXILIARY FEEDWATER SYSTEM CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPING	EBASCO	N/A	N/A	N/A	1971	REPLACED	NO
PIPING	NED	N/A	N/A	VENTURI	1992	REPLACEMENT	NO

7. Description of Work FCV-6416 UPGRADE WITH CAVITATING VENTURI.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 1950 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE MOD-1091 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 8-31-91 to
9-17-92, and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date 9-17, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/27/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by NED Type Code Symbol Stamp N/A
Name
SAME AS ITEM 1 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System AUXILIARY FEEDWATER CLASS 3
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SUPPORTS	NED	N/A	N/A	N/A	1991	REPLACEMENT	NO

7. Description of Work ADDED HANGERS FW-1-225, FW-1-232, AND FW-1-239 AND MODIFIED OTHERS.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE MOD-988 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-5-90 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Galladonis
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date

9-17, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/26/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address
3. Work Performed by NED Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 1 Expiration Date N/A
 Address
4. Identification of System RESIDUAL HEAT REMOVAL SYSTEM - MINIFLOW RECIRCULATION CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE 10"	ANC./DARLING	ET047-1-1&-2	N/A	PO#6J1284	1991	REPLACEMENT	NO
VALVE 4"	ANC./DARLING	70-28-1	N/A	PO#6J1225	1991	REPLACEMENT	NO
VENTURI	WFI	N/A	N/A	PO#6K7875	1991	REPLACEMENT	NO
PIPING 4"	NED	N/A	N/A	PO#6J7209 &	1991	REPLACEMENT	NO
				PO#6J7369			

7. Description of Work ADDED TWO SEPERATE MINIFLOW RECIRCULATION LINES FOR THE RHR PUMPS.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 750 psi Test Temp. 70 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE MOD-1087 TURNOVER PACKAGE

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, Title

Date

9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-16-92 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon V. Villadanes
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date

9-17, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/25/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address MOD-1074
 Repair Organization PO NO., Job No., etc.
3. Work Performed by NED Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 1 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CONTAINMENT CLASS MC
5. (a) Applicable Construction Code SEC. III 19 83 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
CON.PEN.	CROUSE-HINDS	N/A	N/A	PEN.C1,C2 & C9	1971	REPLACED	NO
CON.PEN.	CONAX	N/A	N/A	PEN.C1,C2 & C9	1992	REPLACEMENT	NO

7. Description of Work
- REPLACEMENT OF EXISTING ELECTRICAL CONTAINMENT PENETRATION ASSEMBLIES.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☒ Nominal Operating Pressure ☐
 Other ☐ Pressure 42.5 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks FOR PENETRATION LOCATIONS SEE DRAWING B-190670 SHEET 1
Applicable Manufacturer's Data Reports to be attached
- _____
- _____
- _____

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A
Certificate of Authorization No. N/A Expiration Date N/A
Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-24-92 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-17, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/25/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address MOD-1075
Repair Organization PO NO., Job No., etc.
3. Work Performed by NED Type Code Symbol Stamp N/A
Name
SAME AS ITEM 1 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code SEC. III 19 86 Edition, N/A Addenda, N-438 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPING	EBASCO	N/A	N/A	*SEE REMARKS	1971	REPLACED	NO
VALVES	EBASCO	N/A	N/A	*SEE REMARKS	1971	REPLACED	NO
PIPING	NED	N/A	N/A	*SEE REMARKS	1992	REPLACEMENT	NO
VALVES	NED	N/A	N/A	*SEE REMARKS	1992	REPLACEMENT	NO

7. Description of Work REPLACEMENT OF EXISTING PIPING AND VALVES.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure 130 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE MOD-1075 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

PIPING: 4-CW-143, 4-CW-144, 3-CW-152, 3-CW-153, 3-CW-173, 2-CW-146.VALVES: SW-187, SW-188, SW-190, SW-197, SW-198, SW-199, FCV-1625A,B&C, SW-938, SW-942.PIPING: 1-CW-174A,B&C.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Water G. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP.& INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-31-91 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Damon P. Valladares
Inspector's SignatureCommissions TN 971

National Board, State, Province, and Endorsements

Date 9-17, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/26/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by NED MOD-1082
Name Repair Organization PO NO., Job NO., etc.
SAME AS ITEM 1 Type Code Symbol Stamp N/A
Address Authorization No. N/A
Expiration Date N/A
4. Identification of System SERVICE WATER SYSTEM CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPING	NED	N/A	N/A	N/A	1984	REPLACED	NO
PIPING	NED	N/A	N/A	N/A	1992	REPLACEMENT	NO

7. Description of Work REMOVAL AND REPLACEMENT OF HVH-4 SERVICE WATER PIPING UNDER TRANSFER CANAL.
8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure 165 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE MOD-1082 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist

Date

9/9, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-17-91 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares

Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date

9-17

, 19

92

CASE
N-308

1. Carolina Power & Light Co., P.O. Box 1551, Raleigh, N.C. 27602
2. H. B. Robinson, Hwy. 151 & SC 23, Hartsville, S.C. 29550
3. Unit 2
4. Owner Certificate of Authorization: N/A
5. Commercial Service Date: 3-07-71
6. National Board No. N/A

SHEET 11 of 119

FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT
As Required by the Provisions of ASME Code Section XI

1. Owner Carolina Power & Light Company Date 7/18/91
411 Fayetteville St., Raleigh, N.C. 27602 Sheet 1 of 1
2. Plant H. B. Robinson Hwy 151 & SC23 Unit HBR-2
Hartsville, S.C. 29550
3. Work Performed by Robinson MIU (NED) MOD-1001
Same As Item 1 Repair Organization P.O. No., Job No., etc.
4. Identification of System Service Water
5. (a) Applicable Construction Code E31.1 19 67 Edition N/A Addenda, Code Cases N/A
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 19 77, S/78, Addenda, Code Cases N/A
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfr. Ser. No.	Natl. Bd. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Piping	EBASCO	N/A	N/A	N/A	N/A	1971	Replaced	N/A
Piping	NED	N/A	N/A	N/A	N/A	1991	Replacement	N/A
Valves	EBASCO	N/A	N/A	N/A	N/A	1971	Replaced	N/A
Valves	NED	N/A	N/A	N/A	N/A	1991	Replacement	N/A

7. Description of Work Removal and Replacement of HVH Service Water Piping From Containment Penetrations to Service Water Booster Pumps
8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐
Pressure 110 psi Test Temp. AMB °F
9. Remarks M-1001 Turnover Package
(Applicable Manufacturer's Data Reports to be attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and this Replacement conforms to Section XI of the ASME Code. Ray Clark 7-13-91
Signed Richard B. Water Sr. Specialist 7/18/ 19 91
(Owner or Owner's Designer) Title (Date)

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of Province of North Carolina, employed by The Hartford Steam Boiler Insp. & Ins. Co. of Hartford, CN. have inspected the Replacements described in this Report on July 26, 19 91
(Repair(s) or Replacement(s))
and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Date July 26 1991 EB Data Commissions NC 1042
(Inspector) (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. X 11 in., (2) information in items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

N-308

2. H. B. Robinson, Hwy. 151 & SC 23, Hartsville, S.C. 29550
 3. Unit 2
 4. Owner Certificate of Authorization: N/A
 5. Commercial Service Date: 3-07-71
 6. National Board No. N/A

SHEET 12 of 119

FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT
As Required by the Provisions of ASME Code Section XI

1. Owner Carolina Power & Light Co. Date 12-18-91
411 Fayetteville St., Raleigh, NC 27602 Sheet 1 of 1
 2. Plant H. B. Robinson, Hwy 151 & SC 23 Unit HBR2
Hartsville, SC 29550
 3. Work Performed by Robinson Project Constr. (NED) MOD 1011
Same as Item 1 Repair Organization P.O. No., Job No., etc.
 4. Identification of System Reactor Coolant System
 5. (a) Applicable Construction Code B31.1 1967 Edition N/A Addenda, Code Cases N/A
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 1977, S/78 Addenda, Code Cases N/A
 6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfr. Ser. No.	Mfr. L. Bd. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Pipe 2"	RNPD	N/A	N/A	N/A	N/A	1990	Replacement	N/A
Pipe 3/4"	RNPD	N/A	N/A	N/A	N/A	1990	Replacement	N/A
2" Elbow	RNPD	N/A	N/A	N/A	N/A	1990	Replacement	N/A
2" Tee	RNPD	N/A	N/A	N/A	N/A	1990	Replacement	N/A
2"X3/4" Red.	RNPD	N/A	N/A	N/A	N/A	1990	Replacement	N/A
3/4" Valve	Dresser	*	N/A	N/A	RC-601	1990	Replacement	N/A

7. Description of Work MOD 1011
 8. Tests Conducted: ☒ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐
Pressure 2335 psi Test Temp. > 500°F
 9. Remarks See MOD 1011 Turnover Package
*P.O. # PCP-86-11

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and this replacement conforms to Section XI of the ASME Code. ReWilliams
 Signed Richard D. Water Sr. Specialist 12/18, 19 91
 (Owner or Owner's Designee) (Date)

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of North Carolina, employed by The Hartford Steam Boiler Insp. & Ins. Co. of Hartford, CN have inspected the replacement described in this Report on Dec 18, 19 91 and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
 Date Dec 18 1991 CB Dator Commission NC 1042
 (Inspector) (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) also to 8 1/2 in. X 11 in., (2) information in Items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

CASE
N-308

1. Carolina Power & Light Co., P.O. Box 1551, Raleigh, N.C. 27602
2. H. B. Robinson, Hwy. 151 & SC 23, Hartsville, S.C. 29550
3. Unit 2
4. Owner Certificate of Authorization: N/A
5. Commercial Service Date: 3-07-71
6. National Board No. N/A

SHEET 13 of 119

FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT
As Required by the Provisions of ASME Code Section XI

1. Owner Carolina Power & Light Company Date 7/18/91
411 Fayetteville St., Raleigh, N.C. 27602 Sheet 1 of 1
Hartsville, .SC. 29550 Unit HBR-2
2. Plant H.B. Robinson, Hwy. 151 & SC23 Unit HBR-2
Hartsville, .SC. 29550
3. Work Performed by Robinson Project Const. (NED) MOD-1017
Same as Item 1 Repair Organization P.O. No., Job No., etc.
4. Identification of System Service and Cooling Water System
5. (a) Applicable Construction Code B31.1 19 67 Edition N/A Addenda, Code Cases N/A
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 19 77, S/78 Addenda, Code Cases N/A
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfr. Ser. No.	Net'l. Bd. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(1) SW-906	Darling	3"-150-DI	N/A	N/A	Gate	1990	Replacement	No
(2) SW-907	Darling	2"-150-DI	N/A	N/A	Gate	1990	Replacement	No
(3) SW-911	Rockwell	*	N/A	N/A	Check	1990	Replacement	No
(4) SW-924	Rockwell	*	N/A	N/A	Check	1990	Replacement	No
(5) SW-922	Rockwell	*	N/A	N/A	Globe	1990	Replacement	No
(6) SW-927	Rockwell	*	N/A	N/A	Globe	1990	Replacement	No

7. Description of Work Installed New Valves on Service & C. Water Lines in S.I. Pump Room
8. Tests Conducted: ☒ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐
Pressure 81 psi Test Temp. 70 °F
9. Remarks See MOD-1017 Turnover Package (RHR Single Failure Elimination)
(Applicable Manufacturer's Data Reports to be attached)
*(3) 261001636174316T4 (4) 261001636174316T4 (5) B36124(F316)T4
(6) B36124(F316)T4

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and this Replacement conforms to Section XI of the ASME Code.
Signed Richard D. Weber Sr. Specialist 7/18 19 91
(Owner or Owner's Designee) Title (Date)

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of Province of North Carolina, employed by The Hartford Steam Boiler Insp. & Ins. Co. of Hartford, CN, have inspected the Replacements described in this Report on July 26, 19 91 and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Date July 26 1991 EBN Commissions NC 1042
(Inspector) (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. X 11 in., (2) information in items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/16/92
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 EE NO. 90-099
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by NED Type Code Symbol Stamp N/A
 Name Authorization No. N/A
SAME AS ITEM 1 Expiration Date N/A
 Address
4. Identification of System SIS CLASS 2
5. (a) Applicable Construction Code SEC. VIII 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
NOZZLES	DELTA SOUTH.	N/A	N/A	ACCUMULATOR A	1971	REPLACED	NO
NOZZLES	DELTA SOUTH.	N/A	N/A	ACCUMULATOR B	1971	REPLACED	NO
NOZZLES	DELTA SOUTH.	N/A	N/A	ACCUMULATOR C	1971	REPLACED	NO
NOZZLES	NED	N/A	N/A	ACCUMULATOR A	1990	REPLACEMENT	NO
NOZZLES	NED	N/A	N/A	ACCUMULATOR B	1990	REPLACEMENT	NO
NOZZLES	NED	N/A	N/A	ACCUMULATOR C	1990	REPLACEMENT	NO

7. Description of Work REPLACED 2" DIA. AND SMALLER NOZZLES ON A, B AND C ACCUMULATORS.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 875 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE EE-90-099 PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber
Owner or Owner's Designee, TitleDate 9/16, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-6-90 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladones
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-17, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-ARZT5
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	RHR-7538	1971	REPAIRED	NO

7. Description of Work BASE METAL REPAIR OF DAMAGED AREA OF VALVE BODY WAS GROUND AND REWELDED.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARZT5 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-24-96 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladone Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-17, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/17/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AERU1, 92-AESX1 AND 92-AETC1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code SEC.III 19 80 Edition, W80 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTING	WESTINGHOUSE	RCPCSG1,2&3	N/A	STM/GEN/ A,B&C	1971	REPLACED	NO
BOLTING	WESTINGHOUSE	RCPCSG1,2&3	N/A	STM/GEN/ A,B&C	1992	REPLACEMENT	NO

7. Description of Work REPLACED VARIOUS MANWAY STUDS/BOLTS/WASHERS/NUTS ON STM/GEN MANWAYS.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒ X
 Other ☐ Pressure >2235 psi Test Temp. >500 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AERU1, 92-AESX1 AND 92-AETC1 TURNOVER PACKAGES.
Applicable Manufacturer's Data Reports to be attached
- _____
- _____
- _____

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard A. Weber Sr. Specialist Date 9/17, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-13-92 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

R. P. Balladanes Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-17, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/17/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code SEC.III 19 77 Edition, W78 Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUD	C.E	66109	20772	REACTOR VESSEL	1971	REPAIR	YES

7. Description of Work
- FILED OFF INDICATIONS ON STUD #41 THREADS AND MT'D AND VT-1 AREA FOR ACCEPTANCE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure >2235 psi Test Temp. >500 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AGHS1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/17, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 5-5-92 to 9-17-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-17, 19 92

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARHM1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-14-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Villadares
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-10, 19 92

SHEET 19 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-AQIP1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#35	1971	REPLACEMENT	NO

7. Description of Work INSTALLED LOCK WASHERS ON BOLTS AND SPACER WASHERS ON MOUNTING PINS.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AQIP1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 11-26-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-10, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/28/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2
Address
4. Identification of System REACTOR COOLANT SYSTEM CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#25	1990	RPLACEMENT	NO

7. Description of Work MODIFIED TIE ROD TO PREVENT BINDING.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ALXW1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-30-90 to 9-9-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Vallejos
Inspector's Signature

Commissions TN571
National Board, State, Province, and Endorsements

Date 9.9, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address WR/JO 90-AMPJ1
 Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#26	1971	REPLACEMENT	NO

7. Description of Work REPLACED PIN THAT WAS CUT DURING SNUBBER REMOVAL PROCESS.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AMPJ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-10-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-15, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-AHIG1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 8-3-89 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Gamon P. Vallejos Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-AHIF1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 8-3-89 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/9/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-ABLC1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP C	1971	REPLACED	NO
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP C	1991	REPLACEMENT	NO

7. Description of Work REPLACED THE BOLTING ON #2 SEAL DUE TO OVERTORQUE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABLC1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. White Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-22-91 to 1-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's SignatureCommissions TN971
National Board, State, Province, and EndorsementsDate 1-15, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AAW11 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-13-91 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Uelladanes Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AHUU1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/10, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 6-5-91 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions

FN 971

National Board, State, Province, and Endorsements

Date

9-15, 19 92

SHEET 27 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/9/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-ABKZ1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP C	1971	REPLACED	NO
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP C	1991	REPLACEMENT	NO

7. Description of Work REPLACED BOLTS ON #1 SEAL LEAK OFF LINE DUE TO INCORRECT TORQUE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABKZ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-22-91 to 1-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Baron B. Galladone
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/9/92
Name _____
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address _____
2. Plant H.B.ROBINSON Unit HBR2
Name _____
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address _____
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name _____
SAME AS ITEM 2 Authorization No. N/A
Address _____ Expiration Date N/A
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP B	1971	REPLACED	NO
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP B	1991	REPLACEMENT	NO

7. Description of Work REPLACED BOLTS ON #2 SEAL LEAK OFF LINE DUE TO INCORRECT TORQUE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABLB1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-22-91 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valhadenes
Inspector's Signature

Commissions

TN 971
National Board, State, Province, and Endorsements

Date

9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/9/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-ABLI1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP B	1971	REPLACED	NO
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP B	1991	REPLACEMENT	NO

7. Description of Work CHANGED BOLTS ON BLIND FLANGE TEST CONNECTION DUE TO INCORRECT TORQUE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABL11 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-22-91 to 1-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 1-15, 19 92

SHEET 30 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/9/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
Address
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP B	1971	REPLACED	NO
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP B	1991	REPLACEMENT	NO

7. Description of Work REPLACED BOLTS ON #1 SEAL DUE TO INCORRECT TORQUE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABKY1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-22-91 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon Q Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-15, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JQ 90-AMWK1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#19	1971	REPLACED	NO

7. Description of Work REPLACED BEARING IN TAILPIECE DUE TO DAMAGE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AMWK1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 10-14-90 to
9-15-92, and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.
Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ALTT1 TURNOVER PACKAGE.Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 9-26-90 to
9-15-92, and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.
Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY. 151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-ALQW1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#23	1971	REPLACED	NO
SNUBBER	GRINNELL	N/A	N/A	#23	1990	REPLACEMENT	NO

7. Description of Work REPLACED SNUBBER #23 DUE TO FAILURE DURING TEST.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ALQW1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-24-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Simon P. Collobares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 89-ACPG1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	SW-143	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	SW-143	1990	REPLACEMENT	NO

7. Description of Work REPLACED VALVE SW-143 (FLANGED) DUE TO WEAR AND AGE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☒ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-ACPG1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. White Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of _____ and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 2-17-89 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon V. Walla Jones
Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-15, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY. 151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-ARR11
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
COUPLINGS	EBASCO	N/A	N/A	VICTAULIC	1971	REPLACED	NO
COUPLINGS	MAINTENANCE	N/A	N/A	VICTAULIC	1990	REPLACEMENT	NO

7. Description of Work SEE WR/JO 90-ARR11 TURNOVER PACKAGE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
 Other ☐ Pressure 50 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARR11 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/11, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-19-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Vallochaues Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
Sheet 1 of 1
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
WR/JO 90-AAXQ1
Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2
Address
Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	RHR-706	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	RHR-706	1990	REPLACEMENT	NO

7. Description of Work REBUILT RHR-706 AND REPLACED VALVE NOZZLE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☒ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AAXQ1 TURNOVER PACKAGE.Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 1-23-90 to
9-15-92, and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.
Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon V. Wallachian Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JQ 90-ARJL1
Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#19	1971	REPLACEMENT	NO

7. Description of Work INSTALLED CENTERING WASHERS ON LOAD STUD & PIVOT PIN.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

SHEET 37 of 119

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARJL1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 7/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-16-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Wallachues
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-ARHM1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#20	1971	REPLACEMENT	NO

7. Description of Work INSTALLED CENTERING WASHERS AND SPACERS ON LOAD STUD AND PIVOT PIN.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARHN1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-14-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Villalobos Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARHP1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. WeberJr. SpecialistDate 9/9, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-14-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Chelladanes

Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 40 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
Sheet 1 of 1
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
WR/JO 90-ARHQ1
Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2
Address
Authorization No. N/A
Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#22	1971	REPLACEMENT	NO

7. Description of Work INSTALLED CENTERING WASHERS AND SPACERS ON LOAD STUD AND PIVOT PIN.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARHQ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Jr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-14-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-15, 19 92

SHEET 41 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-AARY1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1977S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PUMP B	EBASCO	JZ-6438	N/A	N/A	1971	REPLACED	NO
PUMP B	MAINTENANCE	N/A	N/A	N/A	1990	REPLACEMENT	NO

7. Description of Work REPLACED SERVICE WATER PUMP B FOR PERIODIC MAINTENANCE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AARY1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist Date 7/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-23-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon V. Valladares Commissions TIV971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

SHEET 42 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 89-ALN11
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	CVC-368	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	CVC-368	1990	REPLACEMENT	NO

7. Description of Work REPLACED BONNET ON CVC-368 DUE TO LEAKAGE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☒ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-ALN11 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Jr. SpecialistDate 9/9, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-19-89 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN 971

National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

- | | | |
|----|---|--|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/3/92</u> |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Sheet <u>1</u> of <u>1</u>
Unit <u>HBR2</u>
<u>WR/JO 90-AASC6</u>
Repair Organization PO NO., Job No., etc. |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | Type Code Symbol Stamp <u>N/A</u>
Authorization No. <u>N/A</u>
Expiration Date <u>N/A</u> |
| 4. | Identification of System <u>SERVICE WATER</u> | CLASS <u>3</u> |
| 5. | (a) Applicable Construction Code <u>B31.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>77s78</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PUMP A	EBASCO	JZ-6435	N/A	N/A	1971	REPLACED	NO
PUMP A	MAINTENANCE	N/A	N/A	N/A	1990	REPLACEMENT	NO

7. Description of Work REPLACED SERVICE WATER PUMP A FOR PERIODIC MAINTENANCE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AASC6 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-23-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

SHEET 44 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY. 151 & SC 23 HARTSVILLE, SC 29550 WR/JO 87-APBL1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SIS CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	SI-889F	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	SI-889F	1990	REPLACEMENT	NO

7. Description of Work REPLACED VALVE SI-889F DUE TO LEAKING BY SEAT.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 269 & 359 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 87-APBL1 TURNOVER PACKAGE AND SP-1003 PRESSURE TEST PROCEDURE.
Applicable Manufacturer's Data Reports to be attached
- _____
- _____
- _____

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Richard B. Water Sr. Specialist
Owner or Owner's Designee, Title

Date 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-9-87 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-15-92, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 45 of 119

- | | | |
|----|---|--|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/4/92</u> |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Sheet <u>1</u> of <u>1</u>

Unit <u>HBR2</u>

<u>WR/JO 90-APEC1</u>
Repair Organization PO NO., Job No., etc. |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | Type Code Symbol Stamp <u>N/A</u>

Authorization No. <u>N/A</u>

Expiration Date <u>N/A</u> |
| 4. | Identification of System <u>RHR</u> | <u>CLASS 2</u> |
| 5. | (a) Applicable Construction Code <u>831.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>77S78</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#21	1971	REPLACEMENT	NO

7. Description of Work INSTALLED CLAMP SPACER AND WASHER ON BOTH PIVOT PINS
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-APEC1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 11-3-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-15-92, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 46 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/1/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address WR/JO 90-AGLP2
 Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPING	EBASCO	N/A	N/A	N/A	1971	REPLACED	NO
PIPING	MAINTENANCE	N/A	N/A	N/A	1990	REPLACEMENT	NO

7. Description of Work
- CUT OUT SECTION OF PIPING FROM BELOW VCT AND REPLACED DUE TO LEAKAGE.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 106 psi Test Temp. Ambient °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AGLP2 TURNOVER PACKAGE.Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 5-18-92 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Inspector's Signature Ramon P. Valladares Commissions TN 971
National Board, State, Province, and EndorsementsDate 9-15, 19 92

As Required by the Provisions of the ASME Code Section XI

SHEET 47 of 119

- ## 6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PUMP B	EBASCO	N/A	N/A	BORIC ACID XFR	1971	REPLACED	NO
PUMP B	MAINTENANCE	N/A	N/A	BORIC ACID XFR	1990	REPLACEMENT	NO

- NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AQUA2 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-18-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN 971

National Board, State, Province, and Endorsements

Date 9-15, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABFF1 TURNOVER PACKAGE.Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Wilbur Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-17-91 to 9-9-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladones
Inspector's SignatureCommissions TN 971

National Board, State, Province, and Endorsements

Date 9-9, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ANHT1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Jr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-22-90 to 9-9-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Vallelonga Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-9, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/31/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-ALRS1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System AUXILIARY FEEDWATER SYSTEM CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
COOLER	EBASCO	N/A	N/A	OIL COOLER	1971	REPLACED	NO
COOLER	MAINTENANCE	N/A	N/A	OIL COOLER	1990	REPLACEMENT	No

7. Description of Work
- REPLACED COOLER DUE TO ERODED CONDITION.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
 Other ☐ Pressure OP. psi Test Temp. OP. °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ALRS1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. SpecialistDate 9/9, 19 92

Owner or Owner's Designee, title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-24-90 to 10-26-90, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares

Inspector's Signature

Commissions TU 971

National Board, State, Province, and Endorsements

Date 9-9, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/26/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 89-AFLM1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System MAIN STEAM
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
DISC PIN	EBASCO	N/A	N/A	SV1-4A	1971	REPLACED	NO
DISC PIN	MAINTENANCE	N/A	N/A	SV1-4A	1990	REPLACEMENT	NO

7. Description of Work OVERHAULED MAIN STEAM SAFETY VALVE SV1-4A AND REPLACED DISC PIN

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-AFLM1 PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 5-31-89 to 11-2-90, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's SignatureCommissions TN 971
National Board, State, Province, and EndorsementsDate 9-9, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-ABUX3
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System FEEDWATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SUPPORT	EBASCO	N/A	N/A	FW-6C	1971	REPAIRED	NO

7. Description of Work GROUND AND REWELDED SUPPORT.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-ABUX3 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 2-12-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-16, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AQGR1 TURNOVER PACKAGE

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/10, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 11-22-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-AIJQ1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System AFW CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
DISC	EBASCO	N/A	N/A	AFW-V2-16C	1971	REPLACED	NO
DISC	MAINTENANCE	N/A	N/A	AFW-V2-16C	1991	REPLACEMENT	NO

7. Description of Work REPLACED OLD DISC WITH NEW.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AIJQ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard A. Weber Jr. Specialist Date 9/10, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 7-1-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

SHEET 54 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/3/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-ACYG1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address

4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	EBASCO	N/A	N/A	LCV-115A	1971	REPLACED	NO
BOLTS	MAINTENANCE	N/A	N/A	LCV-115A	1990	REPLACEMENT	NO

7. Description of Work REPLACED BOLTS ON INLET AND OUTLET SIDE DUE TO LEAKAGE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ACYG1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 2-26-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/3/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
Address
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77s78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	TCV-143	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	TCV-143	1990	REPLACEMENT	NO

7. Description of Work REPLACED STUDS DUE TO LEAKAGE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ADFB1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 3-1-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares Commissions IN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AMTE1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. SpecialistDate 9/9, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-12-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Samuel V. Vallejos
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

SHEET 57 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/3/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STRUT	EBASCO	N/A	N/A	SKETCH CPL-314	1971	REPLACED	NO
STRUT	MAINTENANCE	N/A	N/A	SKETCH CPL-314	1990	REPLACEMENT	NO

7. Description of Work REPLACED MISSING COTTER PIN FOR STRUT D SKETCH CPL-314.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AMAG1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-30-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladones Commissions TN 9711
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

As Required by the Provisions of the ASME Code Section XI

- | | | |
|----|--|--|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/3/92</u> |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Sheet <u>1</u> of <u>1</u>

Unit <u>HBR2</u>

<u>WR/JO 90-AJTX1</u>
Repair Organization PO NO., Job No., etc. |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | Type Code Symbol Stamp <u>N/A</u>

Authorization No. <u>N/A</u>

Expiration Date <u>N/A</u> |
| 4. | Identification of System <u>CVCS</u> | <u>CLASS 3</u> |
| 5. | (a) Applicable Construction Code <u>B31.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>67</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BONNET	EBASCO	N/A	N/A	CVC-348	1971	REPLACED	NO
BONNET	MAINTENANCE	N/A	N/A	CVC-348	1990	REPLACEMENT	NO

7. Description of Work REPLACED BONNET OF VALVE CVC-348 DUE TO LEAKAGE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-AJTX1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-27-89 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Wallbridge Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/3/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-ALYE1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address

4. Identification of System MAIN STEAM CLASS 3
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#30	1971	REPLACED	NO
SNUBBER	GRINNELL	N/A	N/A	#30	1990	REPLACEMENT	NO

7. Description of Work REPLACED BRACKETS FOR SNUBBER #30 DUE TO CORROSION.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ALYE1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-3-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-15, 19 92

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/3/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
Address
4. Identification of System RHR CLASS 1
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUD/NUT	EBASCO	N/A	N/A	RHR-750	1971	REPLACED	NO
STUD/NUT	MAINTENANCE	N/A	N/A	RHR-750	1990	REPLACEMENT	NO

7. Description of Work REPLACED STUDS AND NUTS AFTER OPENING FOR INSPECTION.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure >2235 psi Test Temp. >500 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AECT1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/15, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 3-20-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date

9-15, 19 92

FORM MIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
Sheet 1 of 1
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
WR/JO 90-AMHS1
Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2
Address
Expiration Date N/A
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#26	1971	REPLACEMENT	NO

7. Description of Work PLACED WASHERS ON EITHER SIDE OF PINS TO PREVENT SIDE TO SIDE MOVEMENT.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AMHS1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-5-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address

2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address

3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
Address

4. Identification of System SERVICE WATER CLASS 3

5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	STRAINER FLG.	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	STRAINER FLG.	1990	REPLACEMENT	NO

7. Description of Work 1 1/4 STUD ON THE OUTLET FLANGE WAS REPLACED FOR INADEQUATE THREAD ENGAGEMENT.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AHHA1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 6-7-90 to 9-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladane
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-15, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
Name _____
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address _____
2. Plant H.B.ROBINSON Unit HBR2
Name _____
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address _____
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name _____
SAME AS ITEM 2 Authorization No. N/A
Address _____ Expiration Date N/A
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#26	1971	REPLACEMENT	NO

7. Description of Work ADDED WASHERS TO MOUNTING PIN TO SHIM OUT SLACK.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-APSF1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. SpecialistDate 9/9, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 11-20-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's Signature

Commissions TN 971

National Board, State, Province, and Endorsements

Date 9-10, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

- | | | |
|----|---|--|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/6/92</u>
Sheet <u>1</u> of <u>1</u>
Unit <u>HBR2</u>
<u>WR/JO 90-ABCW1</u>
Repair Organization PO NO., Job NO., etc. |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Type Code Symbol Stamp <u>N/A</u>
Authorization No. <u>N/A</u>
Expiration Date <u>N/A</u> |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | |
| 4. | Identification of System <u>AFW</u>
CLASS 2 | |
| 5. | (a) Applicable Construction Code <u>B31.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>77S78</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	AFW-70	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	AFW-70	1990	REPLACEMENT	NO

7. Description of Work LAPPED SEAT AND REPLACED DISC.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ABCW1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-25-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-10, 19 92

As Required by the Provisions of the ASME Code Section XI

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ABCT1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Jr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-25-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN971

National Board, State, Province, and Endorsements

Date 9-10-, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address WR/JO 90-AHWS1
 Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System MAIN STEAM CLASS 2
5. (a) Applicable Construction Code SEC.III 19 80 Edition, W80 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
COVER	WESTINGHOUSE	N/A	N/A	HANDHOLE #6	1984	REPAIR	NO

7. Description of Work
- MACHINED GASKET SEATING SURFACE AFTER REMOVAL OF COVER FOR SLUDGE LANCE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AHWS1 AND SP-956 TURNOVER PACKAGES.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Richard B. Weber Sr. Specialist
Owner or Owner's Designee, Title

Date 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 6-22-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-10, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 68 of 119

1.	Owner <u>CAROLINA POWER & LIGHT COMPANY</u> Name <u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u> Address	Date <u>9/4/92</u> Sheet <u>1</u> of <u>1</u> Unit <u>HBR2</u>
2.	Plant <u>H.B.ROBINSON</u> Name <u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u> Address	<u>WR/JO 90-AHWL1</u> Repair Organization PO NO., Job No., etc. Type Code Symbol Stamp <u>N/A</u> Authorization No. <u>N/A</u> Expiration Date <u>N/A</u>
3.	Work Performed by <u>MAINTENANCE</u> Name <u>SAME AS ITEM 2</u> Address	

4. Identification of System MAIN STEAM CLASS 2

5. (a) Applicable Construction Code SEC. III 19 80 Edition, W80 Addenda, N/A Code Case

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77s78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	WESTINGHOUSE	N/A	N/A	S/G B HANDHOLE	1984	REPLACED	NO
HELICOILS	WESTINGHOUSE	N/A	N/A	S/G B HANDHOLE	1990	REPLACEMENT	NO

7. Description of Work BOLT HOLES 1,5&8 HELICOIL....NEW BOLTS IN HOLES 1 &2.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AHWL1 AND SP-957 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Jr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 6-22-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's SignatureCommissions TN971

National Board, State, Province, and Endorsements

Date 9-10, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 69 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-AHWI1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System MAIN STEAM CLASS 2
5. (a) Applicable Construction Code SEC.III 19 80 Edition, W80 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	WESTINGHOUSE	N/A	N/A	S/G B HANDHOLE	1984	REPLACED	NO
HELICOIL	WESTINGHOUSE	N/A	N/A	S/G B HANDHOLE	1990	REPLACEMENT	NO

7. Description of Work REMOVED STUCK BOLT AND INSTALLED HELICOIL IN BOLTHOLE #8 AND NEW BOLT.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AHW11 AND SP-957 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

HANDHOLE COVER #3

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Jr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 8-20-91 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-10, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-ARJK1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CCW CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPING	EBASCO	N/A	N/A	2" DIA.	1971	REPLACED	NO
PIPING	MAINTENANCE	N/A	N/A	2" DIA.	1990	REPLACEMENT	NO

7. Description of Work REPLACED 2" DIA. PIPING DOWNSTREAM OF CC-931 AND HYDRO'D AS PER MOD-1017.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 81 psi Test Temp. 70 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARJK1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-16-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Vallachres
Inspector's SignatureCommissions TN 971
National Board, State, Province, and EndorsementsDate 9-10-92, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

SHEET 71 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 8/31/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-AMFQ1
Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System CVCS LETDOWN CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#35	1971	REPLACEMENT	NO

7. Description of Work ADDED WASHERS TO EACH SIDE OF PIN TO ELIMINATE SIDE PLAY.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi. est Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AMFQ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/10, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-3-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ammon P. Villadarias
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-10, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 72 of 119

- | | | |
|----|---|--|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/4/92</u>
Sheet <u>1</u> of <u>1</u>
Unit <u>HBR2</u>
<u>WR/JO 90-APEB1</u>
Repair Organization PO NO., Job No., etc. |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Type Code Symbol Stamp <u>N/A</u>
Authorization No. <u>N/A</u>
Expiration Date <u>N/A</u> |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | |
| 4. | Identification of System <u>RHR</u>
<u>CLASS 2</u> | |
| 5. | (a) Applicable Construction Code <u>B31.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>77S78</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#20	1971	REPLACEMENT	NO

7. Description of Work INSTALLED CLAMP SPACER AND WASHER ON PIVOT PINS.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-APEB1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Baker Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of _____ and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 11-3-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date 9-10, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77s78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#19	1971	REPLACEMENT	NO

7. Description of Work PIPE SPACER, PIVOT PIN AND WASHER WERE INSTALLED AND MOUNTING BRACKET GROUND.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-APEA1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. WeberSr. SpecialistDate 9/9, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 11-3-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares

Inspector's Signature

Commissions TN971

National Board, State, Province, and Endorsements

Date 9-10, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/4/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address WR/JO 90-ARHK1
 Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	GRINNELL	N/A	N/A	#17	1971	REPLACEMENT	NO

7. Description of Work
- INSTALLED NEW PIN, CENTERING WASHERS AND SPACERS ON PIVOT PINS.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARHK1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Jr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-14-90 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares
Inspector's Signature

Commissions TN 971

National Board, State, Province, and Endorsements

Date 9-10-, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/2/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 89-ACPD1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77s78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	VALVE V6-168	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	VALVE V6-168	1990	REPLACEMENT	NO

7. Description of Work REPLACED STUDS DUE TO WEAR AND AGE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☒ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-ACPD1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Richard B. Weber Sr. Specialist
Owner or Owner's Designee, Title

Date 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 2-17-89 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 76 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AFD21
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System MAIN STEAM CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	MS-263A	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	MS-263A	1992	REPLACEMENT	NO

7. Description of Work REPLACED VALVE MS-263A WITH NEW.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 1370 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AFDZ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/11, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-17-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
Sheet 1 of 1

2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
WR/JO 92-ADT11
Repair Organization PO NO., Job No., etc.

3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2
Address
Expiration Date N/A

4. Identification of System SIS CLASS 1

5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	SI-8768	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	SI-8768	1992	REPLACEMENT	NO

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure >2235 psi Test Temp. >500 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-ADT11 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/11, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 3-31-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon V. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 78 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AEMC1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CCW CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
HANGER	EBASCO	N/A	N/A	CPL-328 A	1971	REPLACED	NO
HANGER	MAINTENANCE	N/A	N/A	CPL-328 A	1992	REPLACEMENT	NO

7. Description of Work INSTALLED CLAMP BOLT AND NUT AS REQUIRED AND AS DETECTED BY ISI EXAMINATION.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AEMC1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-11-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Damon P. Villalobos
Inspector's Signature

Commissions

TW971

National Board, State, Province, and Endorsements

Date

9-16, 19 92

SHEET 79 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AFRP1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SUPPORT	EBASCO	N/A	N/A	RHR HX A	1971	REPAIRED	NO

7. Description of Work GROUND OUT PT INDICATIONS DETECTED DURING ISI EXAMINATIONS.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AFRP1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement
conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp N/A
Certificate of Authorization No. N/A Expiration Date N/A
Signed Richard D. Weber Sr. Specialist Date 9/11, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 4-25-92 to
9-16-92, and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.
Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Armon P. Valle-de-unes Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 80 of 119

- | | | |
|----|--|---|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/11/92</u>
Sheet <u>1</u> of <u>1</u>
Unit <u>HBR2</u> |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | <u>WR/JO 92-AGAY1</u>
Repair Organization PO NO., Job No., etc. |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | Type Code Symbol Stamp <u>N/A</u>
Authorization No. <u>N/A</u>
Expiration Date <u>N/A</u> |
| 4. | Identification of System <u>CVCS</u> | <u>CLASS 2</u> |
| 5. | (a) Applicable Construction Code <u>831.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>86</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BONNET	EBASCO	N/A	N/A	CVC-347	1971	REPLACED	
BONNET	MAINTENANCE	N/A	N/A	CVC-347	1992	REPLACEMENT	

7. Description of Work REPLACED BONNET WITH NEW DUE TO CORROSION.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AGAY1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp N/A
Certificate of Authorization No. N/A Expiration Date N/A
Signed Richard B. Weber Sr. Specialist Date 9/11, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-30-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Velledares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-AJGC1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System MAIN STEAM CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SNUBBER	EBASCO	N/A	N/A	#31	1971	REPLACED	NO
SNUBBER	MAINTENANCE	N/A	N/A	#31	1992	REPLACEMENT	NO

7. Description of Work REPLACED #31 SNUBBER WITH NEW #31 SPARE DUE TO FAILURE DURING TESTING.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WT/JO 91-AJGC1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 7-16-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Villalobos
Inspector's SignatureCommissions TN971
National Board, State, Province, and EndorsementsDate 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address WR/JO 91-AJIM1
Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
Address
4. Identification of System MAIN STEAM CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
WASHERS	EBASCO	N/A	N/A	SNUBBER #30	1971	REPLACEMENT	NO

7. Description of Work
- ADDED SPACER WASHERS TO ELIMINATE SLACK.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AJIM1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 7/11, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 7-16-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Villalobos Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

As Required by the Provisions of the ASME Code Section XI

SHEET 83 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
Sheet 1 of 1
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
WR/JQ 92-AHKG1
Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2
Address
Authorization No. N/A
Expiration Date N/A
4. Identification of System CV SPRAY
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	SI-8448	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	SI-8448	1992	REPLACEMENT	NO

7. Description of Work REPLACED STUDS AND NUTS.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AHKG1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Richard B. Weber Sr. Specialist
Owner or Owner's Designee, Title

Date 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 5-22-92 to
9-16-92, and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.
Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 84 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-AQGM1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BONNET	EBASCO	N/A	N/A	CVC-253	1971	REPLACED	NO
BONNET	MAINTENANCE	N/A	N/A	CVC-253	1992	REPLACEMENT	NO

7. Description of Work REMOVED BONNET AND REPLACED WITH NEW.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AQGM1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard A. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 11-22-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-ALBA1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SWBP B	EBASCO	N/A	N/A	BOOSTER PUMP	1971	REPLACED	NO
SWBP B	MAINTENANCE	N/A	N/A	BOOSTER PUMP	1992	REPLACEMENT	NO

7. Description of Work REPLACED SERVICE WATER BOOSTER PUMP B WITH SPARE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ALBA1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp N/A
Certificate of Authorization No. N/A Expiration Date N/A
Signed Richard B. Weber Sr. Specialist Date 9/10, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 8-5-91 to
9-16-92, and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.
Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements
Date 9-16-, 19 92

SHEET 86 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JQ 92-AERF1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CVCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	LCV-460B	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	LCV-460B	1992	REPLACEMENT	NO

7. Description of Work
- REPLACED STUDS IN VALVE LCV-460B.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
 Other ☐ Pressure 2235 psi Test Temp. 500 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AERF1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. SpecialistDate 9/10, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-13-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date

9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AFYB1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CVCS CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	EBASCO	N/A	N/A	BASE PLATE	1971	REPLACED	NO
BOLTS	MAINTENANCE	N/A	N/A	BASE PLATE	1992	REPLACEMENT	NO

7. Description of Work TAPPED HOLES INTO BASE PLATE AND INSTALLED NEW BOLTS ON B.A TRANSFER PUMP B

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AFYB1 TURNOVER PACKAGE

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/10, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-28-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares

Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AGMP1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CVCS CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PUMP B	EBASCO	N/A	N/A	ANCHORS	1971	REPLACED	NO
PUMP B	MAINTENANCE	N/A	N/A	ANCHORS	1992	REPLACEMENT	NO

7. Description of Work NEW ANCHORS INSTALLED ON BASE PLATE OF BA TRANSFER PUMP B.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AGMP1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard A. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/10, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 5-9-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Villadanes

Inspector's Signature

Commissions TN 971

National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 89 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY. 151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-ADSJ4
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System AFW CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	AFW-68	1971	REPAIRED	NO
DISC	EBASCO	N/A	N/A	AFW-68	1992	REPLACEMENT	NO

7. Description of Work MACHINED SEAT AND REPLACED DISC DUE TO STEAM CUTTING.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ADSJ4 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Walker Sr. Specialist Date 9/16, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 3-10-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares Commissions TN 971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 91

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/9/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP A	1971	REPLACED	NO
BOLTS	WESTINGHOUSE	N/A	N/A	RC PUMP A	1991	REPLACEMENT	NO

7. Description of Work REPLACED BOLTING ON #1 SEAL DUE TO OVERTORQUE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABKX1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9/92, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-22-91 to 9-9-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Villadane

Inspector's Signature

Commissions

TNPTI

National Board, State, Province, and Endorsements

Date 9-9, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/8/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-ABNQ1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
HANGER	EBASCO	N/A	N/A	N/A	1971	REPLACED	NO
HANGER	MAINTENANCE	N/A	N/A	SPACER	1991	REPLACEMENT	NO

7. Description of Work ADDED SPACER TO HANGER LOCATED BETWEEN THE 744A & B VALVES AND THE CONT. WALL.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi. Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABNQ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Jr. SpecialistDate 9/9, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP.& INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-24-91 to 9-9-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares

Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date 9-9, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ARZT1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 12-24-90 to 9-9-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladao
Inspector's SignatureCommissions TN971
National Board, State, Province, and EndorsementsDate 9-9-92, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/8/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 89-ACPC1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	STUDS & NUTS	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	STUDS & NUTS	1990	REPLACEMENT	NO

7. Description of Work REPLACED STUDS AND NUTS ON VALVE V6-16A.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-ACPC1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. White Jr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 2-17-89 to 9-9-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares

Inspector's Signature

Commissions TN 971

National Board, State, Province, and Endorsements

Date 9-9, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/8/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 89-ACPE1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	STUDS & NUTS	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	STUDS & NUTS	1990	REPLACEMENT	NO

7. Description of Work REPLACED STUDS AND NUTS FOR VALVE V6-16C.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-ACPE1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Walker Jr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 2-17-89 to 9-9-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Villodares
Inspector's SignatureCommissions TN971

National Board, State, Province, and Endorsements

Date 9-9, 19 92

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABLH1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-22-91 to 2-23-91, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Villalobos
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-9, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/8/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 90-AMTD1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System RCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
HANGER	N/A	N/A	N/A	CPL-143 D	1971	REPLACED	NO
HANGER	N/A	N/A	N/A	CPL-143 D	1991	REPLACEMENT	NO

7. Description of Work ADDED U-BOLT AND NUTS TO HANGER AS REQUIRED.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AMTD1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-12-90 to 2-8-91, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Inspector's Signature Ramon P. Hallackes Commissions TN 971
National Board, State, Province, and EndorsementsDate 9-9, 19 92

As Required by the Provisions of the ASME Code Section XI

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-ABLA1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A
Signed Richard B. Weber Sr. Specialist Date 9/9, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-22-91 to 2-23-91, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-9, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/8/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 89-AIWA1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CCW CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
NUT	EBASCO	N/A	N/A	CC-715	1971	REPLACEMENT	NO

7. Description of Work REPLACED ONE NUT AFTER DISASSEMBLY.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-AIWA1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this RPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-13-89 to 2-15-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares

Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-9

, 19

92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 99 of 119

- | | | |
|----|---|--|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/8/92</u> |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Sheet <u>1</u> of <u>1</u>

Unit <u>HBR2</u>

<u>WR/JO 90-ALZ11</u>
Repair Organization PO NO., Job No., etc. |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | Type Code Symbol Stamp <u>N/A</u>

Authorization No. <u>N/A</u>

Expiration Date <u>N/A</u> |
| 4. | Identification of System <u>FEEDWATER SYSTEM</u> | <u>CLASS 2</u> |
| 5. | (a) Applicable Construction Code <u>B31.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>77S78</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
INT.ATT.	EBASCO	N/A	N/A	CPL-215 Y-WS	1971	REPAIRED	NO

7. Description of Work GROUND OUT AND REWELDED AS REQUIRED TO REMOVE 3/4" LONG P.T. INDICATION.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-ALZ11 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-30-90 to 2-13-91 ^{END 9-9-92}, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date

9-9, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

- | | | |
|----|---|---|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/8/92</u>
Sheet <u>1</u> of <u>1</u> |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Unit <u>HBR2</u>
<u>WR/JO 90-AAMG1</u>
Repair Organization PO NO., Job No., etc. |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | Type Code Symbol Stamp <u>N/A</u>
Authorization No. <u>N/A</u>
Expiration Date <u>N/A</u> |
| 4. | Identification of System <u>MAIN STEAM</u> | <u>CLASS 2</u> |
| 5. | (a) Applicable Construction Code <u>B31.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>77S78</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	MS-262A	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	MS-262A	1991	REPLACEMENT	NO

7. Description of Work LAPPED DISC AND TAPPED HOLES FOR REPLACEMENT STUDS.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 90-AAWG1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Jr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-19-90 to 1-15-91, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Walladones
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-9-92, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

- | | | |
|----|---|--|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/8/92</u> |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Sheet <u>1</u> of <u>1</u>

Unit <u>HBR2</u>

<u>WR/JO 91-AAHX1</u>
Repair Organization PO NO., Job No., etc. |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | Type Code Symbol Stamp <u>N/A</u>

Authorization No. <u>N/A</u>

Expiration Date <u>N/A</u> |
| 4. | Identification of System <u>RCS</u> | <u>CLASS 1</u> |
| 5. | (a) Applicable Construction Code <u>SEC.III</u> 19 <u>80</u> Edition, <u>W80</u> Addenda, <u>N/A</u> Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>77S78</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
C S/G	WESTINGHOUSE	N/A	N/A	CH./HD. WELD	1984	REPAIRED	NO

7. Description of Work REMOVED <1/64" DEPTH OF MATERIAL FOR INDICATION DETECTED BY ISI MT EXAM.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AAHX1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 1-3-91 to 2-15-91, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladane
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-9-92, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/6/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 89-AAIF1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System CVCS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 77S78

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	CVC-310B	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	CVC-310B	1990	REPLACEMENT	NO

7. Description of Work REPLACED STUDS, FILED VALVE BONNET AND TAPPED STUD HOLES IN VALVE BODY.
8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure >2335 psi Test Temp. >500 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 89-AAIF1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/9, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 10-9-89 to 9-10-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Villalobos
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-10, 19 92

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AECE1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/10, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-4-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Valladares
Inspector's Signature

Commissions TN 971
National Board, State, Province, and Endorsements

Date 9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AFXZ1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System CVCS CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PUMP	EBASCO	N/A	N/A	SUPPORT BASE	1971	REPLACED	NO
PUMP	MAINTENANCE	N/A	N/A	SUPPORT BASE	1992	REPLACEMENT	NO

7. Description of Work NEW BASE AND SHIMS INSTALLED ALONG WITH ANCHORS.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AFXZ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/10, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-28-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 105 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
Address
2. Plant H.B.ROBINSON Unit HBR2
Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-AGEG1
Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
C PUMP	EBASCO	N/A	N/A	N/A	1971	REPLACED	NO
C PUMP	MAINTENANCE	N/A	N/A	N/A	1992	REPLACEMENT	NO

7. Description of Work REPLACED C SERVICE WATER PUMP WITH SPARE.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AGEG1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. SpecialistDate 9/10, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-29-91 to 6-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Inspector's Signature Ramon P. ValladaresCommissions TN971

National Board, State, Province, and Endorsements

Date 9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-AGFJ1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SERVICE WATER CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
COUPLINGS	EBASCO	N/A	N/A	VITAULIC	1971	REPLACED	NO
COUPLINGS	MAINTENANCE	N/A	N/A	VITAULIC	1992	REPLACEMENT	NO

7. Description of Work REPLACED VITAULIC COUPLINGS AT INTAKE WITH NEW.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AGFJ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard D. Weber Sr. Specialist Date 9/10, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-30-91 to 6-19-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Inspector's Signature Ramon P. Valladares Commissions TN 971
National Board, State, Province, and EndorsementsDate 9-16, 19 92

SHEET 107 of 119

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-AHBS1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System MAIN STEAM CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
DISC	EBASCO	N/A	N/A	SV1-4B	1971	REPLACED	NO
DISC	MAINTENANCE	N/A	N/A	SV1-4B	1992	REPLACEMENT	NO

7. Description of Work REPLACED VALVE DISC WITH NEW.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AHBS1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/10, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP.& INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 5-14-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon B. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 108 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
Name _____
411 FAYETTEVILLE ST., RALEIGH, NC 27602
Address _____

2. Plant H.B.ROBINSON Unit HBR2
Name _____
HWY.151 & SC 23 HARTSVILLE, SC 29550
Address _____

3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name _____
SAME AS ITEM 2 Authorization No. N/A
Address _____ Expiration Date N/A

4. Identification of System CCW CLASS 3

5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SUPPORT	EBASCO	N/A	N/A	CCW PUMP B	1971	REPLACEMENT	NO

7. Description of Work REMOVED 3/8" SECTION OF SUPPORT FOOT FOR TESTING DUE TO A PREVIOUS REPAIR.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AFLY1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/ASigned Richard B. Weber Sr. Specialist Date 9/10, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 9-22-92 to 9-16-19-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon O'Walladanes
Inspector's Signature

Commissions TN 871
National Board, State, Province, and Endorsements

Date 9-14, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AFHx1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System RHR CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPE	EBASCO	N/A	N/A	CPL-218 13	1971	REPAIRED	NO

7. Description of Work GROUND OUT P.T. INDICATION DUE TO ISI EXAMINATION.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AFH1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/10, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-21-92 to 9-16-1992, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon O. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 110 of 119

- | | | |
|----|---|--|
| 1. | Owner <u>CAROLINA POWER & LIGHT COMPANY</u>
Name
<u>411 FAYETTEVILLE ST., RALEIGH, NC 27602</u>
Address | Date <u>9/10/92</u> |
| 2. | Plant <u>H.B.ROBINSON</u>
Name
<u>HWY.151 & SC 23 HARTSVILLE, SC 29550</u>
Address | Sheet <u>1</u> of <u>1</u>
Unit <u>HBR2</u>
<u>WR/JO 91-AHQL1</u>
Repair Organization PO NO., Job No., etc. |
| 3. | Work Performed by <u>MAINTENANCE</u>
Name
<u>SAME AS ITEM 2</u>
Address | Type Code Symbol Stamp <u>N/A</u>
Authorization No. <u>N/A</u>
Expiration Date <u>N/A</u> |
| 4. | Identification of System <u>CVCS</u> | <u>CLASS 2</u> |
| 5. | (a) Applicable Construction Code <u>831.1</u> 19 <u>67</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 <u>77S78</u> | |

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	CVC-203B	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	CVC-203B	1991	REPLACEMENT	NO

7. Description of Work REPLACED OLD STUDS WITH NEW.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AHQL1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. SpecialistDate 9/10, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 5-31-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon G. Valladares
Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-16

, 19

92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 111 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-ABUX1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System FEEDWATER CLASS 3
5. (a) Applicable Construction Code 831.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	FW-6C	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	FW-6C	1992	REPLACEMENT	NO
PIPING	EBASCO	N/A	N/A	N/A	1971	REPLACED	NO
PIPING	MAINTENANCE	N/A	N/A	N/A	1992	REPLACEMENT	NO

7. Description of Work REPLACED VALVE AND PIPING DUE TO LEAKAGE.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 1560 psi Test Temp. AMBIENT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-ABUX1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 2-12-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Samuel J. Calladonna
Inspector's Signature

Commissions

TN971

National Board, State, Province, and Endorsements

Date

9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 112 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 91-AIF21
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System AFW CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	AFW-V2-14C	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	AFW-V2-14C	1992	REPLACEMENT	NO

7. Description of Work REPLACED DISC WITH NEW.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AIFZ1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned William B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/10, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 8-5-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon C. Castellanos
Inspector's Signature

Commissions

TN 971
National Board, State, Province, and EndorsementsDate 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address WR/JO 92-AHWE1
 Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System AFW CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
HANGER	EBASCO	N/A	N/A	PT.#1421	1971	REPLACED	NO
HANGER	MAINTENANCE	N/A	N/A	PT.#1421	1992	REPLACEMENT	NO

7. Description of Work ADDED TUBING TO CLAMP AT PT.#1421.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AHWE1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this Replacement
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Richard B. Weber Jr. Specialist
Owner or Owner's Designee, TitleDate 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 5-29-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Samuel P. Wallace
Inspector's Signature

Commissions

TW971

National Board, State, Province, and Endorsements

Date

9-16, 19 92

As Required by the Provisions of the ASME Code Section XI

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 91-AFUG1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPAIR
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/A Expiration Date N/A

Signed Richard B. Weber Sr. Specialist Date 9/11, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-16-91 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Amor B. Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY. 151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AERN1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SIS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	SI-875B	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	SI-875B	1992	REPLACEMENT	NO

7. Description of Work REPLACED STUDS AND NUTS DUE TO DRILLING AND CUTTING DURING DISASSEMBLY.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
 Other ☐ Pressure >2235 psi Test Temp. >500 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AERN1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. SpecialistDate 9/11, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 4-13-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon J. Valladares
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date 9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
Address
2. Plant H.B. ROBINSON Unit HBR2
Name
HWY. 151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AIJZ1
Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
Name
SAME AS ITEM 2 Authorization No. N/A
Address Expiration Date N/A
4. Identification of System CCW CLASS 3
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
HANGER	EBASCO	N/A	N/A	4-AC-35	1971	REPLACED	NO
HANGER	MAINTENANCE	N/A	N/A	4-AC-35	1992	REPLACEMENT	NO

7. Description of Work
- REPLACED ALL-THREAD WITH NEW ALL-THREAD.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AIJZ1 TURNOVER PACKAGE.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement
conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp N/A
Certificate of Authorization No. N/A Expiration Date N/A
Signed Richard B. Weber Sr. Specialist Date 9/11, 19 92
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 6-4-92 to
9-16-92 and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.
Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Samon Valladares Commissions TN971
Inspector's Signature National Board, State, Province, and Endorsements

Date 9-16, 19 92

1986 Edition

APPENDIX II - MANDATORY

Form NIS-2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-AIAH1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System MAIN STEAM CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	MS-261A	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	MS-261A	1992	REPLACEMENT	NO

7. Description of Work REPLACED OLD STUDS AND NUTS WITH NEW.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure N/A psi Test Temp. N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AIAH1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/11, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure
Vessel Inspectors and the State or Province of TENNESSEE and employed by
THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected
the components described in this Owner's Report during the period 5-30-92 to
9-16-92, and state that to the best of my knowledge and belief, the Owner has
performed examinations and taken corrective measures described in this Owner's Report in accordance with
the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or
implied, concerning the examinations and corrective measures described in this Owner's Report.
Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal
injury or property damage or a loss of any kind arising from or connected with this inspection.

Armon C. Valladares
Inspector's Signature

Commissions TN971
National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

SHEET 118 of 119

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/11/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602 Sheet 1 of 1
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY. 151 & SC 23 HARTSVILLE, SC 29550 WR/JO 92-ADTH1
 Address Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
SAME AS ITEM 2 Authorization No. N/A
 Address Expiration Date N/A
4. Identification of System SIS CLASS 1
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	EBASCO	N/A	N/A	SI-875C	1971	REPLACED	NO
STUDS	MAINTENANCE	N/A	N/A	SI-875C	1992	REPLACEMENT	NO

7. Description of Work REPLACED STUDS AND NUTS.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
 Other ☐ Pressure >2235 psi Test Temp. >500 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-ADTH1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. White Sr. SpecialistDate 9/11, 19 92

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 3-31-92 to 9-16-92 and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Valladares
Inspector's Signature

Commissions

TN 971

National Board, State, Province, and Endorsements

Date 9-16, 19 92

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner CAROLINA POWER & LIGHT COMPANY Date 9/10/92
 Name
411 FAYETTEVILLE ST., RALEIGH, NC 27602
 Address
2. Plant H.B.ROBINSON Unit HBR2
 Name
HWY.151 & SC 23 HARTSVILLE, SC 29550
 Address WR/JO 92-AGI11
 Repair Organization PO NO., Job No., etc.
3. Work Performed by MAINTENANCE Type Code Symbol Stamp N/A
 Name
Authorization No. N/A
SAME AS ITEM 2 Expiration Date N/A
 Address
4. Identification of System CVCS CLASS 2
5. (a) Applicable Construction Code B31.1 19 67 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 86

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
VALVE	EBASCO	N/A	N/A	CVC-293A	1971	REPLACED	NO
VALVE	MAINTENANCE	N/A	N/A	CVC-293A	1992	REPLACEMENT	NO
PIPING	EBASCO	N/A	N/A	N/A	1971	REPLACED	NO
PIPING	MAINTENANCE	N/A	N/A	N/A	1992	REPLACEMENT	NO

7. Description of Work
- REPLACED VALVE CVC-293A WITH NEW.

8. Tests Conducted: Hydrostatic ☒ Pneumatic ☐ Nominal Operating Pressure ☐
 Other ☐ Pressure 3457 psi Test Temp. 82 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks SEE WR/JO 92-AG111 AND WR/JO 92-ANQW1 TURNOVER PACKAGE.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT
repair or replacement

conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/ASigned Richard B. Weber Sr. Specialist
Owner or Owner's Designee, TitleDate 9/16, 19 92

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TENNESSEE and employed by THE HARTFORD STEAM BOILER INSP. & INS. CO. of HARTFORD, CONNECTICUT have inspected the components described in this Owner's Report during the period 5-5-92 to 9-16-92, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspectors or his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Ramon P. Villadane
Inspector's SignatureCommissions TN 971
National Board, State, Province, and EndorsementsDate 9-16, 19 92

INTRODUCTION

This report presents the results of the Inservice Inspection (ISI) of the first outage, first period, third interval at the H. B. Robinson Steam Electric Plant, Unit 2. These examinations were conducted from March through June 1992. Nuclear Energy Services conducted these examinations in accordance with the program plan located under Tab C of this report. The program plan was derived from the Inservice Ten Year Inspection Plan. This plan is based on the requirements of the ASME Code, Section XI 1986 Edition and the Carolina Power & Light Specification No. HBR-ISI-1.

RESULTS

All scheduled nondestructive examinations performed during this ISI are documented on examination data sheets. Included on these examination data sheets are the component or system identification, examination method and procedure employed, unique data sheet number, and all applicable equipment settings and examination conditions. The data sheets, together with applicable isometric sketches, are presented in numerical order under Tab D of this report. In the event that a recordable indication was detected, all pertinent information was documented on the appropriate data sheet for evaluation. The evaluations of any recordable indications are located under Tab F of this report. A summary of indications is as follows:

CLASS I

Visual examinations were scheduled for the Reactor Coolant Pump Flywheels A, B, C, and 1 Spare. Flywheel "A" was deferred. The Spare Flywheel had a recordable indication that was dispositioned by Westinghouse. This indication is summarized under Tab F of this report.

CLASS II

Volumetric examinations revealed no flaw indications that exceeded the standards of ASME, Section XI IWA-3000. Included under Tab F are the final results of the Nuclear Regulatory Commission's concerns with Steam Generator "C" Nozzle Weld 1 (CP&L-217-1).

Surface examinations revealed several components with recordable indications. After engineering evaluation all but one was found to be acceptable. The one component support was unacceptable and declared inoperable. As a result, an additional number of examinations were performed in accordance with IWF-2430. The data for the additional workscope can be found in the Expanded Scope section under Tab D of this report. All indications are summarized under Tab F of this report.

CLASS III

Visual examination of Class III component supports revealed several items with recordable indications. After engineering evaluation all were determined to be acceptable. All indications are summarized under Tab F of this report.

EXAMINATION PROGRAM PLAN
FOR
CAROLINA POWER AND LIGHT COMPANY
H.B.ROBINSON UNIT #2
INSERVICE INSPECTION
INTERVAL 3 - PERIOD 1 - OUTAGE 1

ALL ITEMS AND AREAS LISTED BELOW ARE TO BE EXAMINED AS INDICATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 1986 EDITION OF SECTION XI TO THE EXTENT PRACTICAL WITH THE ACCESS PROVIDED AND THE LIMITATIONS OF COMPONENT GEOMETRY.

PROGRAM ITEM	IWX-2500-1 REFERENCE	ITEM/AREA SUBJECT TO EXAMINATION	EXAMINATION PROCEDURE			SKETCH REF. CP&L
*****	*****	***** CLASS I *****	U.T. SURF. V.T.			*****
1.	N/A	A FLYWHEEL	-	-	*	CPL-144
2.	N/A	B FLYWHEEL	-	-	*	CPL-144
3.	N/A	C FLYWHEEL	-	-	*	CPL-144
4.	N/A	SPARE FLYWHEEL	-	-	*	CPL-144
5.	B15.10	REACTOR COOLANT	-	-	*	N/A
	B15.20	SYSTEM LEAKAGE TEST				
	B15.30	EST-083				
	B15.40					
	B15.50					
	B15.60 &					
	B15.70					
*****	*****	***** CLASS II *****	U.T. SURF. V.T.			*****
6.	C1.10	B.I.T. WELDS 1 & 2	*	-	-	CPL-202
7.	C1.10	RHRHX A WELDS 1 & 2	*	-	-	CPL-204
8.	C1.10	EXLTDNHX WELDS 1 & 2	*	-	-	CPL-207
9.	C1.10	SWINJFILT1 WELDS 1&2	*	-	-	CPL-209
10.	C1.10	LTDNHX WELDS 1 & 2	*	-	-	CPL-211A
11.	C1.10	PULS.DAMP. A WELD 1	*	-	-	CPL-238
12.	C2.21	BIT NOZZ-HEAD #3 & 4	*	*	-	CPL-202
13.	C2.31	RHRHXA NOZZ.REINF.PL (INLET)WELDS 1 & 2	-	*	-	CPL-204
14.	C2.33	RHRHXA NOZZ.TELLTALE HOLE REF.WELDS 3 & 4	-	-	*	CPL-204
15.	C2.33	RHRHXB NOZZ.TELLTALE HOLE REF.WELDS 3 & 4	-	-	*	CPL-204
16.	C3.10	B.I.T.INT.ATT.WS-1	-	*	-	CPL-202
17.	C3.10	RHRHXA INT.ATT. WS-1	-	*	-	CPL-204
18.	C3.20	PIPE INT.ATT. JJ-WS	-	*	-	CPL-221
19.	C3.20	PIPE INT.ATT. A-WS	-	*	-	CPL-221A
20.	C3.20	PIPE INT.ATT. G-WS	-	*	-	CPL-222
21.	C3.20	PIPE INT.ATT. D-WS	-	*	-	CPL-233
22.	C3.20	PIPE INT.ATT. B-WS	-	*	-	CPL-234
23.	C4.10	BIT MANWAY BOLTS 1-5	*	-	-	CPL-202
24.	C5.11&5.12	WELD 13 & 2.5t OF LS	*	*	-	CPL-218
25.	C5.11&5.12	WELD 22 & 2.5t OF LS	*	*	-	CPL-218
26.	C5.11&5.12	WELD 42 & 2.5t OF LS	*	*	-	CPL-220
27.	C5.21&5.22	WELD 2,4,5,7,8 & 9 AND 2.5t OF LS	*	*	-	CPL-239
28.	C5.21&5.22	WELD 10 & 2.5t OF LS	*	*	-	CPL-240
29.	C5.30	SOCKET WELD 2	-	*	-	CPL-244
30.	C5.81	BRANCH CONNECTIONS	-	*	-	CPL-212
31.	C7.10-7.70	23BC AND 2.5t OF LS PRESS.RET.COMP. PT'S	-	-	*	SEE EST'S

PROGRAM ITEM	IWD-2500-1 REFERENCE	ITEM/AREA SUBJECT TO EXAMINATION	EXAMINATION PROCEDURE			SKETCH REF. CP&L
*****	*****	**** CLASS III ****	U.T. SURF. V.T.			*****
32.	D1.10	PRESS.RET.COMP. PT'S	-	-	*	SEE EST'S
33.	D1.20	CCWHX INT.ATT.A-WS-1 AND B-WS-2	-	-	*	CPL-303
34.	D1.20	B.A.FILT.INT.ATTACH. WS-A AND WS-B	-	-	*	CPL-312
35.	D1.20-1.60	PIPE INT.ATT. WS-A	-	-	*	CPL-325
36.	D1.20-1.60	PIPE INT.ATT. WS-C, WS-B AND WS-D	-	-	*	CPL-326
37.	D1.20-1.60	PIPE INT.ATT. WS-T	-	-	*	CPL-327
38.	D1.20-1.60	PIPE INT.ATT. WS-B AND WS-C	-	-	*	CPL-332
39.	D1.20	CCW PUMP A INT.ATT.A	-	-	*	CPL-341
40.	D2.10	PRESS.RET.COMP. PT'S	-	-	*	SEE EST'S
41.	D2.20	D/G JACKET COOLER A ATTACH. A	-	-	*	CPL-301
42.	D2.20-2.60	PIPE INT.ATT. WS-A	-	-	*	CPL-313
43.	D2.20-2.60	PIPE INT.ATT. WS-D AND WS-F	-	-	*	CPL-331
44.	D2.20-2.60	PIPE INT.ATT. WS-AA, CC, Z, U AND DD	-	-	*	CPL-331A
45.	D2.20-2.60	PIPE INT.ATT. WS-F	-	-	*	CPL-331B
46.	D2.20	SW PUMP A INT.ATT. A	-	-	*	CPL-335
47.	D2.20	A SI COOLER A INT. ATTACH. A	-	-	*	CPL-338
48.	D2.20	SDAFW PUMP INT. ATTACH. A	-	-	*	CPL-342
49.	D3.10	PRESS.RET.COMP. PT'S	-	-	*	SEE EST'S
50.	D3.20-3.60	PIPE INT.ATT. WS-E, WS-F AND WS-G	-	-	*	CPL-330
51.	D3.20	SFPC PUMP A INT.ATT. IA-A	-	-	*	CPL-344

PROGRAM ITEM	IWF-2500-1 REFERENCE	ITEM/AREA SUBJECT TO EXAMINATION	EXAMINATION PROCEDURE			SKETCH REF. CP&L
*****	*****	**CLASS I,II & III**	U.T. SURF. V.T.			*****
52.	4 ITEMS	BIT SUPPORT WS-1 AND INT.ATTACH.	-	-	*	CPL-202
53.	4 ITEMS	RHRXA SUPPORT WS-1 AND INT.ATTACH.	-	-	*	CPL-204
54.	4 ITEMS	SWINJ FILT.1 SUPPORT WS-1	-	-	*	CPL-209
55.	5 ITEMS	AUX.PIPE SUPPORT C&U	-	-	*	CPL-220
56.	5 ITEMS	AUX.PIPE SUPPORT J&K	-	-	*	CPL-220A
57.	5 ITEMS	AUX.PIPE SUPPORT II, JJ AND INT. ATTACH.	-	-	*	CPL-221
58.	5 ITEMS	AUX.PIPE SUPPORT K, L,M,W,X,Y,A &INT.ATT	-	-	*	CPL-221A
59.	5 ITEMS	AUX.PIPE SUPPORT A, B,D AND E	-	-	*	CPL-221B
60.	5 ITEMS	AUX.PIPE SUPPORT A, G AND INT.ATTACH.	-	-	*	CPL-222
61.	5 ITEMS	AUX.PIPE SUPPORT F AND G	-	-	*	CPL-222A
62.	5 ITEMS	AUX.PIPE SUPPORT A, B,B1 AND C	-	-	*	CPL-222B
63.	5 ITEMS	AUX.PIPE SUPPORT A	-	-	*	CPL-229
64.	5 ITEMS	AUX.PIPE SUPPORT A, B AND C	-	-	*	CPL-230
65.	5 ITEMS	AUX.PIPE SUPPORT B	-	-	*	CPL-231
66.	5 ITEMS	AUX.PIPE SUPPORT Y, B,C,E,F,G,I AND J	-	-	*	CPL-232
67.	5 ITEMS	AUX.PIPE SUPPORT A, B,C,D,E,F AND INT. ATTACHMENTS	-	-	*	CPL-233
68.	5 ITEMS	AUX.PIPE SUPPORT A, B,C AND INT.ATTACH.	-	-	*	CPL-234
69.	5 ITEMS	AUX.PIPE SUPPORT N, I AND J	-	-	*	CPL-234A
70.	5 ITEMS	AUX.PIPE SUPPORT A, B,C,D,E,F,G,H AND I	-	-	*	CPL-239
71.	5 ITEMS	AUX.PIPE SUPPORT A, B,C,D,E,F,G AND H	-	-	*	CPL-241
72.	5 ITEMS	AUX.PIPE SUPPORT A AND B	-	-	*	CPL-242
73.	5 ITEMS	AUX.PIPE SUPPORT A AND B	-	-	*	CPL-244
74.	4 ITEMS	CHG.PUMP A SUPPORT	-	-	*	CPL-224A
75.	4 ITEMS	JACKET COOLER A SUPPORT AND INT.ATT.	-	-	*	CPL-301
76.	4 ITEMS	CCW HX A SUPPORT AWS-1 AND BWS-2 AND INT. ATTACH.	-	-	*	CPL-303
77.	4 ITEMS	BA FILTER SUPPORT WS-A, WS-B AND INT. ATTACH.	-	-	*	CPL-312
78.	5 ITEMS	AUX.PIPE SUPPORT A, C,D,N AND INT. ATT.	-	-	*	CPL-313
79.	5 ITEMS	AUX.PIPE SUPPORT J, A AND B	-	-	*	CPL-314
80.	5 ITEMS	AUX.PIPE SUPPORT A, B AND B1	-	-	*	CPL-315

PROGRAM ITEM	IWF-2500-1 REFERENCE	ITEM/AREA SUBJECT TO EXAMINATION	EXAMINATION PROCEDURE			SKETCH REF. CP&L
*****	*****	**CLASS I,II & III**	U.T. SURF. V.T.			*****
81.	5 ITEMS	AUX.PIPE SUPPORT VV, WW,A,B AND C	-	-	*	CPL-323
82.	5 ITEMS	AUX.PIPE SUPPORT A, D,E,E1,F,G,H,I,J AND INT. ATTACH.	-	-	*	CPL-325
83.	5 ITEMS	AUX.PIPE SUPPORT B, B1,C,O,D AND INT. ATTACH.	-	-	*	CPL-326
84.	5 ITEMS	AUX.PIPE SUPPORT A, P,B,Q,R,C,T AND INT. ATTACH.	-	-	*	CPL-327
85.	5 ITEMS	AUX.PIPE SUPPORT A, B,Z,DD,AA,BB,C,E &CC	-	-	*	CPL-328
86.	5 ITEMS	AUX.PIPE SUPPORT H, B,D AND E	-	-	*	CPL-329
87.	5 ITEMS	AUX.PIPE SUPPORT E, F,G,P,I AND INT.ATT.	-	-	*	CPL-330
88.	5 ITEMS	AUX.PIPE SUPPORT A, B,C,D,F AND INT.ATT.	-	-	*	CPL-331
89.	5 ITEMS	AUX.PIPE SUPPORT AA, BB,CC,Z,Y,X,W,V,U,T, DD AND INT.ATTACH.	-	-	*	CPL-331A
90.	5 ITEMS	AUX.PIPE SUPPORT A, B,C,D,E,F & INT.ATT.	-	-	*	CPL-331B
91.	5 ITEMS	AUX.PIPE SUPPORT B, C AND INT. ATTACH.	-	-	*	CPL-332
92.	5 ITEMS	AUX.PIPE SUPPORT A, B,C, AND D	-	-	*	CPL-334A
93.	5 ITEMS	AUX.PIPE SUPPORT A&G	-	-	*	CPL-334B
94.	4 ITEMS	AUX.PIPE SUPPORT A AND INT.ATTACH.	-	-	*	CPL-335
95.	4 ITEMS	A SI COOLER A SUPPT. AND INT. ATTACH.	-	-	*	CPL-338
96.	4 ITEMS	CCW PUMP A SUPPORT A AND INT. ATTACH.	-	-	*	CPL-341
97.	4 ITEMS	SDAFW PUMP SUPPORT A AND INT. ATTACH.	-	-	*	CPL-342
98.	4 ITEMS	SFPC PUMP A SUPPT.A AND INT.ATTACH.	-	-	*	CPL-344

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-115

WR&A # N/A

PAGE 1 OF 2

PER TECH. SPEC.

PLANT: NB ROBINSON

UNIT ☐ 1 ☒ 2

PSI 415 ERS 4-11-92

SYSTEM:

RCP

COMPONENT

NAME: PUMP FLY WHEEL

COMPONENT

ID NO.: CPL-144-SPARE

DWG./LOC.: CPL 144 REV-0

IN PLACE ON MOTOR ON RAIL ROAD CAR

☒ VT-3 PROCEDURE: SP 1097 ERS 4-11-92

NOEP-613 REV.: 0

☐ VT-4 PROCEDURE: ERS 4-11-92

DIRECT ☒

REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT

☒ MIRROR

☐ OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☐ SUPPORT/HANGER ☒ FLY WHEEL

CONDITION
Present

YES

NO

N/A

COMMENTS

FASTENING DEVICES

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

RESISTANCE TO MOVEMENT

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

SEE ATTACHED SKETCH FOR LOCATION

VARIABLE/CONSTANT SUPPORT

ACTUAL: N/A

SNUBBER

ACTUAL: N/A

STROKE: N/A

S/N N/A

COMMENTS:

RECORDABLE INDICATION

EXAMINER:

Edmund L. Donovan

LEVEL:

II

DATE:

4-11-92

REVIEWER:

Art P...

LEVEL:

II

DATE:

4-14-92

COMPONENT CONDITION:

☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY:

Richard B. Weller 4/15/92

REVIEWERS COMMENTS:

ANII REVIEW:

R. Valladares

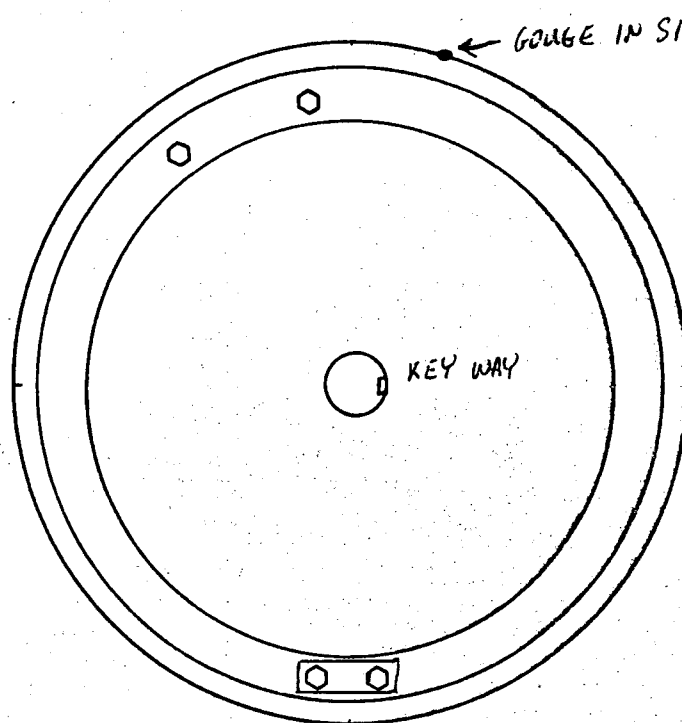
DATE: 5-21-92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-115
EXAM ITEM CPL-144-Spare
ISO DWG. NO. CPL-144 REV. 0

SKETCH SHEET

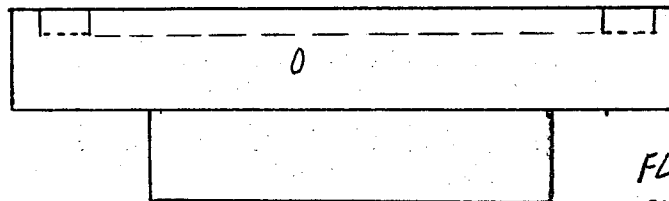
LOOKING DOWN ON FLYWHEEL



GOUGE IN SIDE OF FLYWHEEL
SEE BELOW

ENTIRE FLYWHEEL
PAINTED INCLUDING
GOUGE AREA
ALL THE SAME COLOR

GOUGE INSIDE OF FLYWHEEL $1\frac{1}{4}$ " LONG $\frac{3}{4}$ " WIDE
 $\frac{3}{16}$ " DEEP



FLY WHEEL EXAMINED IN
PLACE BOTTOM NOT EXAMINED

EXAMINER Edmund R. Donovan
EXAMINER NA
REVIEWER Carl R. Rensen
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE 4/15/92
DATE _____

DATE 4-11-92
DATE NA
DATE 4-14-92

(44)

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-239

WR&A # N/A

PAGE 1 OF 1

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>REACTOR COOLANT PUMP</u>	COMPONENT NAME: <u>FLYWHEEL</u>	COMPONENT ID NO.: <u>CPL 144 - B FLYWHEEL</u>
--	------------------------------------	--

DWG./LOC.: CPL 144 REVO / CONTAINMENT

[X] VT-3 PROCEDURE: SP 1097 APR-29-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS
EXAMINED IN PLACE, NO EXAMINATION ON BOTTOM SURFACE AND
BORE.

EXAMINER: Art Purnan LEVEL: II DATE: 4-29-92

REVIEWER: Edward R. Dawson EA LEVEL: II DATE: 4-30-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/1/92

REVIEWERS COMMENTS:

ANII REVIEW: Art Valladares DATE: 5.9.92

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-251

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>REACTOR COOLANT</u>	COMPONENT NAME: <u>FLYWHEEL</u>	COMPONENT ID NO.: <u>CPL-144-C FLYWHEEL</u>
-----------------------------------	------------------------------------	--

DWG./LOC.: CPL-144 REV-0 / CONTAINMENT

☒ VT-3 PROCEDURE: ^{SP1097}~~NDEP-613~~ ^{ERO 5-4-92} REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL:	<u>N/A</u>		
SNUBBER	ACTUAL:	<u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Charles P. Davoren

LEVEL: II

DATE: 5-4-92

REVIEWER: W. P. ...

LEVEL: II

DATE: 5-6-92

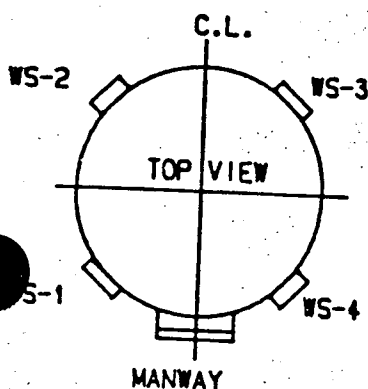
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/9/92

REVIEWERS COMMENTS:

ANII REVIEW: R. P. ...

DATE: 5-13-92



WELDED
SUPPORT
(TYPICAL)

CP & L Dwg. No. HBR2-10618 SH. 58					
CP & L P.O. No. CPL-51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	RBW	CP&L	CLO	CLO	12/12/89

CPL-202 REV. 0

H.B. ROBINSON S.E. PLANT
UNIT NO. 2
DESCRIPTION: BORON INJECTION TANK
LINE NO. CPL-202 REV.

I certify that the image contained on this frame was made in the normal and regular course of business on the date stated below and that it is an accurate reproduction of the document submitted for microfilming.

DATA SHEET NO. 1139-1
PAGE 1 OF 6

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1139
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276-3702
Sweep Length 275 Delay 842
Range 10
Gain (coarse) 60 dB
Gain (fine) 14 dB
Reference Sensitivity 74 dB
Remarks: /

SEARCH UNIT

Serial No. T21385
Size .25"
Frequency 10.0 MHz
Mode LONG
Nom. Angle 0 °
Measured Angle N/A °
Cable Type RG-174U
Cable Length 6'
Remarks: /

CALIBRATION BLOCK

No. CPL-61A
T 13.5" Dia. 2.5"
Temperature 64 °F
Thermometer S/N SEP-9001

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒
Each Major Screen Div. = 1.4"
Remarks 14.0 SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	21
40	+6	78
20	+12	76

CAL. CHECKS

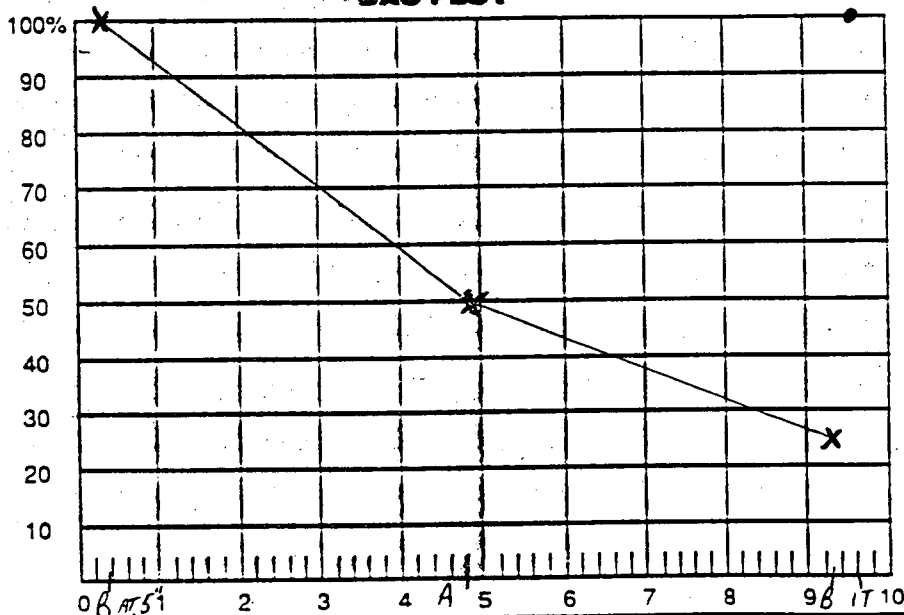
TIME

INITIAL CAL.	2040
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2120

COUPLANT

Brand ULTRAGEL II
Batch No. 092-041

DAC PLOT



REMARKS: /

EXAMINERS

1

Edward R. Donovan

LEVEL

II

DATE

5-2-92

2

N/A

LEVEL

N/A

DATE

N/A

REVIEWERS

1

Dale M. Muehle

LEVEL

III

DATE

5/5/92

2

Richard B. G. Schar

LEVEL

N/A

DATE

5/9/92

3

Al Galland

LEVEL

BNII

DATE

5-13-92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON UNIT-2DATA SHEET NO. 1139-1PAGE 2 OF 6EXAMINATION
DATA SHEETPROCEDURE NO. SP-1139REVISION/CHANGE NO. 0COMPONENT/SYSTEM BORON INJECTIONISO/DWG. NO. CPL 202 REV. 0THERMOMETER S/N SEP-9001COMPONENT TEMP. 74 ° F

MINIATION WELD/AREA

CPL-202-B1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
X	NA	NA	NA	NA			NA

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

EXAMINED IN PLACE UNDER TENSION COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edward R. D'Amico LEVEL II DATE 5-2-92
2 NA LEVEL NA DATE NA

1 Paul Murdoch LEVEL III DATE 5/5/92
2 Richard B. Weber LEVEL NA DATE 5/9/92
3 BP Vellejan LEVEL ANTI DATE 5/13/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON UNIT-2DATA SHEET NO. 1139-1PAGE 3 OF 6EXAMINATION
DATA SHEETPROCEDURE NO. SP 1139REVISION/CHANGE NO. 0COMPONENT/SYSTEM BORON INJECTIONISO/DWG. NO. CPL 202 REV. 0THERMOMETER S/N SEP 9001COMPONENT TEMP. 74 ° F

EXAMINATION WELD/AREA

CPL-202-B2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

EXAMINED IN PLACE UNDER TENSION COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 John R. Dawson LEVEL II DATE 5-2-92
2 HA LEVEL HA DATE HA

1 Dale Murdoch LEVEL III DATE 5/5/92
2 Richard A. Weber LEVEL N/A DATE 5/9/92
3 APC Villadanes LEVEL ANTI DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT H3 ROBINSON UNIT-2DATA SHEET NO. 1139-1PAGE 4 OF 6EXAMINATION
DATA SHEETPROCEDURE NO. SP-1139REVISION/CHANGE NO. 0COMPONENT/SYSTEM BORON INJECTIONISO/DWG. NO. CPL 202 REV. 0THERMOMETER S/N SEP 9001COMPONENT TEMP. 74 ° F

MINATION WELD/AREA

CPL-202-B3

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION

☒ YES☒ NO

AREA SCANNED

EXAMINED IN PLACE UNDER TENSION COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund R. Dawson LEVEL II DATE 5-2-92
2 N/A LEVEL N/A DATE N/A

1 Del Mordret LEVEL III DATE 5/5/92
2 Richard Butler LEVEL N/A DATE 5/9/92
3 CPalladas LEVEL ANII DATE 5-8-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON UNIT-2DATA SHEET NO. 1139-1PAGE 5 OF 6EXAMINATION
DATA SHEETPROCEDURE NO. SP 1139REVISION/CHANGE NO. 0COMPONENT/SYSTEM BORON INJECTIONISO/DWG. NO. CPL 202 REV. 0THERMOMETER S/N SP 9001COMPONENT TEMP. 74 ° F

EXAMINATION WELD/AREA

CPL-202-B4

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
X	N/A	N/A	N/A	N/A			N/A

WELD CROWN LIMITATION

☒ YES☒ NO

AREA SCANNED

EXAMINED IN PLACE UNDER TENTION COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Charles R. Donovan LEVEL II DATE 5-2-92
2 N/A LEVEL N/A DATE N/A

1 Dale Murch LEVEL IV DATE 5/5/92
2 Richard B. Lebr LEVEL N/A DATE 5/9/92
3 W. Holladay LEVEL AN11 DATE 5-13-92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBROBINSON UNIT-2DATA SHEET NO. 1139-1PAGE 6 OF 6EXAMINATION
DATA SHEETPROCEDURE NO. SP 1137REVISION/CHANGE NO. 0COMPONENT/SYSTEM BORON INJECTIONISO/DWG. NO. CPL 202 REV. 0THERMOMETER S/N SEP 9001COMPONENT TEMP. 74 ° F

MINIMUM WELD/AREA

CPL-202 - B5

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

EXAMINED IN PLACE UNDER TENSION COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Charles J. Donora LEVEL II DATE 5-2-92
2 HA LEVEL HA DATE HA

1 Dee Murdoch LEVEL IV DATE 5/5/92
2 Highland Park LEVEL S/A DATE 5/9/92
3 Chelladurai LEVEL HA DATE 5-13-92

NES

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1092-1
 PAGE 1 OF 10

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1092
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276.3702
 Sweep Length 5.52 Delay 8.18
 Range 2.5
 Gain (coarse) 0 dB
 Gain (fine) 20 dB
 Reference Sensitivity 20 dB
 Remarks: /

SEARCH UNIT

Serial No. C29355
 Size .75" Ø
 Frequency 2.25 MHz
 Mode Long.
 Nom. Angle 0 °
 Measured Angle N/A °
 Cable Type BNC-BNC
 Cable Length 6'
 Remarks: /

CALIBRATION BLOCK

No. CPL 47A
 T 2.006 Dia. N/A
 Temperature 60 °F
 Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒
 Each Major Screen Div. = .5"
 Remarks 5" Screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	9
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	71
80	-12	21
40	+6	77
20	+12	78

CAL. CHECKS

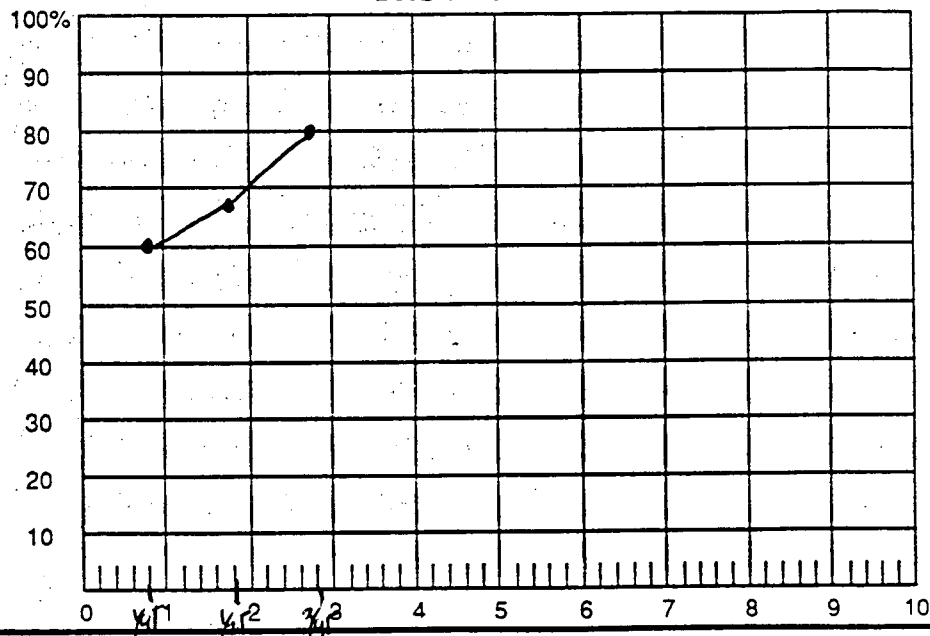
TIME

INITIAL CAL	2316
INTERMEDIATE	0158
INTERMEDIATE	01A
INTERMEDIATE	N/A
FINAL CAL	0428

COUPLANT

Brand Ultragel II
 Batch No. 092041

DAC PLOT



REMARKS: /

EXAMINERS

1 Del Merlot
 2 N/A

LEVEL III
 LEVEL N/A

DATE 4/10/92
 DATE N/A

REVIEWERS

1 Charles R. Dawson
 2 Richard B. Weber
 3 R. Wallenda

LEVEL II
 LEVEL N/A
 LEVEL ANTI

DATE 4-13-92
 DATE 4/14/92
 DATE 5-21-92

DATA SHEET NO. 1092-1
PAGE 2 OF 10

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1092
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276.3784
Sweep Length 4.74 Delay 7.26
Range 10"
Gain (coarse) 20 dB
Gain (fine) 10 dB
Reference Sensitivity 30 dB
Remarks: /

SEARCH UNIT

Serial No. 009114
Size 1/2" x 1"
Frequency 2.25 MHz
Mode Shear
Nom. Angle 45 °
Measured Angle °
Cable Type BNC-BNC
Cable Length 0'
Remarks: Exit pr. to Front edge = .6"

CALIBRATION BLOCK

No. CPL 47A
T 2.006 Dia. N/A
Temperature 60 ° F
Thermometer S/N SEP 90-21

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒ N/A
Metal Path ☒ Depth ☒ N/A
Each Major Screen Div. = 1.0"
Remarks 10" screen

VERTICAL LINEARITY

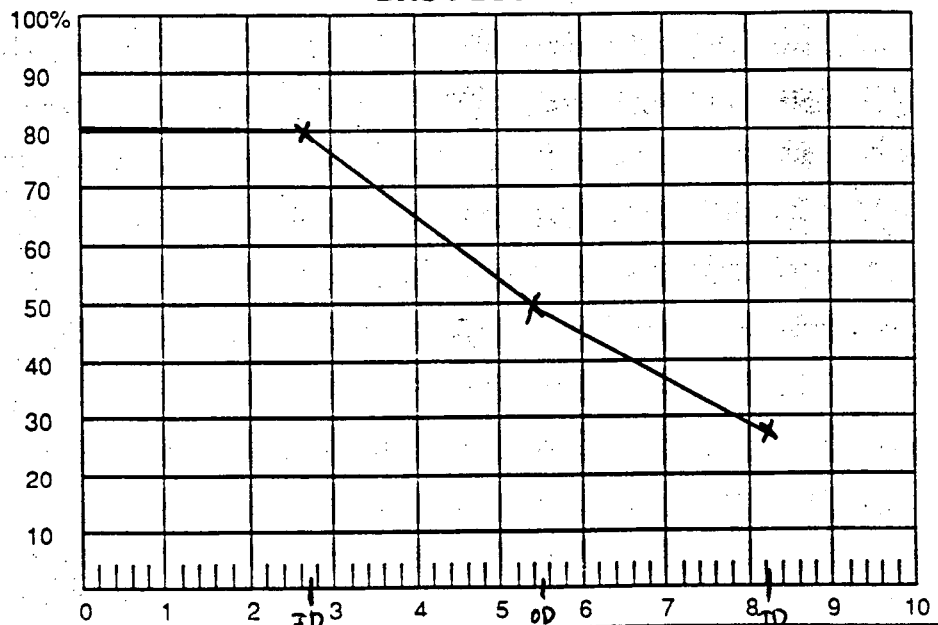
AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	80	30	6	50	26
2	90	45	7	40	20
	80	40	8	30	16
	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	22
40	+6	78
20	+12	74

DAC PLOT



REMARKS: /

CAL. CHECKS

TIME

INITIAL CAL.	2300
INTERMEDIATE	0156
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0931

EXAMINERS

1 Dale Muebeck
2 N/A

LEVEL II

DATE 4/10/92

REVIEWERS

1 Edmund R. Dawson
2 Richard B. Z. Deben
3 Dr. Wallas Jones

LEVEL N/A

DATE N/A

LEVEL II

DATE 4-13-92

LEVEL N/A

DATE 4/14/92

LEVEL ANTI

DATE 5-21-92

DATA SHEET NO. 1092-1
PAGE 3 OF 10

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1092
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276.3784
Sweep Length 8.08 Delay 7.22
Range 2.5
Gain (coarse) 20 dB
Gain (fine) 8 dB
Reference Sensitivity 28 dB
Remarks: /

SEARCH UNIT

Serial No. 009114
Size 1/2" x 1"
Frequency 2.25 MHz
Mode Shear
Nom. Angle 45 °
Measured Angle °
Cable Type BNC-BNC
Cable Length 6'
Remarks: exit point to front edge = .6"

CALIBRATION BLOCK

No. CPL 47A
"T" 2.006 Dia. N/A
Temperature 60 ° F
Thermometer S/N SEP 90-01

CALIBRATION

0° ☐ N/A Axial ☐ N/A Circ. ☒
Metal Path ☒ Depth ☐ N/A
Each Major Screen Div. = .5"
Remarks 5" screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	26
2	90	45	7	40	20
3	80	40	8	30	16
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	22
40	+6	78
20	+12	74

CAL. CHECKS

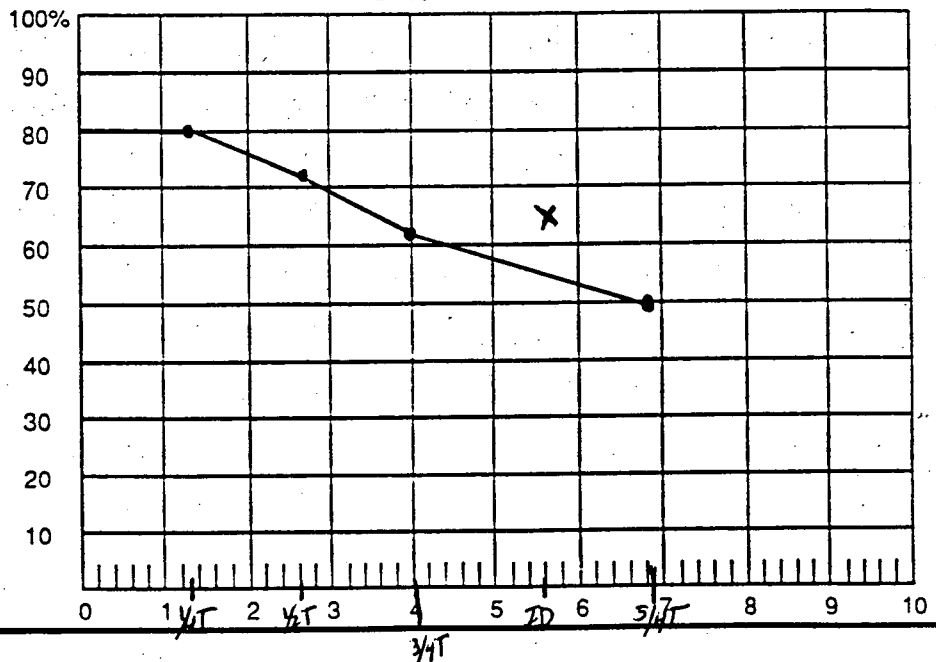
TIME

INITIAL CAL.	2145
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2340

COUPLANT

Brand ultragel II
Batch No. 092041

DAC PLOT



REMARKS: /

EXAMINERS

1 Dale Murdoch
2 N/A

LEVEL III

DATE 4/11/92

REVIEWERS

1 Edward E. Dawson
2 Richard B. Wilson
3 R. Valladares

LEVEL N/A

DATE N/A

LEVEL II

DATE 4-13-92

LEVEL N/A

DATE 4/14/92

LEVEL APII

DATE 5-21-92

DATA SHEET NO. 10927
PAGE 4 OF 10

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1092
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK 7
Serial No. 27276.3769
Sweep Length 8.26 Delay 9.80
Range 10"
Gain (coarse) 20 dB
Gain (fine) 28 dB
Reference Sensitivity 48 dB
Remarks: /

SEARCH UNIT

Serial No. L 17910
Size 1/2" X 1"
Frequency 2.25 MHz
Mode Shear
Nom. Angle 60 °
Measured Angle °
Cable Type BNC-BNC
Cable Length 6'
Remarks: Exit Pt. to front end = .7"

CALIBRATION BLOCK

No. CPL 47A
T 2.006 Dia. N/A
Temperature 60 ° F
Thermometer S/N SEP 90-01

CALIBRATION

0° ☐ N/A Axial ☒ Circ. ☐ N/A
Metal Path ☒ Depth ☐ N/A
Each Major Screen Div. = 2.0"
Remarks 20" screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
	80	40	8	30	15
	70	36	9	20	10
5	60	30	10	10	4

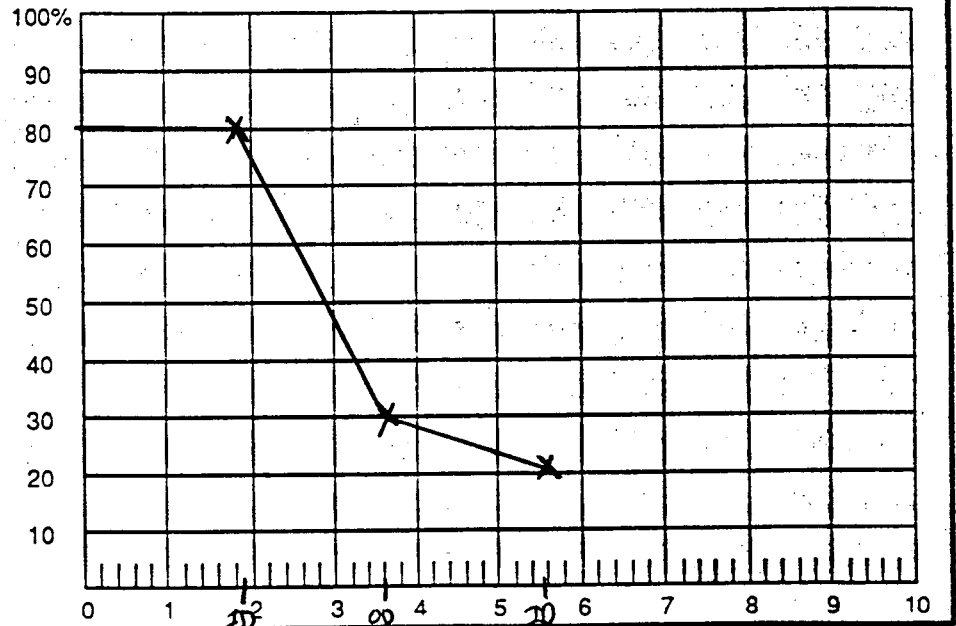
COUPLANT

Brand ultrgel II
Batch No. 092041

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	21
40	+6	77
20	+12	78

DAC PLOT



CAL. CHECKS

TIME

CAL. CHECKS	TIME
INITIAL CAL.	2245
INTERMEDIATE	0155
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0928

REMARKS: /

EXAMINERS

1 Dale Murdoch
2 N/A
1 Edward L. Darnon
2 Richard B. Weber
3 R. Walladone

LEVEL

II

DATE 4/10/92

LEVEL

N/A

DATE N/A

LEVEL

II

DATE 4-13-92

LEVEL

N/A

DATE 4/14/92

LEVEL

II

DATE 5/21/92

REVIEWERS

nes

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1092-1
PAGE 5 OF 10

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1092
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276.3769
Sweep Length 6.25 Delay 9.10
Range 10"
Gain (coarse) 20 dB
Gain (fine) 14 dB
Reference Sensitivity 34 dB
Remarks: _____

SEARCH UNIT

Serial No. L17910
Size 1/2" x 1"
Frequency 2.25 MHz
Mode Shear
Nom. Angle 60 °
Measured Angle _____ °
Cable Type BNC-BNC
Cable Length 6'
Remarks: Exit pt. to front edge = .7"

CALIBRATION BLOCK

No. CPL 47A
"T" 2.006 Dia. N/A
Temperature 60 ° F
Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ N/A Axial ☒ N/A Circ. ☒
Metal Path ☒ Depth ☒ N/A
Each Major Screen Div. = 1.0"
Remarks 1.0" screen

VERTICAL LINEARITY

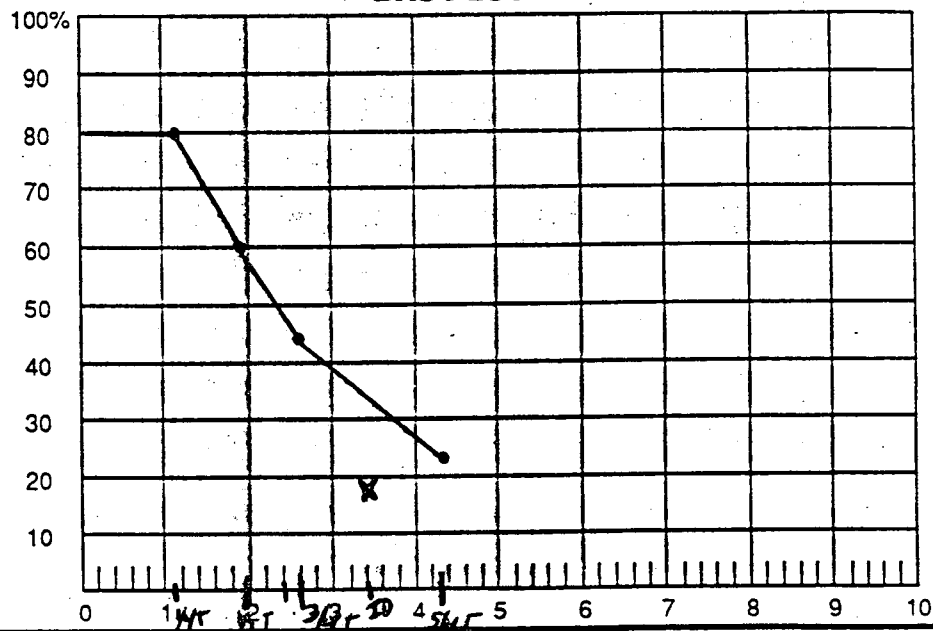
AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
	80	40	8	30	15
	70	36	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	21
40	+6	79
20	+12	78

DAC PLOT



REMARKS: Notch is -6db below DAC

CAL. CHECKS

TIME

INITIAL CAL.	2135
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2335

EXAMINERS 1 Dale Munk LEVEL III DATE 4/11/92
2 N/A LEVEL N/A DATE N/A
REVIEWERS 1 Charles R. Dvorak LEVEL II DATE 4/13/92
2 Richard B. Weber LEVEL N/A DATE 4/14/92
3 CP Valladares LEVEL ANII DATE 5/21/92

PLANT/UNIT HBR unit 2DATA SHEET NO. 1092-1PAGE 6 OF 10EXAMINATION
DATA SHEETPROCEDURE NO. SP 1092REVISION/CHANGE NO. 0COMPONENT/SYSTEM B.I.TISO/DWG. NO. CPL-202 REV. 0THERMOMETER S/N SEP 90 01COMPONENT TEMP. 64 ° F

EXAMINATION WELD/AREA

CPL-202-1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED

Scanned Volume that angle beams passed through from ϕ of
manway to 55" ccw of manway ϕ . Total weld length = 163"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED

Scanned from manway ϕ to 55" ccw of manway ϕ (looking down)
Head side only

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED

Scanned two directions from manway ϕ to 55" ccw of
manway ϕ (looking down). This scan obst. by leg from 19" to 29"
ccw of manway ϕ - approx 18% of parallel scan only.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1. Dele Murock LEVEL III DATE 4/11/92
2. N/A LEVEL N/A DATE N/A

1. Echmuth R. Davison LEVEL II DATE 4-13-92
2. Richard B. Weber LEVEL N/A DATE 4/14/92
3. R. R. Balladanes LEVEL N/A DATE 5/21/92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB R unit 2
DATA SHEET NO. 10927
PAGE 7 OF 10

EXAMINATION DATA SHEET

PROCEDURE NO. SP1092
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM B.I.T
ISO/DWG. NO. SCPL-202 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 64 ° F

EXAMINATION WELD/AREA

PL 202 -2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↘	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned volume that angle beams passed through
from RT#5 to RT#9 (55") CW looking down - total weld
length = 163"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↘	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned from RT#5 CW to RT#9 looking down
Scanned head side only

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↘	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned two directions from RT#5 to RT#9

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Male Marshall LEVEL III DATE 4/4/92
2 N/A LEVEL N/A DATE N/A

1 Anthony Doman LEVEL II DATE 4/13/92
2 Richard B. Weber LEVEL N/A DATE 4/14/92
3 R. Walladase LEVEL AN II DATE 5/21/92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBK Unit 2DATA SHEET NO. 10927PAGE 8 OF 10EXAMINATION
DATA SHEETPROCEDURE NO. SP 1092REVISION/CHANGE NO. 0COMPONENT/SYSTEM B.T.ISO/DWG. NO. CPL-202 REV. 0THERMOMETER S/N SEP 90-01COMPONENT TEMP. 64° F

EXAMINATION WELD/AREA

CPL 202-3

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned volume that angle beams passed through

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned nozzle to shell weld shell side only 360°

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned two directions 360°

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Dale Murchel LEVEL III DATE 4/14/92
2 N/A LEVEL N/A DATE N/A

1 Edward K. Danner LEVEL II DATE 4/13/92
2 Richard B. Weber LEVEL N/A DATE 4/14/92
3 R/Valladares LEVEL ANTI DATE 5/21/92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR unit 2
DATA SHEET NO. 1092-1
PAGE 9 OF 10

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1092
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM B.F.T
ISO/DWG. NO. CPL-202 REV. 0
THERMOMETER S/N SCP 90-01
COMPONENT TEMP. 64 ° F

EXAMINATION WELD/AREA

CPL 202-4

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☐ YES ☒ NO

AREA SCANNED

Scanned volume that angle beams passed through

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☐ YES ☒ NO

AREA SCANNED

Scanned nozzle to shell weld shell side only 360°

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☐ YES ☒ NO

AREA SCANNED

Scanned two directions 360°

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS

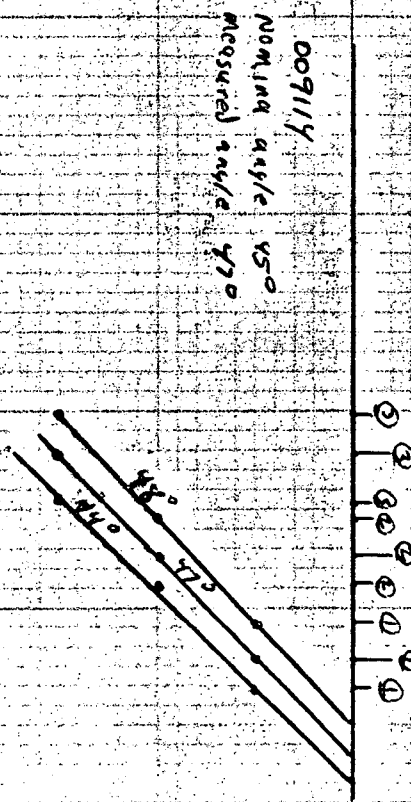
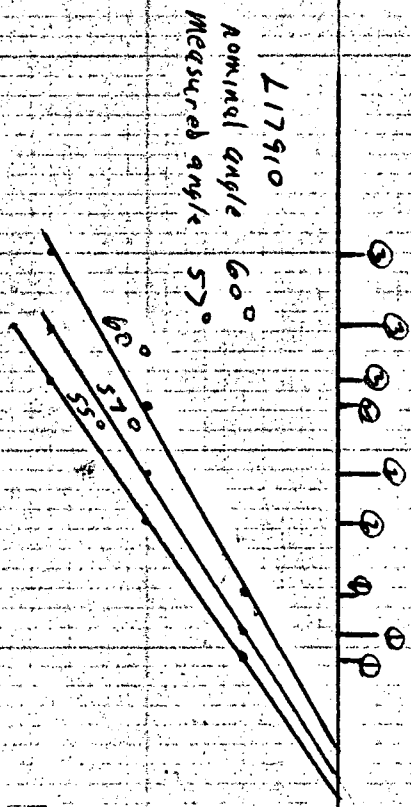
1 Dale Murdoch LEVEL III DATE 4/11/92
2 N/A LEVEL N/A DATE N/A

1 Charles C. Darnowski LEVEL II DATE 4/13/92
2 Richard D. Weber LEVEL N/A DATE 4/14/92
3 Rafaela Valladares LEVEL III DATE 5/21/92



NUCLEAR ENERGY SERVICES, INC.

REF.



Dale Muehler 4/13/92
 UT III

REVIEWER Edward R. Darn 4/13/92
 Richard B. Weber 4/14/92

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 1

SYSTEM EXAMINED BORON INT. TANK ISO/DWG/SK. # CPL-202 REVISION 1
 DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

[illegible]

EXAMINER _____
EXAMINER _____
REVIEWER _____
F. _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL III
DATE 4/14/92
DATE _____

DATE 4-10-92
DATE N/A
DATE 4/10/92

ANIR Palladovs 4-15-92

1125

NUCLEAR ENERGY SERVICES, INC.

PROCEDURE SP 1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 2

SYSTEM EXAMINED BORON INJECTION TANK ISO/DWG/SK.# CPL 202 REVISION 0
DATUM POINT REFERENCE R.T. STAMP #1 / CENTERLINE OF WELD

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	SPOT CHECK	SKC-NF	91M01P	5 MINUTES
PENETRANT	SPOT CHECK	SKL-HF/S	90403K	17 MINUTES
REMOVER	SPOT CHECK	SKC-NF	91M01P	5 MINUTES
DEVELOPER	SPOT CHECK	SKD-NF	90403P	7 MINUTES

[illegible]

EXAMINER Carl P. ...
EXAMINER N/A
P. EWER Bob Marshall
REVIEWER _____
REVIEWER _____

LEVEL III
LEVEL N/A
LEVEL III
DATE _____
DATE _____

DATE 4-10-92
DATE N/A
DATE 4/11/92

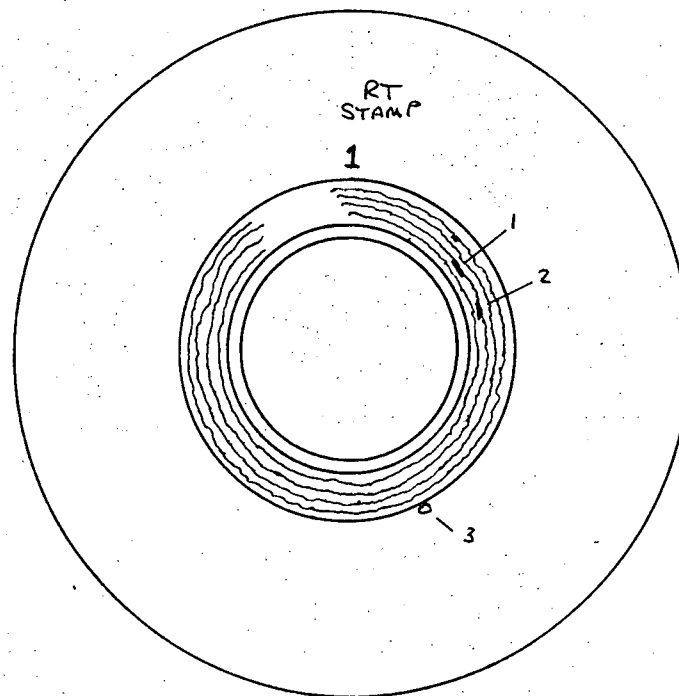
ANII 21/10/2002 4.20.92

1725

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1095-10EXAM ITEM CPL 202-4ISO DWG. NO. CPL 202 REV. 0

SKETCH SHEET



EXAMINER

Art Pinner

LEVEL

III

DATE

4-10-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Dale Muebeck

LEVEL

III

DATE

4/11/92

REVIEWER

REVIEWER

DATE

PROCEDURE SP/095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 1

SYSTEM EXAMINED BORON INJECTION TANK ISO/DWG/SK. # CPL 202 REVISION 0
 DATUM POINT REFERENCE N/A ¹⁻¹⁰⁻⁹² RT STAMP # 1

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91m01P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90K07P</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91m01P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

[illegible]

EXAMINER Carl Kinner
EXAMINER N/A
FOUNDER Dale Meadows
FOUNDER Richard B. Weber
REVIEWER

LEVEL III
LEVEL NA
LEVEL II
DATE 4/17/92
DATE _____

DATE 4-14-92
DATE WIA
DATE 4/16/92

ANII R Valladares 4.2p 92

1725

NUCLEAR ENERGY SERVICES, INC.

SYSTEM EXAMINED BORON INJECTION TANK ISO/DWG/SK. # CPL 202 REVISION 0
DATUM POINT REFERENCE TOP LEFT CORNER

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90K07P</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

[illegible]

EXAMINER Carl P. ...
EXAMINER NH
REVIEWER John M. ...
REVIEWER Richard B. Weber
REVIEWER

LEVEL III
LEVEL N/A
LEVEL IV
DATE 4/17/92
DATE _____

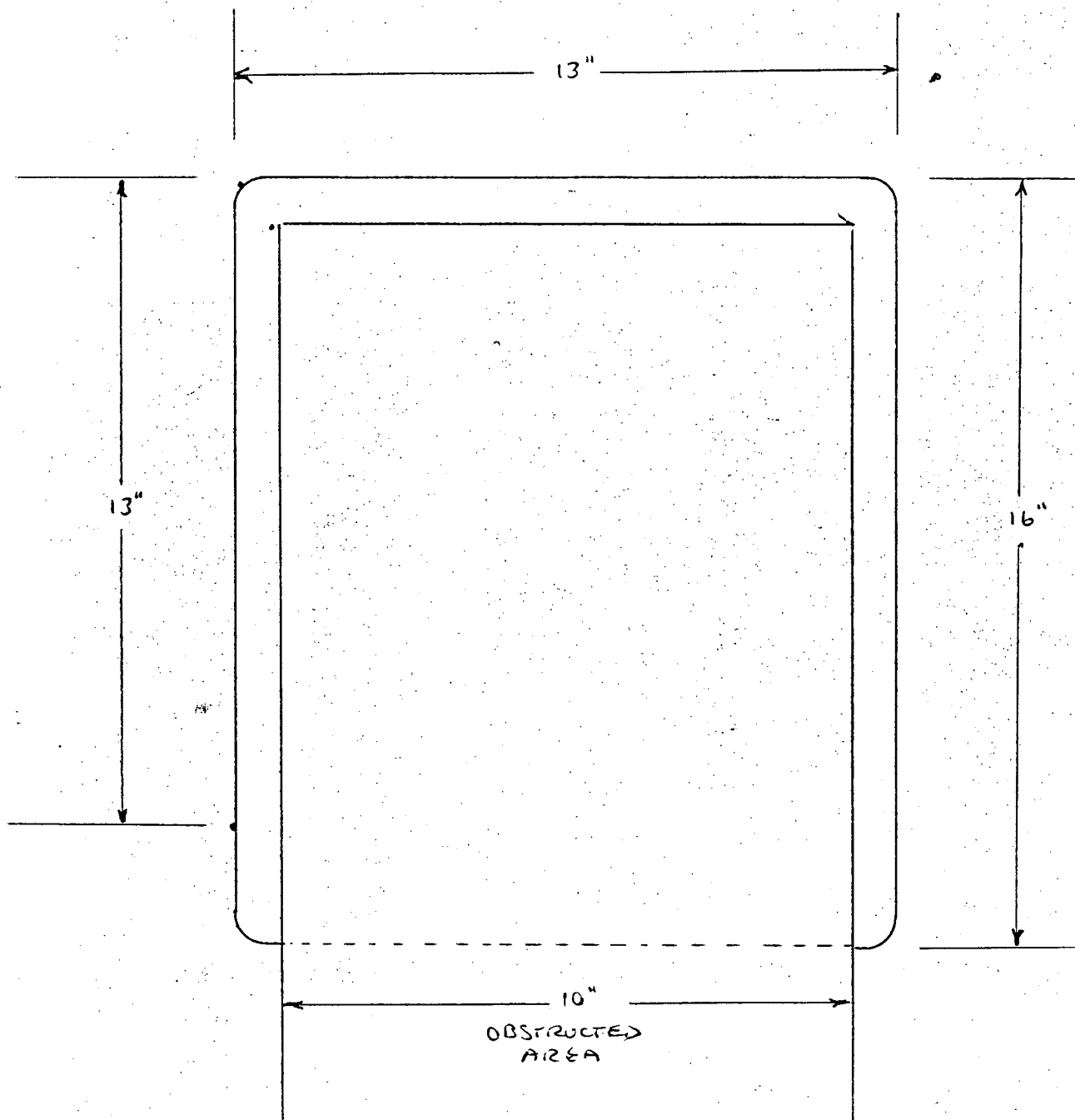
DATE 4-14-92
DATE 4/14
DATE 4/16/92

ANIL R Valladares 4-20-92

1125

PAGE 2 OF 2
DATA SHEET NO. 109578
EXAM ITEM CPL 202 - WS1
ISO DWG. NO. CPL 202 REV. 0

SKETCH SHEET



EXAMINER Art Pomeroy
EXAMINER N/A
REVIEWER Dale Murod
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL III
LEVEL N/A
LEVEL III
DATE 4/12/92
DATE _____

DATE 4-14-92
DATE N/A
DATE 4/16/92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097183

WR&A # N/A

PAGE 1 OF 1

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>Boron Injection Tank</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-202-WS1</u>
--	-----------------------------------	---

DWG./LOC.: CPL 202 REV 0 / Boron Injection Tank Room

☒ VT-3 PROCEDURE: ^{SP1097 AP4-14-92} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV. 9

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-14-92

REVIEWER: Edward L. Donner (M) LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Walladanes DATE: 4.27.92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-523

WRLA # N/A

PAGE 1 OF 1

PLANT: HBR UNIT 1 X 2 1 PSI X ISI

SYSTEM: Boron Injection TK COMPONENT NAME: Support Integral Attachment COMPONENT ID NO.: CPL-202-WS-1

DWG./LOC.: CPL-202 REV 0 / Boron Injection Tank Room

☒ VT-3 PROCEDURE: SP1097 NDEP-613 REV.: 0 N/A ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☐ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☐ MIRROR ☐ OTHER _____

TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT ☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT ☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>		
EROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER N/A ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: [Signature] LEVEL: III DATE: 6-6-92

REVIEWER: [Signature] LEVEL: II DATE: 6/8/92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 6/8/92

VIEWERS COMMENTS:

ANII REVIEW: [Signature]

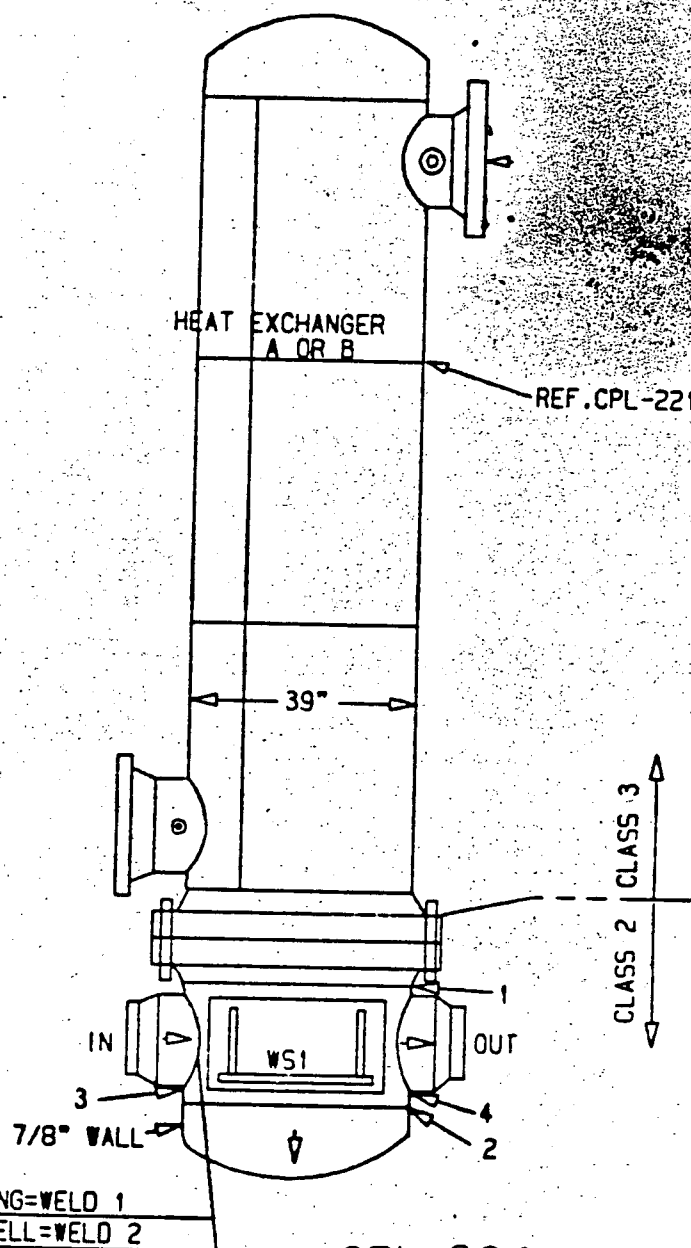
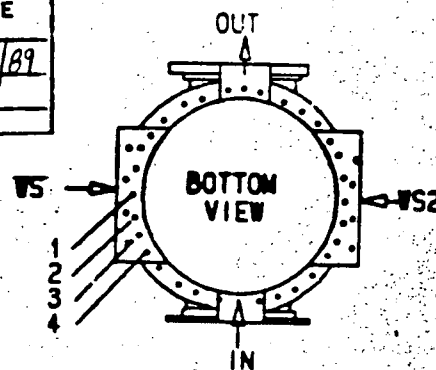
DATE: 6/8/92

CP & L P.O. No. <i>CPL-51</i>					
DWG. NO.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	RBW	CPL	CLO	CLO	12/12/89

5th Geo

WELDED SUPPORT

WS-1
WS-2



PIPE TO REINFORCING RING=WELD 1
REINFORCING RING TO SHELL=WELD 2

CONTROLLED
RCPT ID *296*

CPL-204 REV. 0

H.B. ROBINSON S.E. PLANT	C P & L
UNIT NO. 2	
DESCRIPTION: RHR HEAT EXCHANGERS (2)	
LINE NO. CPL-204 REV.	

I certify that the image contained on this frame was made in the normal and regular course of business on the date stated below and that it is an accurate reproduction of the document submitted for this purpose.

DATA SHEET NO. 1095-2429 ^{RP 4-27-92}
THERMOMETER S/N SL 91-05
TEMPERATURE 74 ° F
NOMINAL THICKNESS .875 INCHES
MATERIAL CS/SS
SS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP 1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 2

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL 204 REVISION 0
DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
CPL 204-A-WS1	NUMEROUS NON RELEVANT INDICATIONS THROUGHOUT THE EXAMINATION AREA, SEE ATTACHED SKETCH.	N/A	<input checked="" type="checkbox"/>
	EXAMINATION LIMITED FOR 28" ON BOTTOM WELD BY THE CONCRETE FOOTING BELOW THE SUPPORT.		
	NOTE: INDICATION ARE ^{RP 4-27-92} DE DUE TO INADEQUATE PREPPING.		

EXAMINER Art Purnan
EXAMINER N/A
REVIEWER Dele Myerlock
REVIEWER Richard B. Weber
REVIEWER APMellado ^{AN 11}

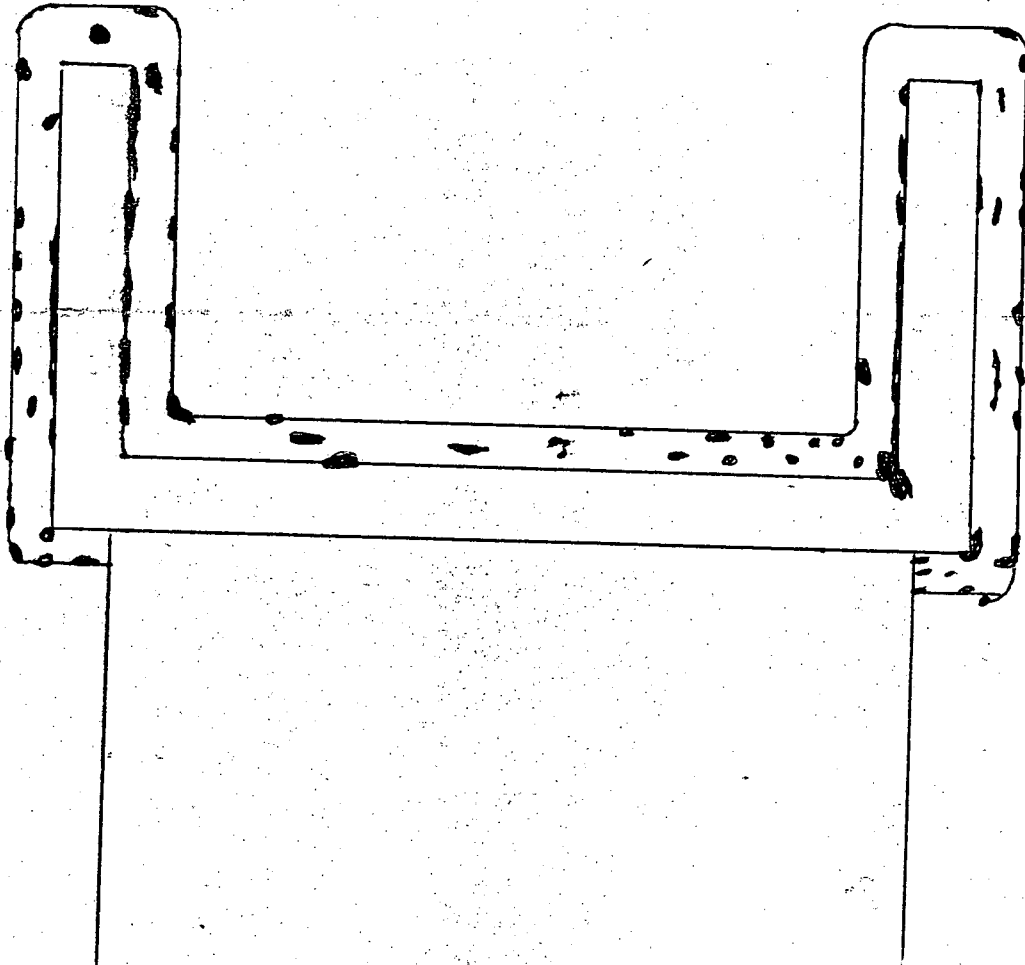
LEVEL II
LEVEL N/A
LEVEL III
DATE 5/18/92
DATE 5/18/92

DATE 4-25-92
DATE N/A
DATE 4/29/92

1125

PAGE 2 OF 2
DATA SHEET NO. 1095-24
EXAM ITEM CPL 204-A-WS1
ISO DWG. NO. CPL 204 REV. 0

SKETCH SHEET



EXAMINER GP Pinner
EXAMINER N/A
REVIEWER Wal. Menden
REVIEWER Richard B. Weller
REVIEWER CP Walladous BNIT

LEVEL II
LEVEL N/A
LEVEL III
DATE 5/18/92
DATE 5/18/92

DATE 4-25-92
DATE N/A
DATE 4/25/92

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL 204 REVISION 0
DATUM POINT REFERENCE See sketch

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>Spotcheck</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
PENETRANT	<u>Spotcheck</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>Spotcheck</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
DEVELOPER	<u>Spotcheck</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

[illegible]

EXAMINER Dale Murok
EXAMINER ^{1/A}
REVIEWER Elmer R. Dorn
REVIEWER Richard B. Weber
REVIEWER M. J. Williams

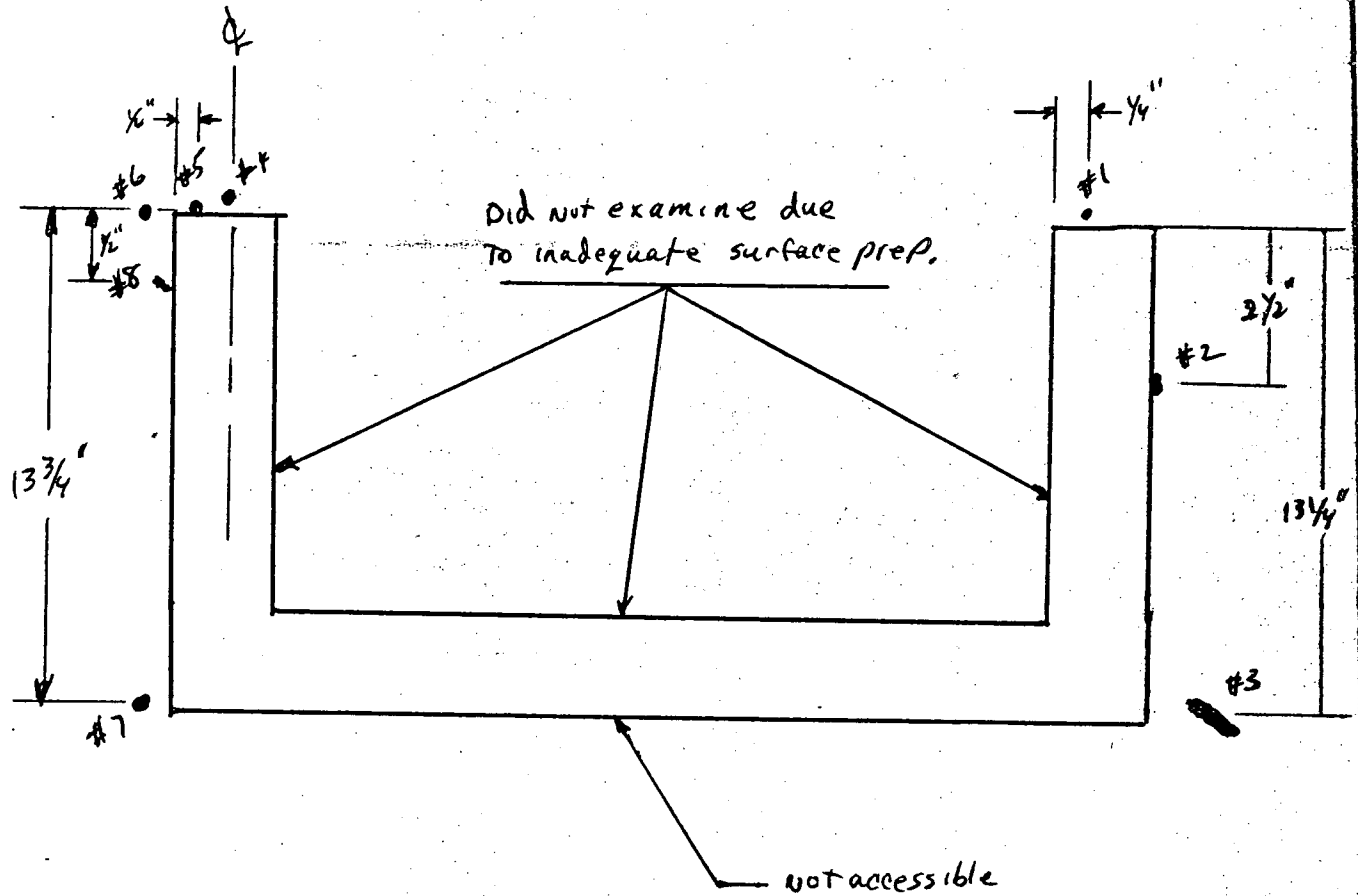
LEVEL III
LEVEL NA
LEVEL II
DATE 5/11/92
DATE 5/11/92

DATE 5/14/92
DATE N/A
DATE 5-10-92

1125

PAGE 2 OF 2
 DATA SHEET NO. 1095-25
 EXAM ITEM CPL-204-A-W31
 ISO DWG. NO. CPL 204 REV. 0

SKETCH SHEET



EXAMINER Dale Mendenhall
 EXAMINER NA
 REVIEWER Glenn R. Damm
 REVIEWER Harold S. Weber
 REVIEWER W. J. Madson NOTI

LEVEL III
 LEVEL NA
 LEVEL II
 DATE 5/11/92
 DATE 5/18/92

DATE 5/10/92
 DATE NA
 DATE 5-10-92

DATA SHEET NO. 1095-26
THERMOMETER S/N 7L9107
TEMPERATURE 68 ° F
NOMINAL THICKNESS 94 ACTUAL INCHES
MATERIAL SS
CLASS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP1095
REVISION 0 F.C. NO. 4A
PAGE 1 OF 3

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL 204 REVISION 0
DATUM POINT REFERENCE TOP EDGE OF INTEGRAL ATTACHMENT, RIGHT INSIDE EDGE OF
INTEGRA ATTACHMENT

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC NF</u>	<u>91MO1P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC NF</u>	<u>91MO1P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD NF</u>	<u>90LO3P</u>	<u>7</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
CPL-204-WS-1	① $\frac{1}{8}$ " ROUNDED 14.1" DOWN EDGE OF WELD VESSEL SIDE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	② $\frac{3}{16}$ " ROUNDED 10.5" DOWN MIDDLE OF WELD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	③ $\frac{1}{8}$ " ROUNDED 9.0" DOWN EDGE OF WELD VESSEL SIDE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	④ $\frac{3}{8}$ " LINEAR .75" DOWN ON WELD VESSEL SIDE EDGE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	⑤ $\frac{1}{8}$ " ROUNDED 23" TO LEFT EDGE OF WELD VESSEL SIDE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	⑥ $\frac{1}{16}$ " ROUNDED 23" TO LEFT ON WELD IN MIDDLE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	⑦ $\frac{1}{4}$ " LINEAR 21" TO LEFT IN GOUNGED AREA ON ATTACHMENT SIDE OF WELD EDGE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	⑧ $\frac{1}{32}$ " ROUNDED 17.5" TO LEFT $\frac{1}{4}$ " FROM ATTACHMENT SIDE TOE OF WELD IN ATTACHMENT MATERIAL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	⑨ $\frac{1}{4}$ " ROUNDED 9" TO LEFT $\frac{1}{4}$ " FROM ATTACHMENT SIDE EDGE OF WELD IN ATTACHMENT MATERIAL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	⑩ $\frac{1}{16}$ " ROUNDED 6.25" TO LEFT ATTACHMENT SIDE EDGE OF WELD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	⑪ $2\frac{1}{16}$ " ROUNDED 2" TO LEFT ATTACHMENT SIDE EDGE OF WELD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	⑫ $\frac{1}{16}$ " ROUNDED IN CORNER OF WELD MIDDLE OF WELD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	⑬ $\frac{3}{16}$ " ROUNDED 10.25" DOWN MIDDLE OF WELD	<input checked="" type="checkbox"/>	<input type="checkbox"/>

EXAMINER Edmund R. Dorian
EXAMINER NA
REVIEWER Dale M. Mordock
REVIEWER Richard B. Weller
REVIEWER SP Valladares ART II

LEVEL II
LEVEL NA
LEVEL II
DATE 5/18/92
DATE 5/18/92

DATE 5-15-92
DATE NA
DATE 5/18/92

DATA SHEET NO: 1095-26
THERMOMETER S/N TL-9107
TEMPERATURE 68 ° F
NOMINAL THICKNESS .99 ACTUAL INCHES
MATERIAL SS
CLASS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 2 OF 3

SYSTEM EXAMINED RNR ISO/DWG/SK. # CPL-204 REVISION 0
DATUM POINT REFERENCE SEE PAGE #1

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
CPL-204-WS-1	(14) $\frac{3}{16}$ " ROUNDED 7.1" DOWN ON WELD ATTACHMENT SIDE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(15) $\frac{3}{8}$ " LINEAR .25" ABOVE MIDDLE OF WELD	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	(16) $\frac{1}{16}$ " ROUNDED 0.1" DOWN VESSEL SIDE EDGE OF WELD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(17) $\frac{1}{8}$ " ROUNDED 0.75" DOWN MIDDLE OF WELD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	(18) $\frac{1}{4}$ " ROUNDED 12.75 DOWN $\frac{1}{4}$ " FROM VESSEL SIDE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	EDGE OF WELD IN VESSEL MATERIAL	<u>N/A</u>	<u>N/A</u>
	(19) $\frac{1}{32}$ " ROUNDED LINEAR ERA S-1592 13 $\frac{1}{4}$ " DOWN IN GOUNGED OUT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	AREA OF INDICATION REMOVAL SEE DATA SHEET 1095-25	<u>N/A</u>	<u>N/A</u>
	(20) 3 $\frac{3}{32}$ " ROUNDED 13.5" DOWN $\frac{1}{8}$ " FROM VESSEL SIDE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	EDGE OF WELD IN VESSEL MATERIAL	<u>N/A</u>	<u>N/A</u>
	(21) $\frac{1}{8}$ " ROUNDED 2.1" DOWN $\frac{3}{8}$ " FROM ATTACHMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	SIDE EDGE OF WELD IN ATTACHMENT MATERIAL	<u>N/A</u>	<u>N/A</u>

EXAMINER Edmund E. Drown
EXAMINER N/A
REVIEWER Dale M. Muddick
REVIEWER Richard B. White
REVIEWER Edmund E. Drown

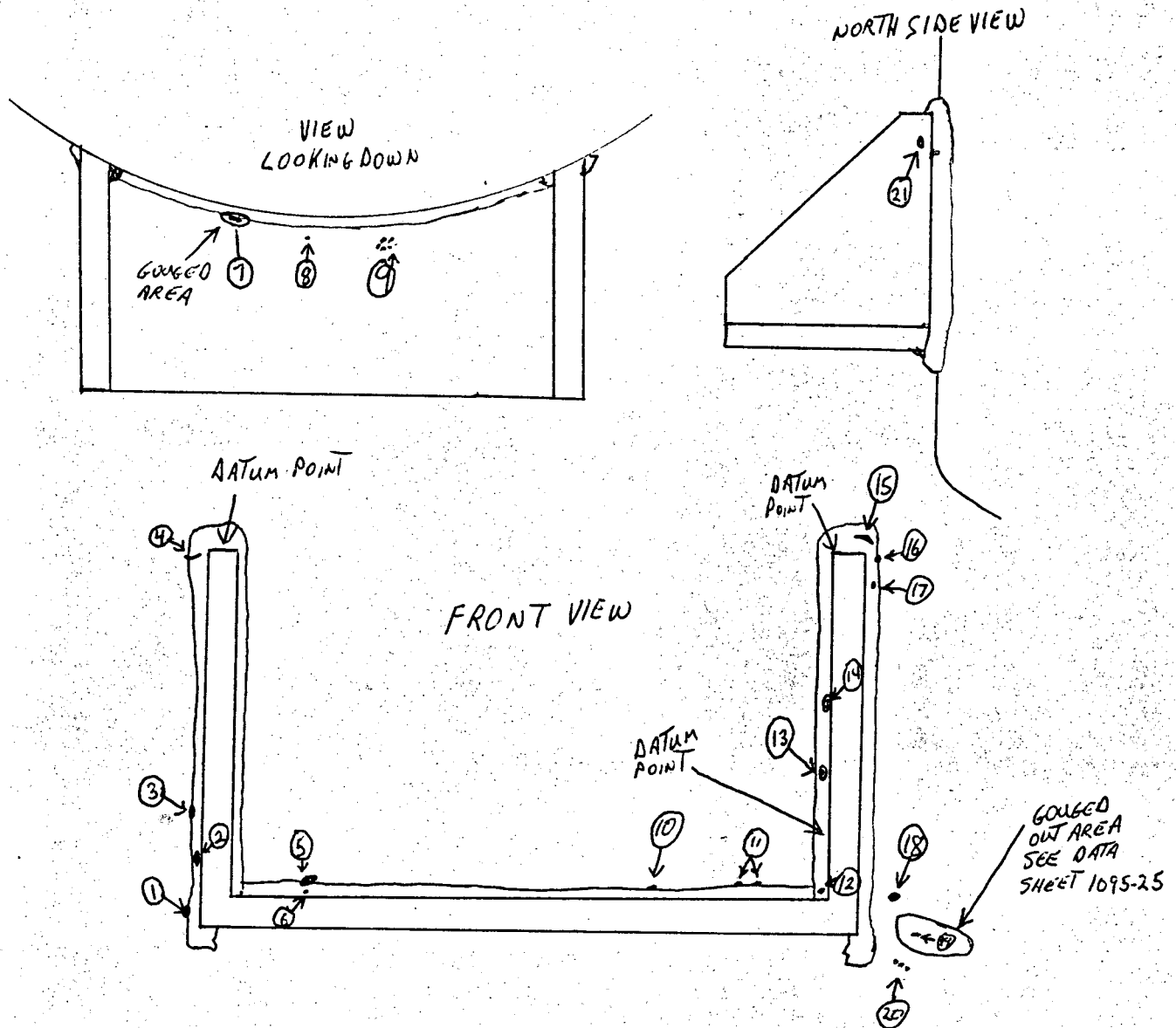
LEVEL II
LEVEL N/A
LEVEL III
DATE 5/18/92
DATE 5/18/92

DATE 5-15-92
DATE N/A
DATE 5/15/92

1125

PAGE 3 OF 3
 DATA SHEET NO. 1095-26
 EXAM ITEM CPL-204-WS-1
 ISO DWG. NO. CPL-204 REV. 0

SKETCH SHEET



EXAMINER Edmund Donovan
 EXAMINER NA
 REVIEWER Dele Murdoch
 REVIEWER Richard B. Weber
 REVIEWER W. Williams

LEVEL II
 LEVEL NA
 LEVEL III
 DATE 5/18/92
 DATE 5/18/92

DATE 5-15-92
 DATE NA
 DATE 5/15/92

PROCEDURE SP 1095
REVISION 0 F.C. NO. NIA
PAGE 1 OF 1

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL 204 REVISION 0
 DATUM POINT REFERENCE Top edge of Integral Attachment, Right inside
edge of Integral Attachment

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	spotcheck	SKC-NF	91M01P	5 MINUTES
PENETRANT	spotcheck	SKL-HF/S	90K07P	15 MINUTES
REMOVER	Spotcheck	SKC-NF	91M01P	5 MINUTES
DEVELOPER	spotcheck	SKD-NF	90L03P	7 MINUTES

[illegible]

EXAMINER Dale Murdoch
EXAMINER NIA
REVIEWER Edmund R. Donovan
REVIEWER Richard B. Weber
REVIEWER Robert L. Adams

LEVEL III
LEVEL N/A
LEVEL I
DATE 5/19/92
DATE 5/20/92

DATE 5/18/92
DATE N/A
DATE 5-19-92

DATA SHEET NO. 10907
 PAGE 1 OF 36
4/4/92

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1090
 REV. C
 CHANGE NO. N/A

INSTRUMENT

Model KRI USK-7
 Serial No. 2727-3784
 Sweep Length 8.10 Delay 2.70
 Range 2.5"
 Gain (coarse) 20 dB
 Gain (fine) 4 dB
 Reference Sensitivity 24 dB
 Remarks: N/A

SEARCH UNIT

Serial No. F 26 118
 Size 0.5"
 Frequency 2.25 MHz
 Mode SHEAR
 Nom. Angle 45°
 Measured Angle 46°
 Cable Type RG 174 U
 Cable Length 6'
 Remarks: 1/2" FROM INDEX
POINT TO FRONT EDGE OF
SEARCH UNIT WEDGE

CALIBRATION BLOCK

No. CPL 49
 T .875" Dia. FLAT
 Temperature 72° F
 Thermometer S/N JL 91-10

CALIBRATION

0° ☐ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☐
 Each Major Screen Div. = .5"
 Remarks N/A

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	26
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	31	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	21
40	+6	79
20	+12	78

CAL. CHECKS

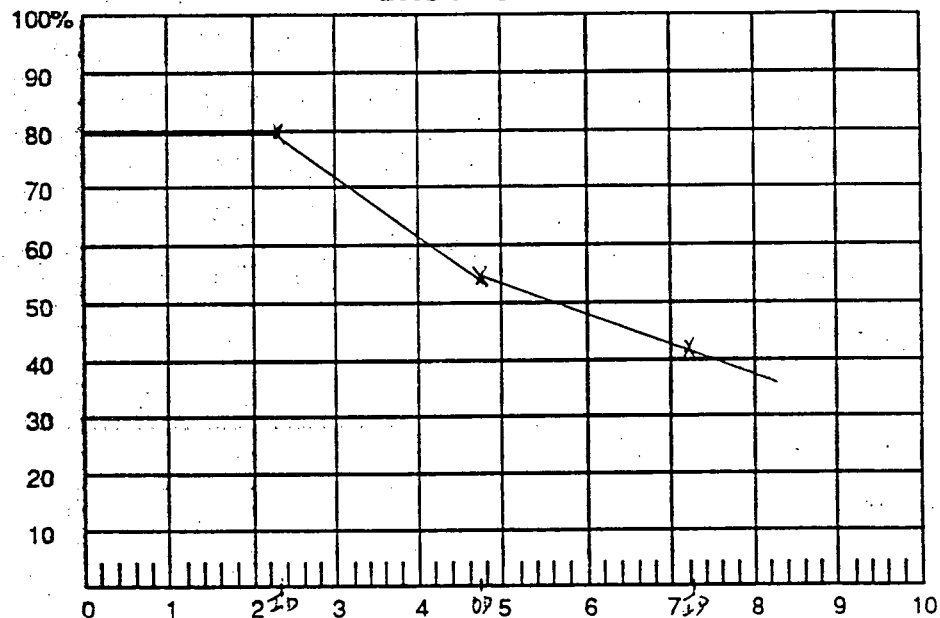
TIME

INITIAL CAL.	1835
INTERMEDIATE	
INTERMEDIATE	N/A
INTERMEDIATE	
FINAL CAL.	2244

COUPLANT

Brand ULTRAGEL II
 Batch No. 092041

DAC PLOT



REMARKS: N/A

EXAMINERS

1

Art Purnell

LEVEL III

DATE 4-3-92

2

N/A

LEVEL N/A

DATE N/A

REVIEWERS

1

John Murdock

LEVEL III

DATE 4/4/92

2

Richard B. Wiles

LEVEL N/A

DATE 5/1/92

3

R. Ballard

LEVEL AN II

DATE 5-1-92

nes

NUCLEAR ENERGY SERVICES, INC.

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1090
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model KBI-USK-7
 Serial No. 27276-3409
 Sweep Length 8.37 Delay 7.96
 Range 5"
 Gain (coarse) RESL: 20 dB
 Gain (fine) 02 dB
 Reference Sensitivity 22 dB
 Remarks: N/A

SEARCH UNIT

Serial No. C29335
 Size 0.75" DIA.
 Frequency 2.25 MHz
 Mode LONGITUDINAL
 Nom. Angle 0°
 Measured Angle N/A°
 Cable Type (2) 6' BNC-BNC
 Cable Length 12' TOTAL
 Remarks: N/A

CALIBRATION BLOCK

No. CPL-49
 T" .875" Dia. N/A (FLAT)
 Temperature 72 °F
 Thermometer S/N JL9101
DUE 6-16-92

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒
 Each Major Screen Div. = 0.20"
 Remarks 2.0" SCREEN
CALIBRATED FROM MINI
(ROMPAS) CAL. BLOCK.

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	N/A	

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	76
20	+12	76

CAL. CHECKS

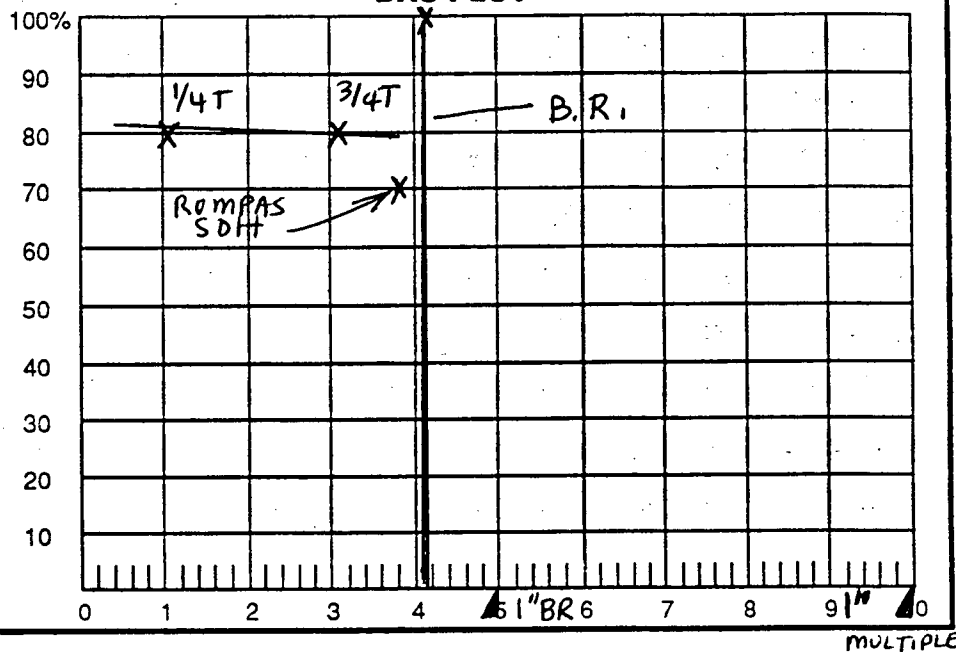
TIME

INITIAL CAL.	2015
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2240

COUPLANT

Brand ULTRAGEL II
 Batch No. 092041

DAC PLOT



REMARKS: NONE

EXAMINERS

1

Cliff Moss

LEVEL II

DATE 4-3-92

2

Cliff Moss

LEVEL III

DATE 4-3-92

REVIEWERS

1

Jack Muroch

LEVEL IV

DATE 4/4/92

2

Richard B. Weber

LEVEL N/A

DATE 5/1/92

3

R. Palladino

LEVEL AVI

DATE 5-1-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON, UNIT 2DATA SHEET NO. 1090-1PAGE 23 OF 36 4/4/92EXAMINATION
DATA SHEETPROCEDURE NO. SP-1090REVISION/CHANGE NO. 0/N/ACOMPONENT/SYSTEM RHR HTX AISO/DWG. NO. CPL-204 REV. 0THERMOMETER SN JL9101COMPONENT TEMP. 96 ° F

EXAMINATION WELD/AREA

CPL-204-1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↙	YES	NO	ACC.	REJ.
✕	←	N/A	→	N/A	✕	✕	N/A

WELD CROWN LIMITATION

☐ YES☒ NOAREA SCANNED SCANNED (0-44" CW) FROM DATUM AS VIEWED LOOKING DOWN ON THE WELDS. DATUM IS CENTERLINE OF THE INLET NOZZLE.NOTE: REFER TO PREVIOUS ISE DATA DATED 5/2/84 FOR SCAN

LIMITATIONS AND OBSTRUCTIONS.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↙	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

N/A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↙	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

N/A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↙	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

N/A

SEE ATTACHED I.E.R.

1 Chiff Moss LEVEL II DATE 4-3-92
2 Richard B. Walter LEVEL III DATE 4-3-92

REVIEWERS:

1 Dale Murdock LEVEL III DATE 4/4/92
2 Richard B. Walter LEVEL N/A DATE 5/1/92
3 R. Colledge LEVEL N/A DATE 5/1/92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT H B ROBINSON / 2DATA SHEET NO. 10907PAGE 24 OF 36 4/4/92EXAMINATION
DATA SHEETPROCEDURE NO. SP-1090REVISION/CHANGE NO. 0COMPONENT/SYSTEM RHR HTX AISO/DWG. NO. CPL-204 REV. 0THERMOMETER S/N 3L-91-01COMPONENT TEMP. 96 ° F

EXAMINATION WELD/AREA

CPL 204 - 1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	✓	N/A	N/A	N/A	✓	✓	N/A

WELD CROWN LIMITATION

☐ YES☒ NO

AREA SCANNED SCANNED FROM 0 TO 44" DATUM 0 IS LOCATED AT
2 OF INLET NOZZLE. FOR SCAN LIMITATIONS SEE ISI DATA SHEET
DATED 5-2-84.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	N/A	✓	N/A	N/A	✓	✓	N/A

WELD CROWN LIMITATION

☐ YES☒ NO

AREA SCANNED SCANNED FROM 0 TO 44" DATUM 0 IS LOCATED AT
2 OF INLET NOZZLE. FOR SCAN LIMITATIONS SEE ISI DATA SHEET
DATED 5-2-84.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NOAREA SCANNED N/A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NOAREA SCANNED N/A

SEE ATTACHED I.E.R.

1 [Signature] LEVEL III DATE 4-3-92
2 N/A LEVEL N/A DATE N/A

REVIEWERS:

1 [Signature] LEVEL III DATE 4/4/92
2 [Signature] LEVEL N/A DATE 5/1/92
3 [Signature] LEVEL AWI DATE 5-1-92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON UNIT #2DATA SHEET NO. 10907PAGE 35 OF 36 4/4/92**EXAMINATION
DATA SHEET**PROCEDURE NO. SP-1090REVISION/CHANGE NO. 0 / N/ACOMPONENT/SYSTEM RHR HTX AISO/DWG. NO. CPL-204 REV. 0THERMOMETER S/N JL9101COMPONENT TEMP. 96 ° F

EXAMINATION WELD/AREA

CPL-204-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	←	N/A	→	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED SCANNED (0-44" CW) FROM DATUM AS VIEWED LOOKING DOWN ON THE WELD(S). DATUM IS CENTERLINE OF THE INLET NOZZLE.

NOTE: REFER TO PREVIOUS ISI DATA DATED 5/2/84 FOR SCAN LIMITATIONS AND OBSTRUCTIONS.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

N/A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

N/A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

N/A

SEE ATTACHED I.E.R.

REVIEWERS:

1 Chaff Moss LEVEL II DATE 4-3-92
 2 W. B. ... LEVEL III DATE 4-3-92

1 Del. Myrdock LEVEL III DATE 4/4/92
 2 Richard B. ... LEVEL N/A DATE 5/1/92
 3 R. ... LEVEL AN/II DATE 5-1-92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT H B ROBINSON / 2DATA SHEET NO. 1090-1PAGE 36 OF 36 4/4/92**EXAMINATION
DATA SHEET**PROCEDURE NO. SP-1092REVISION/CHANGE NO. 0COMPONENT/SYSTEM RHR HTXAISO/DWG. NO. CPL-204 REV. 0THERMOMETER S/N JL-91-01COMPONENT TEMP. 96 ° F

EXAMINATION WELD/AREA

CPL 204 - 2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	✓	N/A	N/A	N/A	✓	✓	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED SCANNED FROM 0 TO 44". DATUM 0 IS LOCATED AT
Q OF INLET NOZZLE. FOR SCAN LIMITATIONS SEE ISI DATA SHEET
DATED 5-2-84.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	✓	N/A	N/A	✓	✓	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED SCANNED FROM 0 TO 44". DATUM 0 IS LOCATED AT
Q OF INLET NOZZLE. FOR SCAN LIMITATIONS SEE ISI DATA SHEET
DATED 5-2-84.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NOAREA SCANNED N/A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NOAREA SCANNED N/A

SEE ATTACHED I.E.R.

REVIEWERS:

1 W. R. ... LEVEL III DATE 4-3-92
 2 N/A LEVEL N/A DATE N/A

1 Del. Myndret LEVEL III DATE 4/4/92
 2 Richard B. Weber LEVEL N/A DATE 5/1/92
 3 CP Colledge LEVEL AD-11 DATE 5.1.92

nes

NUCLEAR ENERGY SERVICES, INC.

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-217

WR&A # N/A

PAGE 1 OF 1

PLANT: H.B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 204 - A - W51</u>
--------------------	--------------------------------	--

DWG./LOC.: CPL 204 REVO / RHR HEAT EXCHANGER ROOM

[X] VT-3 PROCEDURE: SP 1097 AP4-25-92 ~~NBER 613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV. 0

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: CONCRETE SPALLED AROUND BASE
NO RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-25-92

REVIEWER: Edward R. Donovan LEVEL: II DATE: 4-25-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/28/92

REVIEWERS COMMENTS:

ANII REVIEW: SPalladas DATE: 4-28-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-223

WR&A # N/A

PAGE 1 OF 1

PLANT: H. B. Robinson UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>INTEGRAL ATTACHMENT</u>	COMPONENT ID NO.: <u>CPL 204-A-WSI</u>
--------------------	--	--

DWG./LOC.: CPL 204 REVO / RHR HEAT EXCHANGER ROOM

[x] VT-3 PROCEDURE: SP1097 AP 4-25-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT [x] REMOTE [x] VIDEO RECORDING NO: [x] N/A

EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			✓	N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Cert Pinner LEVEL: II DATE: 4-25-92

REVIEWER: Edmund D. Davis SM LEVEL: II DATE: 4-27-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

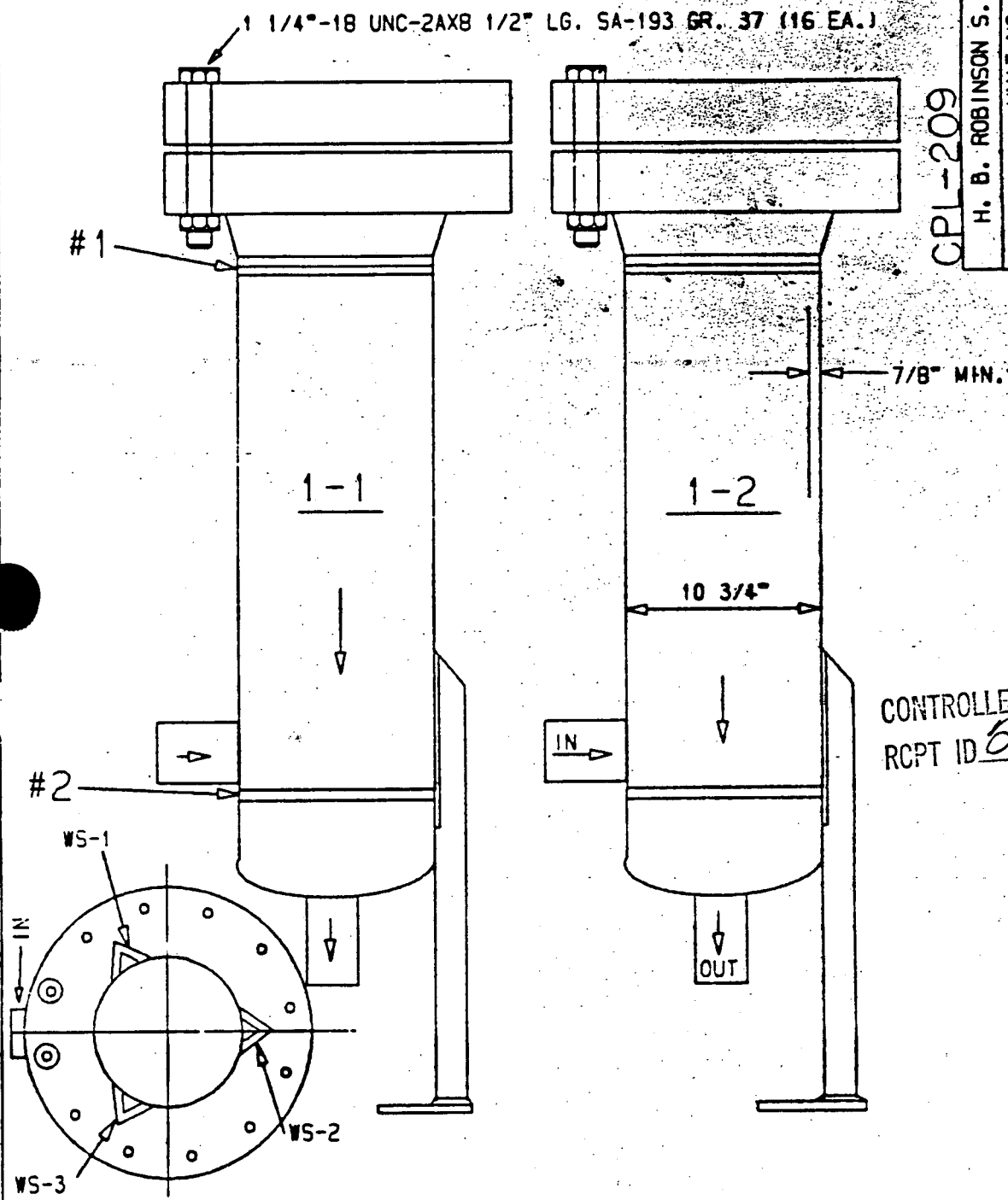
REVIEWED BY: Richard B. Weber 4/28/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4-28-92

CP & L Dwg. No. HBR2-10618 SH67					
CP & L P.O. No. CPL-51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APPRO'D BY	DATE
0	RBN	CPSL	CLO	CLO	12/12/89

REV. 0	CPL-209
H. B. ROBINSON S. E. PLANT	UNIT NO. 2
DESCRIPTION: SEAL WATER INJ. FILTER	LINE NO. N/A
CPL-209 REV.	



CONTROLLED
RCPT ID 296

DATA SHEET NO. 108970
 PAGE 1 OF 12

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276.3702
 Sweep Length 8.28 Delay 2.95
 Range 5
 Gain (coarse) 0 dB
 Gain (fine) 20 dB
 Reference Sensitivity 20 dB
 Remarks:

SEARCH UNIT

Serial No. M12411
 Size 5"
 Frequency 5.0 MHz
 Mode Long
 Nom. Angle 0 °
 Measured Angle N/A °
 Cable Type BNC
 Cable Length 6'
 Remarks:

CALIBRATION BLOCK

No. Component
 T .88 Dia. 10"
 Temperature 78 °F
 Thermometer S/N JL-9105

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒
 Each Major Screen Div. = .2"
 Remarks 2.0" Screen

VERTICAL LINEARITY

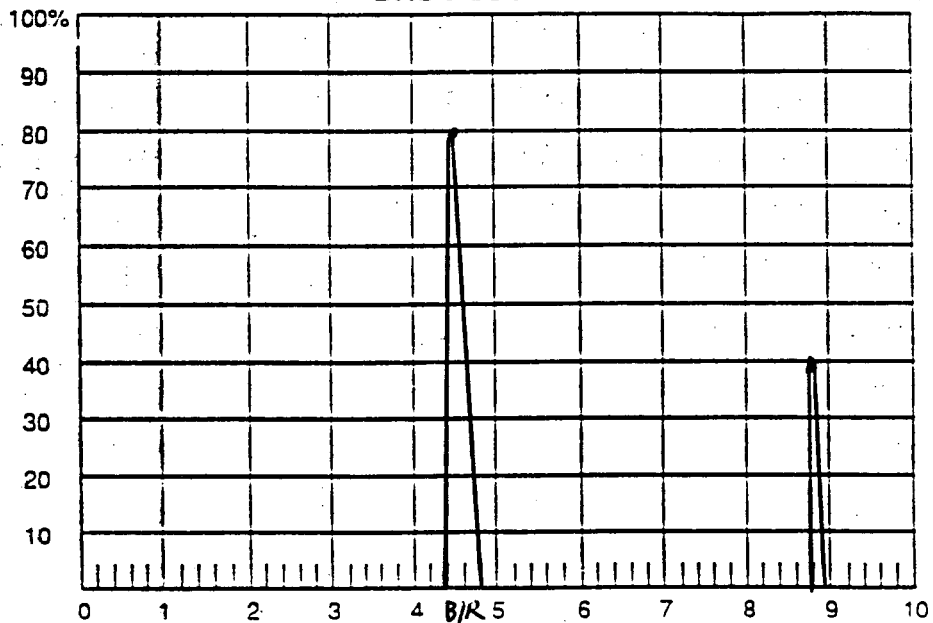
AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

COUPLANT

Brand Ultrage II
 Batch No. 092041

DAC PLOT



AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	19
40	+6	80
20	+12	81

CAL. CHECKS

TIME

INITIAL CAL.	2038
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2120

REMARKS:

EXAMINERS 1 Edmund R. Dawson LEVEL II DATE 4-23-92
 2 Dele M. M. M. M. LEVEL III DATE 4/23/92
 REVIEWERS 1 Jim P. P. P. LEVEL III DATE 4-25-92
 2 Richard B. Weber LEVEL N/A DATE 5/1/92
 3 _____ LEVEL _____ DATE _____

DATA SHEET NO. 108970
 PAGE 2 OF 12

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model US4-7
 Serial No. 27276-3789
 Sweep Length 5.22 Delay 258
 Range 2.5"
 Gain (coarse) = 20 120 dB
 Gain (fine) 20 8 dB
 Reference Sensitivity 40 28 dB
 Remarks: /

SEARCH UNIT

Serial No. F26118
 Size 1/2" Ø
 Frequency 2.25 MHz
 Mode shear
 Nom. Angle 45° (1A) 45°
 Measured Angle 42°
 Cable Type MDET-BNC
 Cable Length 6
 Remarks: exit point to front edge = .4"

CALIBRATION BLOCK

No. CPL 31
 "T" .870 Dia. 10"
 Temperature 78° F
 Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒ N/A
 Each Major Screen Div. = 1.25"
 Remarks 2.5" screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	21
40	+6	78
20	+12	78

CAL. CHECKS

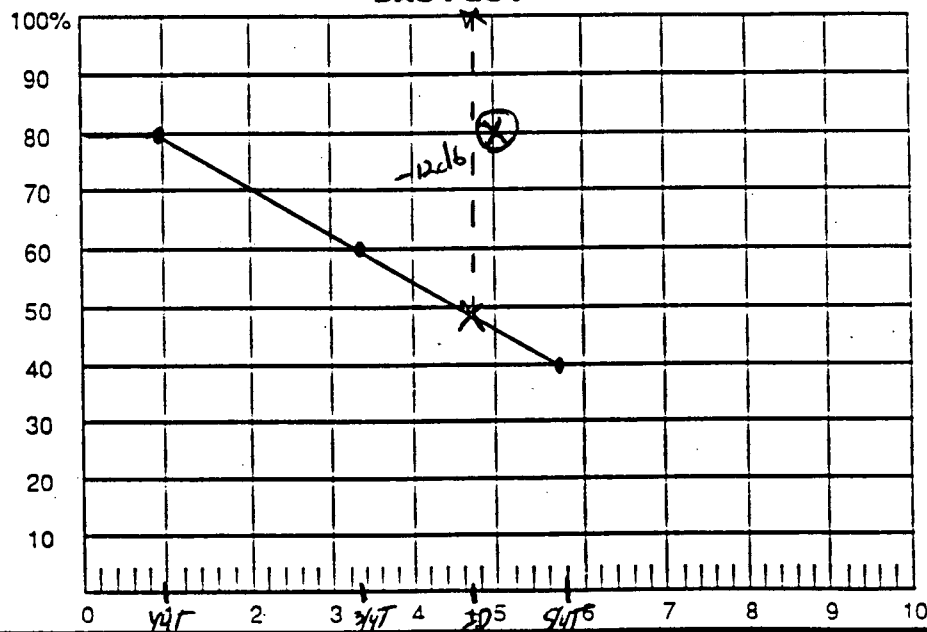
TIME

INITIAL CAL	2018
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL	2135

COUPLANT

Brand Ultragel II
 Batch No. 092041

DAC PLOT



REMARKS:

X - 1 scan sensitivity
(X) - 2 scan sensitivity

EXAMINERS 1 Edward R. Dawson LEVEL II DATE 4-23-92
 2 Dale Mendenhall LEVEL II DATE 4/23/92
 REVIEWERS 1 Art Pinner LEVEL III DATE 4-25-92
 2 Richard B. Weber LEVEL N/A DATE 5/1/92
 3 Pat Callahan LEVEL AN II DATE 5/1/92

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276.3784
 Sweep Length 5.76 Delay 7.20
 Range 2.5"
 Gain (coarse) =20 +20 dB
 Gain (fine) 30 12 dB
 Reference Sensitivity 50 32 dB
 Remarks: /

SEARCH UNIT

Serial No. M15144
 Size .5"
 Frequency 2.25 MHz
 Mode shear
 Nom. Angle 60°
 Measured Angle 55°
 Cable Type M00T-BNC
 Cable Length 6'
 Remarks: Exit point to front edge = .5"

CALIBRATION BLOCK

No. CPL-31
 "T" .870 Dia. 10"
 Temperature 78° F
 Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒ N/A
 Each Major Screen Div. = .25"
 Remarks 2.5" Screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	21
40	+6	78
20	+12	74

CAL. CHECKS

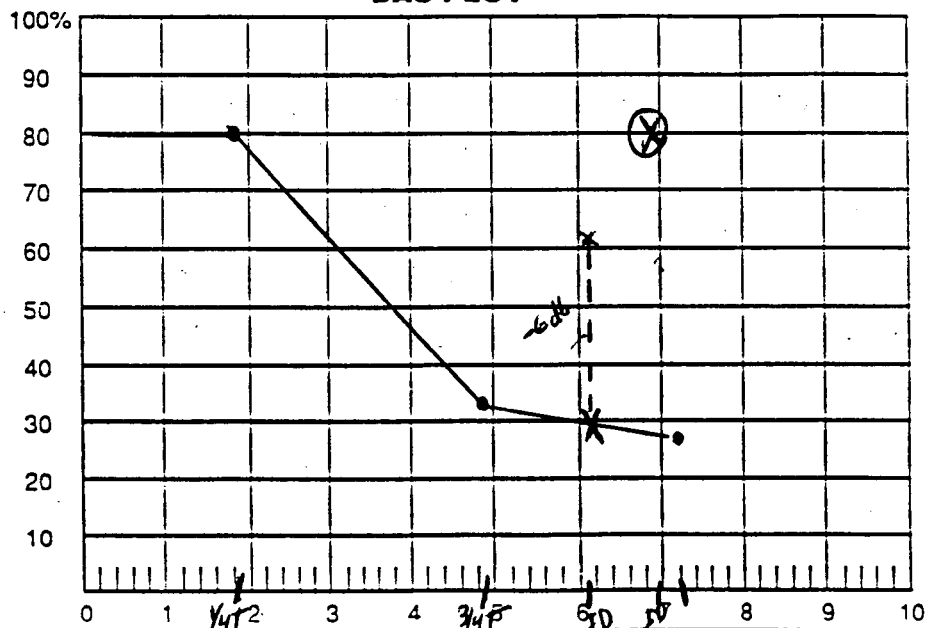
TIME

INITIAL CAL.	2018
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2133

COUPLANT

Brand Ultragel II
 Batch No. 092041

DAC PLOT



REMARKS: X - Axial
(X) - Circ.

EXAMINERS

1 Edmund C. Dancow
 2 Dale M. Koch

LEVEL

II

DATE

4-23-92

REVIEWERS

1 Art Pinner
 2 Richard B. Wilson
 3 JPalladinos

LEVEL

III

DATE

4-25-92

LEVEL

N/A

DATE

5/1/92

LEVEL

AN/1

DATE

5/1/92

PLANT/UNIT HB ROBINSON UNIT 2DATA SHEET NO. 108920PAGE 4 OF 12EXAMINATION
DATA SHEETPROCEDURE NO. SP 1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM SW INJISO/DWG. NO. CPL 209 REV. 0THERMOMETER S/N JL-9105COMPONENT TEMP. 72 ° F

EXAMINATION WELD/AREA

CPL-209-1-1-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>N/A</u>

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO HEAD ALL AREAS WHERE ANGLE BEAMS PASSES

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<u>N/A</u>	<u>45°</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>N/A</u>

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO HEAD EXAMINED 7 1/2" OF WELD 4" OF WELD OBSTRUCTED BY INTEGRAL ATTACHMENT WELD SEE PAGE 12 OF 12 FOR LOCATION OF AREA EXAMINED AND AREA OBSTRUCTED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<u>N/A</u>	<u>N/A</u>	<u>45°</u>	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>N/A</u>

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO HEAD EXAMINED 7 1/2" OF WELD 4" OF WELD OBSTRUCTED BY INTEGRAL ATTACHMENT WELD SEE PAGE 12 OF 12 FOR LOCATION OF AREA EXAMINED AND AREA OBSTRUCTED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund R. Donovon LEVEL II DATE 4-23-92

2 Dale M. Moshier LEVEL III DATE 4/23/92

1 Edmund R. Donovon LEVEL III DATE 4-25-92

2 Richard B. Weber LEVEL N/A DATE 5/1/92

3 Robert M. Moshier LEVEL AN/1 DATE 5/1/92

NES

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON UNIT 2DATA SHEET NO. 1089-0PAGE 5 OF 12EXAMINATION
DATA SHEETPROCEDURE NO. SP 1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM SW INJISO/DWG. NO. CPL 209 REV. 0THERMOMETER S/N JL 9105COMPONENT TEMP. 72 ° F

EXAMINATION WELD/AREA

CPL-209-1-1-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	60°	N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES☒ NO

AREA SCANNED

PIPE TO HEAD EXAMINED 7½" OF WELD 4" OF WELD OBSTRUCTED BY
INTEGRAL ATTACHMENT WELD SEE PAGE 12 OF 12 FOR LOCATION OF AREA
EXAMINED AND AREA OBSTRUCTED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	60°	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES☒ NO

AREA SCANNED

PIPE TO HEAD EXAMINED 7½" OF WELD 4" OF WELD OBSTRUCTED
BY INTEGRAL ATTACHMENT WELD SEE PAGE 12 OF 12 FOR LOCATION OF
AREA EXAMINED AND AREA OBSTRUCTED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Richard B. Weller LEVEL II DATE 4-23-92
2 Dale Murdoch LEVEL II DATE 4/23/92

1 W. J. Pinner LEVEL III DATE 4-25-92
2 Richard B. Weller LEVEL N/A DATE 5/1/92
3 CP Hallodares LEVEL III DATE 5/1/92



NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CPL-209-1-1-2

ISO/DWG. NO.

CPL-209 REV-0

ULTRASONIC INDICATION REPORT SHEET

- ☐ PIPING WELDS
☐ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER Austenitic Vessel

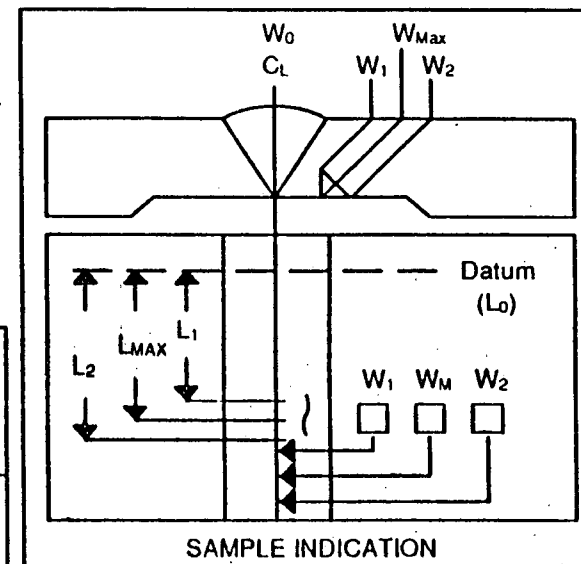

DATA SHEET NO. 109

PAGE 6 OF 12

SEARCH UNIT ANGLE 55 ACTUAL

W0 LOCATION OF WELD

L0 LOCATION E OF INLET
PIPE
LOOKING DOWN

[illegible]REMARKS  4/24/92

ROOT GEOMETRY* SEEN 360° ^{entire length} of scan

WITH VARYING AMPLITUDE

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>E. K. O'Grady</u>	LEVEL <u>II</u>	DATE <u>4-23-92</u>
	2	<u>Dale Murdoch</u>	LEVEL <u>III</u>	DATE <u>4/23/92</u>
REVIEWERS	1	<u>Art Pinner</u>	LEVEL <u>III</u>	DATE <u>4-25-92</u>
	2	<u>Richard P. Taylor</u>	LEVEL <u>N/A</u>	DATE <u>5/1/92</u>
	3	<u>Ch. K. K. K.</u>	LEVEL <u>ADH</u>	DATE <u>5/92</u>

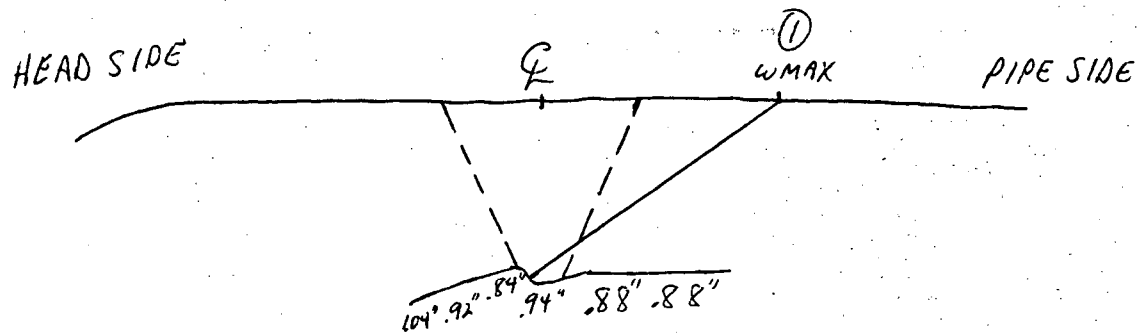
1125

NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 7 OF 12
DATA SHEET NO. 1089-10
EXAM ITEM CPL-209-1-1-2
ISO DWG. NO. CPL 209 REV. 0

SKETCH SHEET



EXAMINER	<u>Edmund D. Darrow</u>	LEVEL	<u>II</u>	DATE	<u>4-23-92</u>
EXAMINER	<u>Rick Mendenhall</u>	LEVEL	<u>III</u>	DATE	<u>4/23/92</u>
REVIEWER	<u>Carl P. ...</u>	LEVEL	<u>III</u>	DATE	<u>4-25-92</u>
REVIEWER	<u>Richard B. Weber</u>	DATE	<u>5/1/92</u>		
REVIEWER	<u>P. Malladare ANLL</u>	DATE	<u>5/1/92</u>		

PLANT/UNIT HB ROBINSON UNIT 2DATA SHEET NO. 108970PAGE 8 OF 12EXAMINATION
DATA SHEETPROCEDURE NO. SP-1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM SW INJISO/DWG. NO. CPL-209 REV. 0THERMOMETER S/N JL-9105COMPONENT TEMP. 72 ° F

EXAMINATION WELD/AREA

CPL-209-1-1-1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

PIPE TO FLANGE ALL AREAS WHERE ANGLE BEAM PASSES

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

PIPE TO FLANGE PIPE SIDE ONLY COMPLETE 1/3 OF CIRCUMFERENCE
SEE PAGE 12 OF 12 FOR SECTION OF WELD EXAMINED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

PIPE TO FLANGE COMPLETE 1/3 OF CIRCUMFERENCE SEE PAGE 12
OF 12 FOR SECTION OF WELD EXAMINED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund R. Duncan LEVEL II DATE 4-23-92

2 Bob Murrell LEVEL III DATE 4/23/92

1 Art Pinner LEVEL III DATE 4-25-92

2 Richard B. Weber LEVEL N/A DATE 5/1/92

3 RR Valladare LEVEL ANAL DATE 5/1/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON UNITDATA SHEET NO. 1089-20PAGE 9 OF 12EXAMINATION
DATA SHEETPROCEDURE NO. SP-1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM S.W. INJISO/DWG. NO. CPL 209 REV. 0THERMOMETER S/N JL-9105COMPONENT TEMP. 72 ° F

EXAMINATION WELD/AREA

CPL-209-1-1-1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<u>N/A</u>	<u>60°</u>	<u>N/A</u>	<u>N/A</u>	<u>X</u>	<u>N/A</u>	<u>X</u>	<u>N/A</u>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

PIPE TO FLANGE PIPE SIDE ONLY COMPLETE 1/3 CIRCUMFERENCE SEEPAGE 12 OF 12 FOR SECTION OF WELD EXAMINED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<u>N/A</u>	<u>N/A</u>	<u>60°</u>	<u>N/A</u>	<u>N/A</u>	<u>X</u>	<u>X</u>	<u>N/A</u>

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

PIPE TO FLANGE COMPLETE 1/3 CIRCUMFERENCE SEE PAGE 12 OF 12
FOR SECTION OF WELD EXAMINED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Richard K. Dameron LEVEL II DATE 4-23-92
2 Dale M. Mordock LEVEL III DATE 4/23/92

1 Robert P. ... LEVEL III DATE 4-25-92
2 Richard B. ... LEVEL N/A DATE 5/1/92
3 R. P. Valladano LEVEL III DATE 5/1/92

NES

NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CPL-209-1-1-1

ISO/DWG. NO.

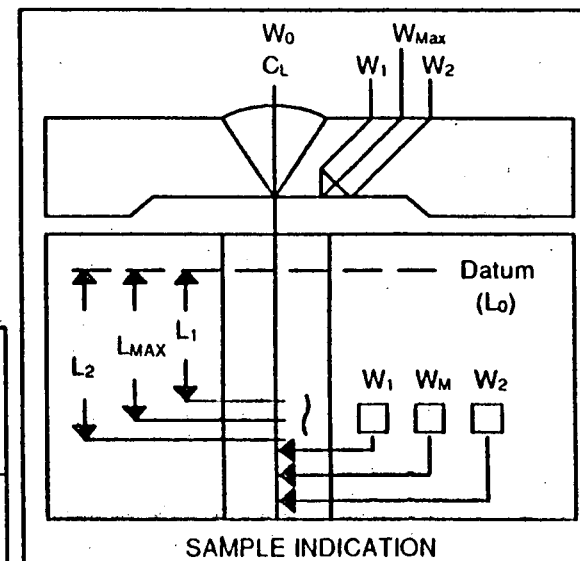
CPL-209 REV-0

ULTRASONIC INDICATION REPORT SHEET

- ☐ PIPING WELDS
☐ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER aust. vessel

DATA SHEET NO. 108

PAGE 10 OF 12



SEARCH UNIT ANGLE 55 ACTUAL

W0 LOCATION E OF WELD

LO LOCATION INLET
OF PIPE
LOOKING DOWN

[illegible]

- Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>Edward R. Dawson</u>	LEVEL <u>II</u>	DATE <u>4-23-92</u>
	2	<u>D. D. Murdoch</u>	LEVEL <u>III</u>	DATE <u>4/23/92</u>
REVIEWERS	1	<u>Carl P. ...</u>	LEVEL <u>III</u>	DATE <u>4-25-92</u>
	2	<u>Richard B. Weber</u>	LEVEL <u>N/A</u>	DATE <u>5/1/92</u>
	3	<u>William ...</u>	LEVEL <u>N/A</u>	DATE <u>5/1/92</u>

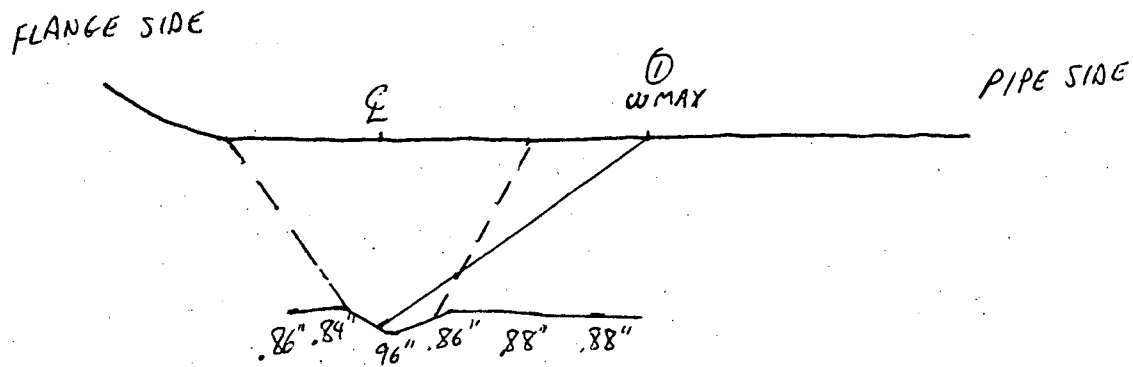
1125

NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 11 OF 12
DATA SHEET NO. 1089-20
EXAM ITEM CPL-209-1-1-1
ISO DWG. NO. CPL 209 REV. 0

SKETCH SHEET

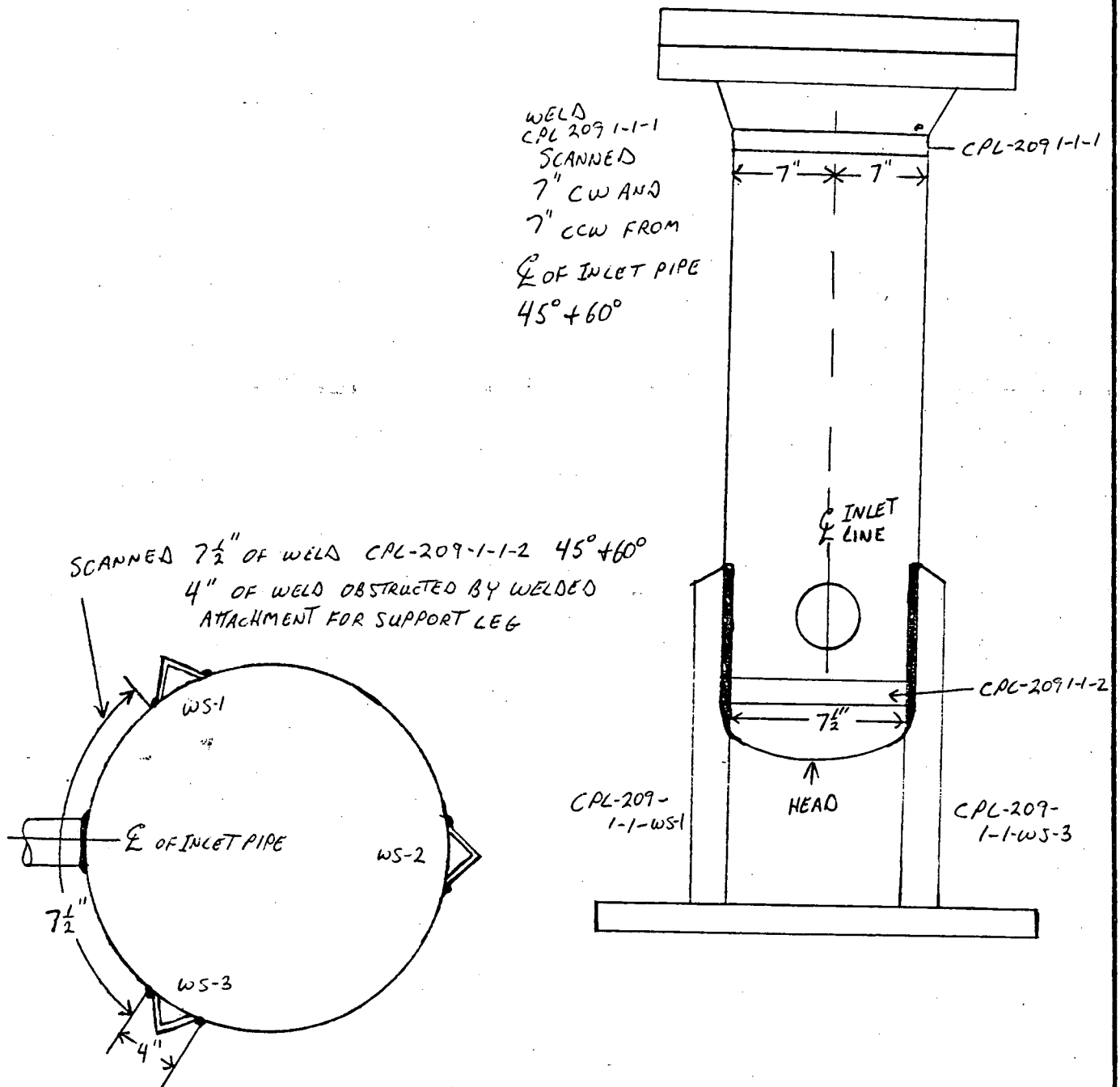


EXAMINER	<u>Edward L. Donovan</u>	LEVEL	<u>II</u>	DATE	<u>4-23-92</u>
EXAMINER	<u>Dale M. Mordock</u>	LEVEL	<u>III</u>	DATE	<u>4-23-92</u>
REVIEWER	<u>Art Kinner</u>	LEVEL	<u>III</u>	DATE	<u>4-25-92</u>
REVIEWER	<u>Richard B. Weber</u>	DATE	<u>5/1/92</u>		
REVIEWER	<u>Bill Anderson</u> <u>ART</u>	DATE	<u>5-1-92</u>		

1705

PAGE 12 OF 12DATA SHEET NO. 108970EXAM ITEM CPL-209-1-1-1 / CPL-209-1-1-2ISO DWG. NO. CPL-209 REV. 0

SKETCH SHEET



EXAMINER

Edmund R. Donovan

LEVEL

II

DATE

4-23-92

EXAMINER

Dale Murdock

LEVEL

III

DATE

4/23/92

REVIEWER

John P. ...

LEVEL

III

DATE

4-25-92

REVIEWER

Richard B. Weber

DATE

5/1/92

REVIEWER

R. Malladeno ANII

DATE

5-1-92



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-314

WR&A # 92-AFWK1

PAGE 1 OF 1

PLANT: H.B. ROBINSON UNIT: 11 ☒ 12 ☐ PSI ☒ ISI
SYSTEM: SEAL WATER COMPONENT NAME: SUPPORT COMPONENT ID NO.: CP4L 209-1-2 SUPPORT
INJECTION FILTER

DWG./LOC.: CP4L 209 REV D CHARGING PUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 REV D OK 5-29-92 VT-4 PROCEDURE: 614 REV.: N/A

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	<div></div>
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS			<input checked="" type="checkbox"/>	
COLLUSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY			<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER N/A ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: INSPECTED 209-1-2 WS-1, WS-2, WS-3
RUST REMOVED. SUPPORT PAINTED. NO RECORDABLE INDICATIONS NOTED

EXAMINER: GOL H. Cruliter LEVEL: II DATE: 5/29/92

REVIEWER: [Signature] LEVEL: II DATE: 6-5-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 6/5/92

REVIEWERS COMMENTS:

ANII REVIEW: [Signature] DATE: 6-5-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-216

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: SEAL WATER INJ FILTER COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-209-1-1W51 SUPPORT

DWG./LOC.: CPL-209 REV-0

[X] VT-3 PROCEDURE: SP 1097 ERO 423-92 NBEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [] MIRROR TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] OTHER [X] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<u>X</u>			
MISALIGNMENT		<u>X</u>		
DEBRIS		<u>X</u>		
CORROSION/EROSION	<u>X</u>	<u>X</u>	<u>ERO 4-24-92</u>	<u>N</u>
STRUCTURAL INTEGRITY		<u>X</u>		<u>A</u>
RESISTANCE TO MOVEMENT			<u>X</u>	
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edward R. Donovan LEVEL: II DATE: 4-23-92

REVIEWER: Art P... LEVEL: II DATE: 4-25-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/28/92

REVIEWERS COMMENTS:

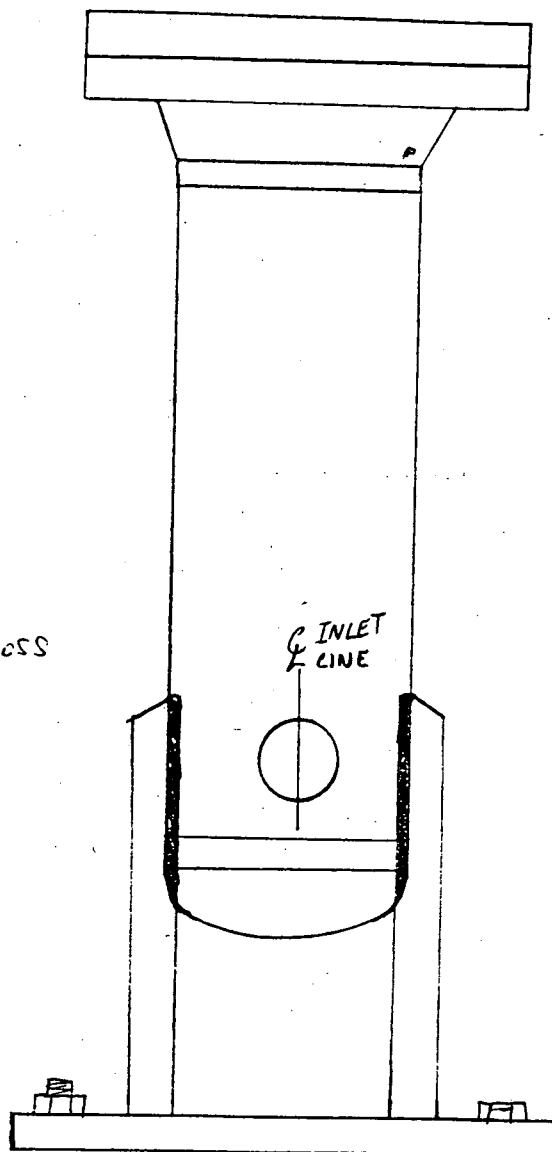
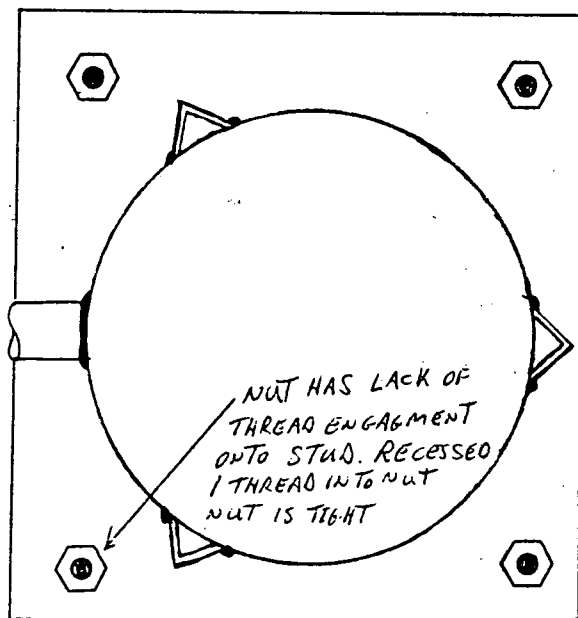
ANII REVIEW: AP Walladares DATE: 4-28-92

nes

PAGE 2 OF 2
DATA SHEET NO. 1097-2/4
EXAM ITEM CPL-209 1-1 -WS-1
ISO DWG. NO. CPL 209 REV. 0

SKETCH SHEET

ALL FOUR ANCHOR NUTS + BOLTS
ARE CORRODED LESS THAN 5% WALL LOSS



EXAMINER	<u>Chuck Dawson</u>	LEVEL	<u>II</u>	DATE	<u>4-23-92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Carl P. ...</u>	LEVEL	<u>II</u>	DATE	<u>4-25-92</u>
REVIEWER	<u>Richard B. Weber</u>	DATE	<u>4/28/92</u>		
REVIEWER		DATE			

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-215

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: SEAL WATER INJ FILTER COMPONENT INTEGRAL COMPONENT
NAME: SUPPORT ATTACHMENT ID NO.: CPL-209-1-1-WS-1

DWG./LOC.: CPL-209 REV-0 / SEAL WATER INJ. FILTER ROOM

X VT-3 PROCEDURE: SP 1097 ERO 4-23-92 NOEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.: ?

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT 1 MIRROR 1 TYPE OF COMPONENT SUPPORT:
1 OTHER 1 HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		N
STRUCTURAL INTEGRITY		X		A
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Edmund L Donovan LEVEL: II DATE: 4-23-92

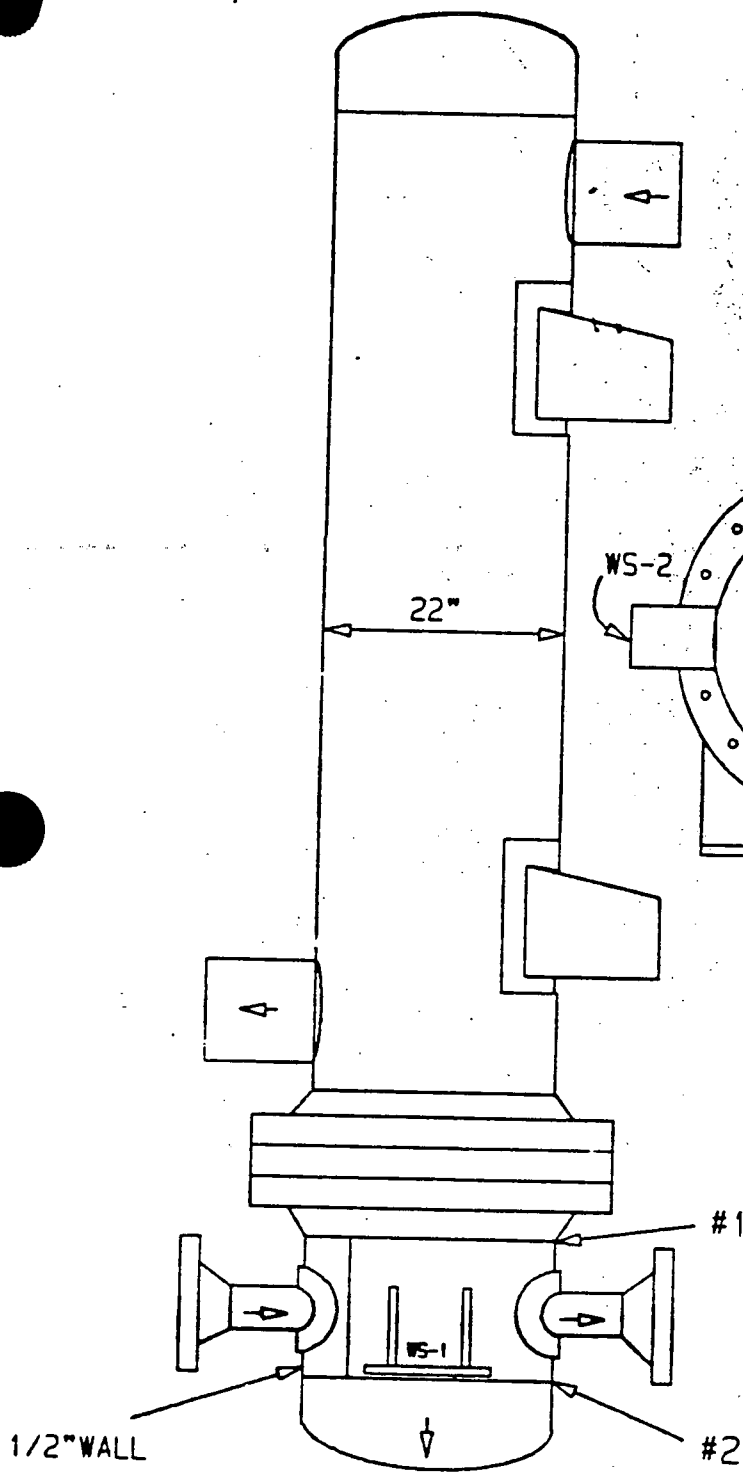
REVIEWER: Art R... LEVEL: II DATE: 4-25-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/28/92

REVIEWERS COMMENTS:

ANII REVIEW: RB Walladane DATE: 4.28.92



CPL-211A REV.0

H. B. ROBINSON S. E. PLANT

UNIT NO. 2

DESCRIPTION: LETDOWN (NON-REGEN.) H.A.

CONTROLLED
RCPT ID: 296

CP & L Dwg. No. HBR2-10618 SH. 70				DATE	
CP & L P.O. No. CPL-51				12/12/89	
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APPROVED BY	
0	RBW	CPL	CLO	CLO	

I certify that the image contained on this frame was made in the normal and regular course of business on the date stated below and that it is an accurate reproduction of

DATA SHEET NO. 1089-5
 PAGE 1 OF 67 7/1/92

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276, 3789
 Sweep Length 5.18 Delay 7.86
 Range 2.5
 Gain (coarse) 20 dB
 Gain (fine) 18 dB
 Reference Sensitivity 38 dB
 Remarks: /

SEARCH UNIT

Serial No. G20839
 Size .25
 Frequency 2.25 MHz
 Mode shear
 Nom. Angle 45 °
 Measured Angle 46 °
 Cable Type MDOT - BNC
 Cable Length 6'
 Remarks: /

CALIBRATION BLOCK

No. CPL 43
 T .438 Dia. N/A
 Temperature 66 °F
 Thermometer S/N SEP 91-05

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒ N/A
 Each Major Screen Div. = .25
 Remarks 2.5" screen

VERTICAL LINEARITY

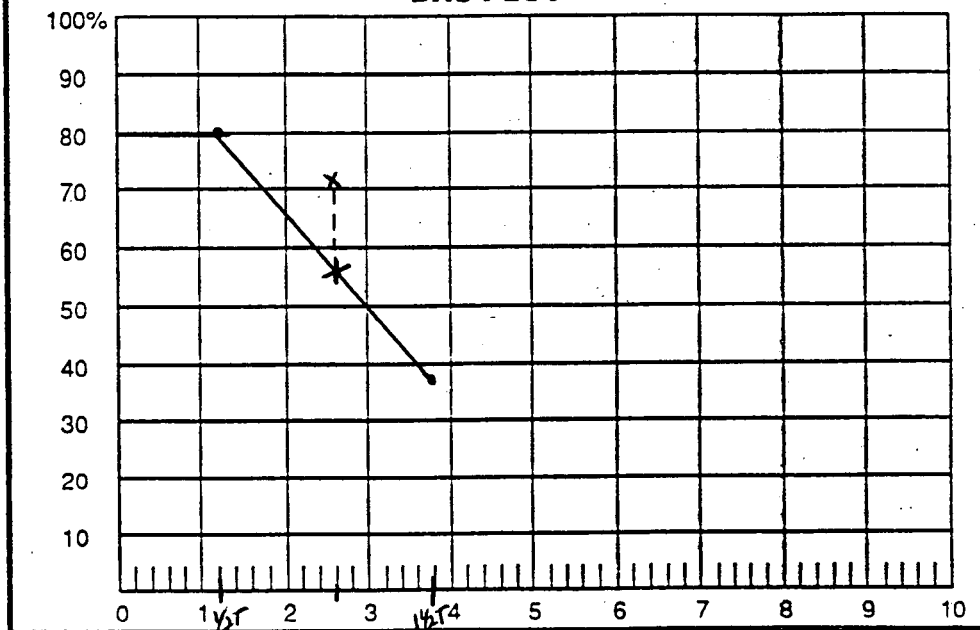
AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	24
2	90	45	7	40	20
3	80	40	8	30	14
4	70	35	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	81
20	+12	82

DAC PLOT



REMARKS: EXIT POINT to front edge = .2"

CAL. CHECKS

TIME

INITIAL CAL.	0150
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0409

EXAMINERS 1 Dale Murdoch LEVEL III DATE 4/15/92
 2 N/A LEVEL N/A DATE N/A
 REVIEWERS 1 Art Pinner LEVEL III DATE 4-16-92
 2 Richard B. Weber LEVEL N/A DATE 4/30/92
 3 R. M. Wallace LEVEL N/A DATE 5-1-92

DATA SHEET NO. 1089-5
PAGE 2 OF 67
4/18/92

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276, 3784
Sweep Length 5.37 Delay 2.36
Range .5"
Gain (coarse) 0 dB
Gain (fine) 24 dB
Reference Sensitivity 24 dB
Remarks: /

SEARCH UNIT

Serial No. KB2825
Size 1/2"
Frequency 2.25 MHz
Mode Long
Nom. Angle 0°
Measured Angle N/A°
Cable Type Self Contained
Cable Length 6'
Remarks: /

CALIBRATION BLOCK

No. Component
"T" .5" Dia. 22"
Temperature 86 °F
Thermometer S/N SEP 91-05

CALIBRATION

0° ☒ Axial ☐ Circ. ☐
Metal Path ☒ Depth ☐
Each Major Screen Div. = .10"
Remarks 1" Screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	24
2	90	45	7	40	20
	80	40	8	30	16
	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	71
80	-12	22
40	+6	78
20	+12	75

CAL. CHECKS

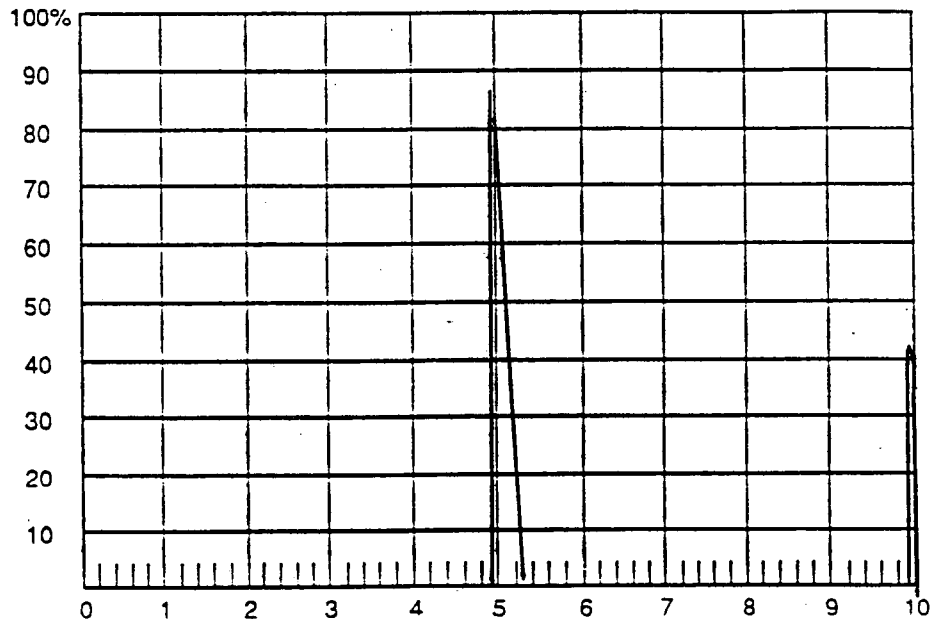
TIME

INITIAL CAL.	0240
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0330

COUPLANT

Brand Ultracel II
Batch No. 092041

DAC PLOT



REMARKS: /

EXAMINERS

1 Dale Murdoch
2 N/A

LEVEL III

DATE 4/17/92

LEVEL N/A

DATE N/A

REVIEWERS

1 Coit Rimmer
2 Richard B. Weber
3 R. P. Ballard

LEVEL III

DATE 4-16-92

LEVEL N/A

DATE 4/30/92

LEVEL ANII

DATE 5-1-92

PLANT/UNIT HBR unit 2
DATA SHEET NO. 1089-5
PAGE 3 OF 87 4/18/92

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM Letdown Hx
ISO/DWG. NO. CPL-211A REV. 0
THERMOMETER S/N SEP 91-05
COMPONENT TEMP. 86 ° F

EXAMINATION WELD/AREA

CPL-211A-1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED Scanned from ϕ of CCW outlet to 24" CW (when looking down) Volume
that angle beams passed through. Total weld length = 72"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED Scanned from ϕ of CCW outlet to 24" CW - shell side only
weld obstructed from 8" to 10" and 16 1/2" to 18 1/2" CW from ϕ of CCW outlet
by welded attachments

Total obstructed = 17% of I scan

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED Scanned two directions from ϕ of CCW outlet to 24" CW shell side only
weld obstructed as stated above

Total obstructed = 17% of S scan

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

1 Dale Muehle LEVEL III DATE 4/15/92
2 N/A LEVEL N/A DATE N/A

REVIEWERS:

1 G. P. Pinner LEVEL III DATE 4-16-92
2 Richard B. Water LEVEL N/A DATE 4/30/92
3 R. P. Bledar LEVEL IA/III DATE 5-1-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR unit 2
DATA SHEET NO. 1089-5
PAGE 4 OF 87 9/18/95

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM Letdown HX
ISO/DWG. NO. CPL 211A REV. 0
THERMOMETER S/N SEP 91-05
COMPONENT TEMP. 86 ° F

EXAMINATION WELD/AREA

CPL-211A-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED Scanned from ϕ of ccw outlet to 24" CW (when looking down)
Volume that angle beams passed through. Weld obst. 14" to 20" CW by welded support base
total weld length = 72" total obstructed = 25% of 0° scan

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED Scanned from ϕ of ccw outlet to 24" CW (when looking down)
weld obstructed 14" to 20" CW from ccw outlet by support base
total ^{on 4/18/92} TOP side of weld obst. from 6" to 24" by welded attach. base plate
total obstructed = 50% of \perp scan

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED Scanned Two directions from ϕ of ccw outlet to 24" CW
weld obst. from 14" to 20" CW by support base
total obstructed = 25% of \perp scan

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1. Sal Munder LEVEL III DATE 4/15/92
2. N/A LEVEL N/A DATE N/A
3. R. Malladane LEVEL III DATE 5-1-92

nes

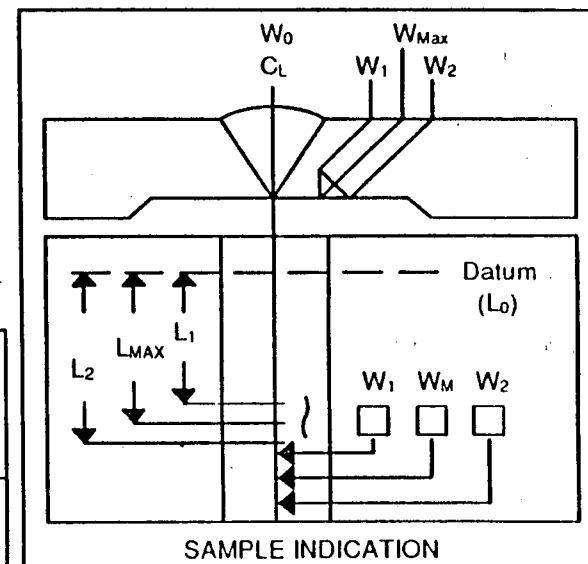
NUCLEAR ENERGY SERVICES, INC.

CPL-211A-2

CPL - 211A

☐ PIPING WELDS
☐ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER SS vessel

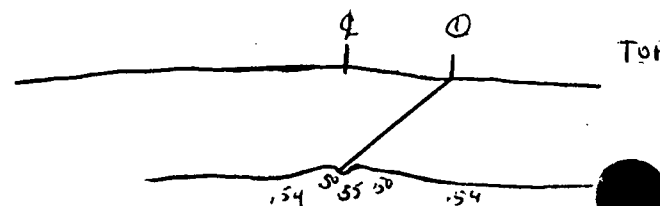
DATA SHEET NO. 1089-5
PAGE 5 OF 87 (2)
4/10/55



SEARCH UNIT ANGLE 46° W0 LOCATION weld L0 LOCATION cow outlet

[illegible]

EXAMINERS	1 <u>Dale Murdoch</u>	LEVEL <u>III</u>	DATE <u>4/15/92</u>
	2 <u>N/A</u>	LEVEL <u>N/A</u>	DATE <u>N/A</u>
REVIEWERS	<u>Git Pym</u>	LEVEL <u>III</u>	DATE <u>4-16-92</u>
	<u>Richard B. Weber</u>	LEVEL <u>N/A</u>	DATE <u>4/30/92</u>
	<u>Bill Adams</u>	LEVEL <u>AN II</u>	DATE <u>5-1-92</u>



CPL-211A-1
CPL-211A-2

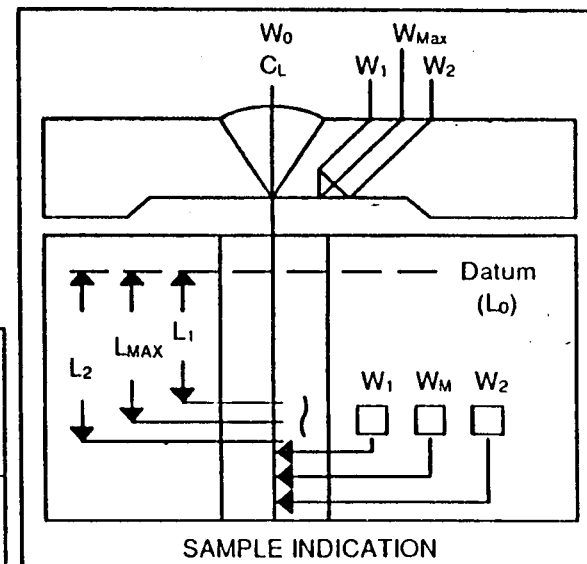
CPL-211A

☐ PIPING WELDS
☐ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER Stainless Vessel

DATA SHEET NO. 1089-5
PAGE 6 OF 87 (2)
7/18/55

SEARCH UNIT ANGLE 46°

W0 LOCATION 2 ccw outlet L0 LOCATION N/A

[illegible]

REMARKS

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>Dale Murdoch</u>	LEVEL	<u>III</u>	DATE	<u>4/15/92</u>
	2	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWERS	1	<u>Art Runcin</u>	LEVEL	<u>III</u>	DATE	<u>4-16-92</u>
		<u>Richard B. Weber</u>	LEVEL	<u>N/A</u>	DATE	<u>4/30/92</u>
		<u>R. Wallgren</u>	LEVEL	<u>ANCI</u>	DATE	<u>5-1-92</u>

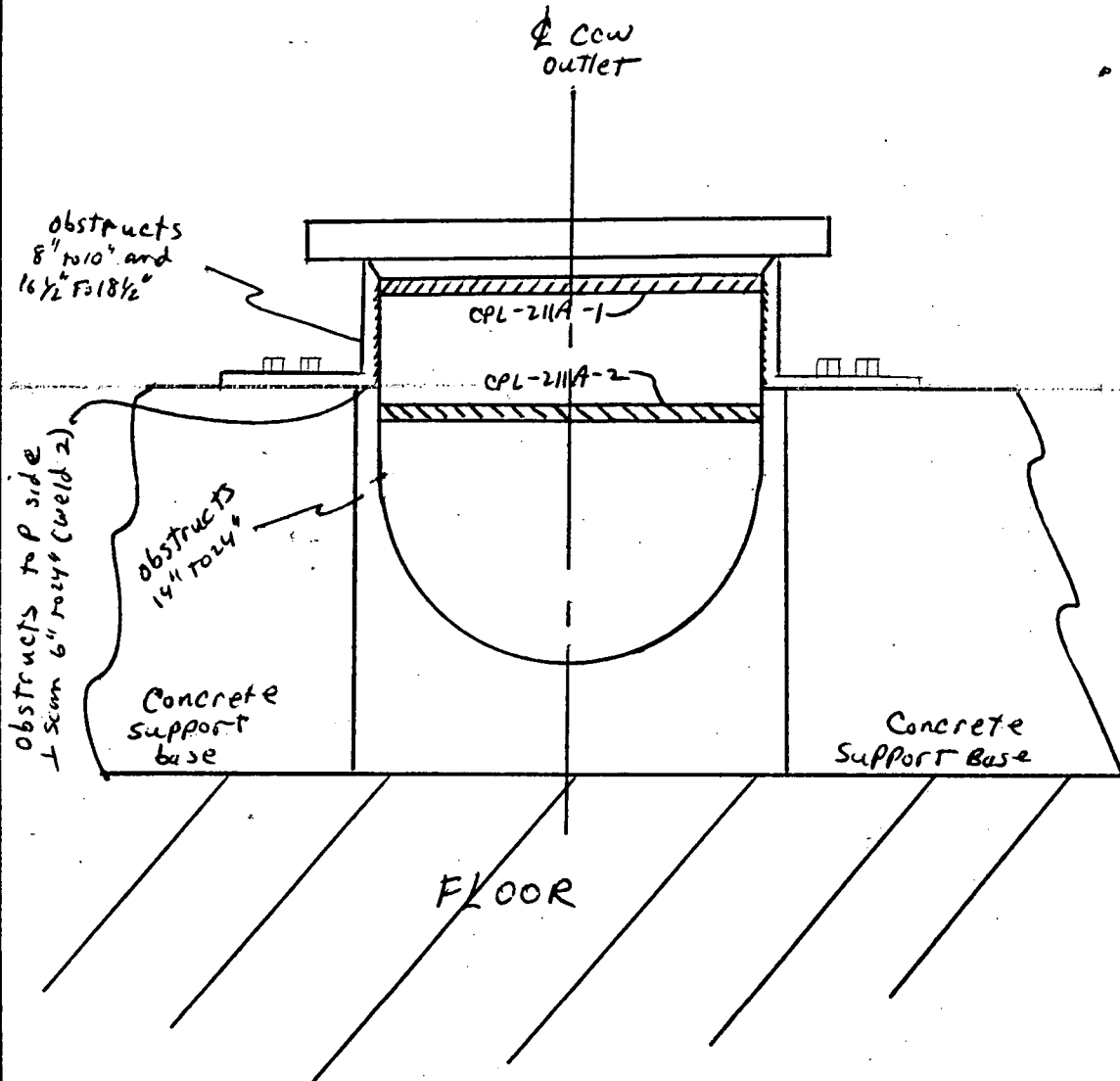
Ref. Atlas Industrial Mfg. Co.
Dwg D-7903

1125 NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 7 OF 7
DATA SHEET NO. 1089-5
EXAM ITEM CPL-211A-1, CPL-211A-2
ISO DWG. NO. CPL-211A REV. 0

SKETCH SHEET



EXAMINER	<u>Dale Murdoch</u>	LEVEL	<u>III</u>	DATE	<u>4/18/92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Art Pinner</u>	LEVEL	<u>III</u>	DATE	<u>4-18-92</u>
REVIEWER	<u>Richard B. Weber</u>	DATE	<u>4/30/92</u>		
REVIEWER	<u>R. Villalobos ANTI</u>	DATE	<u>5-1-92</u>		

PROCEDURE SP1091
REVISION 0 F.C. NO. N/A
PAGE 1 OF 1

SYSTEM EXAMINED MAIN STEAM ISO/DWG/SK. # CPL 212 REVISION 0
DATUM POINT REFERENCE N/A

* REQUIRED FOR WET METHODS ONLY

MAGNETIC PARTICLES

Dry ☒ Wet ☐

Make MAGNA FLUX

Type 8A

Batch No. 89 D0 40

Color RED

EQUIPMENT

Yoke ☒ Coil ☐ Prod ☐

Make PARKER PROBE

Serial No. 423

AC ☒ DC ☐

AMP Turns N/A

AMPS N/A

Pole Spacing 3-6"

Yoke Lift Test NDE 04558A

Yes ☒ No ☐

[illegible]

DATA SHEET NO. 10917
PAGE 1 OF 1

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP1093
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276-3409
Sweep Length 8.30 Delay 2.96
Range 5"
Gain (coarse) 08 dB
Gain (fine) 8 dB
Reference Sensitivity 8 dB
Remarks: N/A

SEARCH UNIT

Serial No. B17620
Size 25"
Frequency 5.0 MHz
Mode LONG
Nom. Angle 0 °
Measured Angle N/A °
Cable Type RG174/U
Cable Length 6'
Remarks: N/A

CALIBRATION BLOCK

No. 6086-83
T 1" Dia. NA
Temperature 66 °F
Thermometer S/N JL 91-14

CALIBRATION

0° ☒ Axial ☐ Circ. ☐
Metal Path ☒ Depth ☐
Each Major Screen Div. = .20"
Remarks 2" SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
30	-6	40
32	-12	20
40	+6	80
20	+12	80

CAL. CHECKS

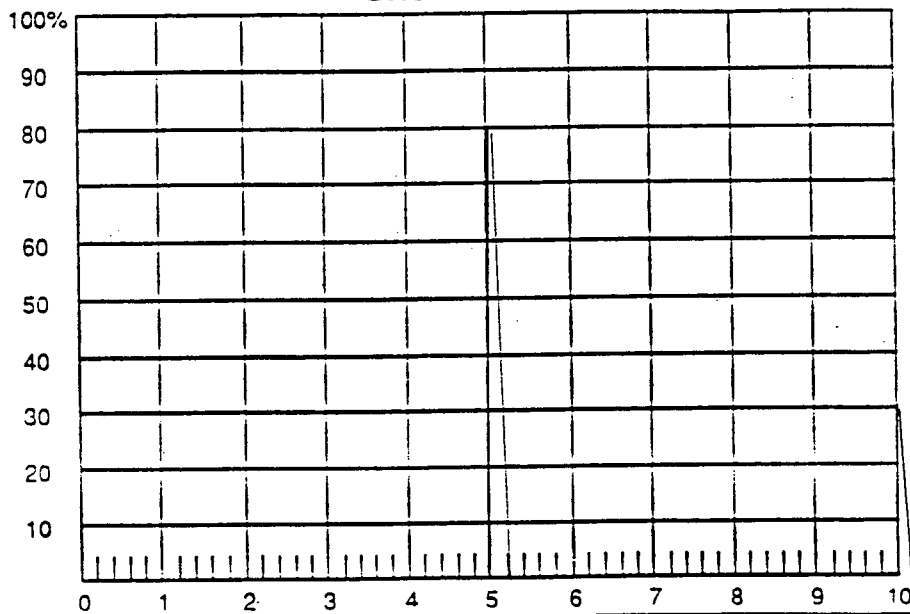
TIME

INITIAL CAL.	<u>4/28/92</u>	<u>0050</u>
INTERMEDIATE		
INTERMEDIATE		<u>N/A</u>
INTERMEDIATE		
FINAL CAL.		<u>0132</u>

COUPLANT

Brand ULTRAGEL II
Batch No. 092041

DAC PLOT



REMARKS: FOR THICKNESS MEASUREMENT ONLY
FOR MR. OF WELD CPL 212-23 BC

EXAMINERS 1 Cut Pinner LEVEL III DATE 4-28-92
2 N/A LEVEL N/A DATE N/A
REVIEWERS 1 Dale Mordock LEVEL III DATE 4/29/92
2 Richard B. Weber LEVEL N/A DATE 4/30/92
3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

SPRING HANDERS

B, D, I, L, P, T, V,

WELDED SUPPORT

B-WS

T-WS

V-WS

X-WS

Y-WS

T-WS

U-WS

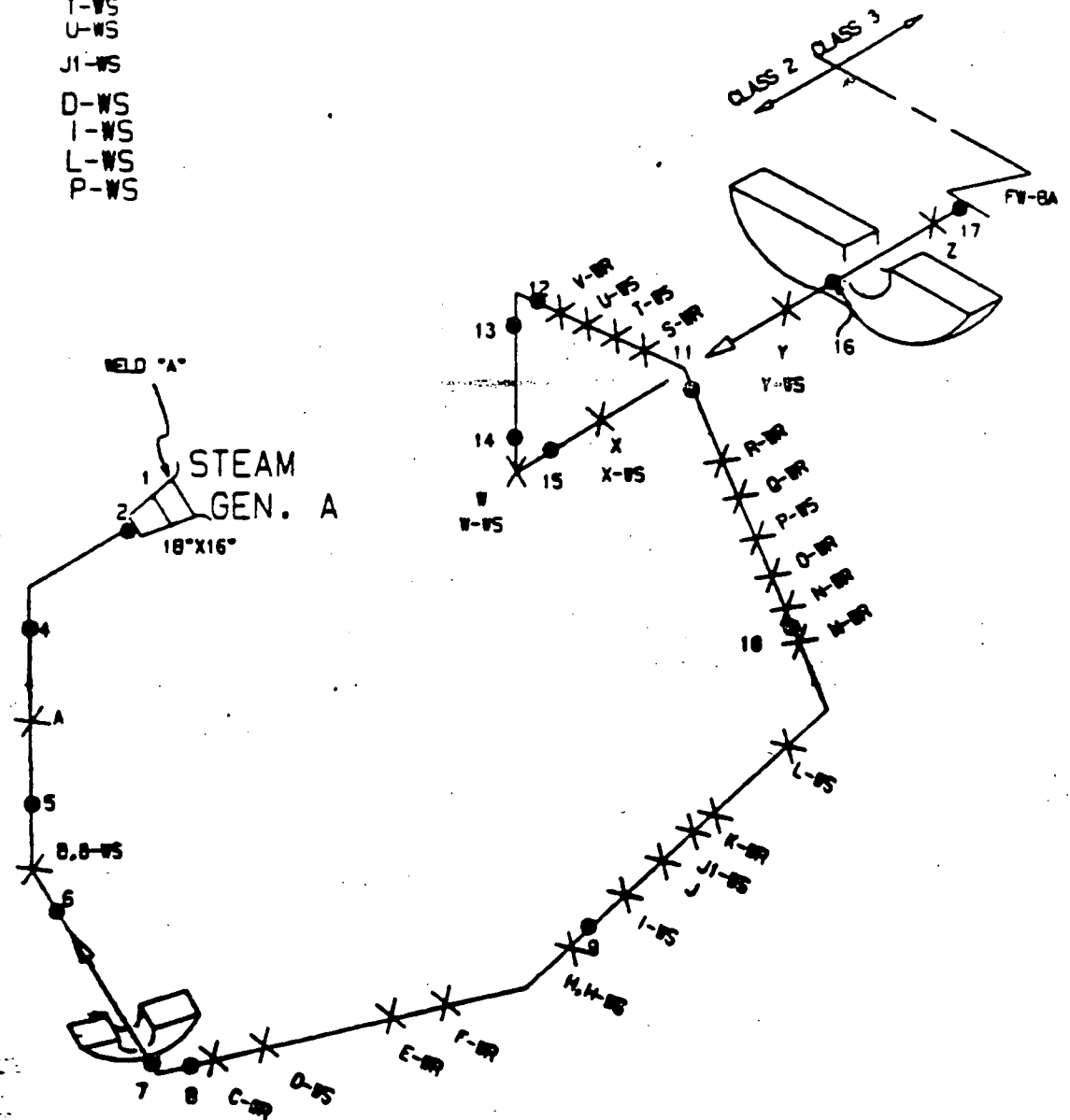
J1-WS

D-WS

I-WS

L-WS

P-WS



CPL-215

REV. 0

H.B. ROBINSON S.E. PLANT

UNIT NO. 2

DESCRIPTION: LOOP A 16" FEEDWATER

LINE NO. 16-FDW-A

CPL- 215 REV.

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SF 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276-3789
Sweep Length 8.14 Delay 8.16
Range 2.5
Gain (coarse) AX 0 CIRC 0 dB
Gain (fine) 14 20 dB
Reference Sensitivity 14 20 dB
Remarks: 26 DB To SET 3/4 THOLE
To 80% FSH
SCANNED AT +12 DB

SEARCH UNIT

Serial No. F26118
Size .5"
Frequency 2.25 MHz
Mode SHEAR
Nom. Angle 45°
Measured Angle 46°
Cable Type R6174/U
Cable Length 6'
Remarks: .4" WEDGE FRONT TO
EXIT POINT

CALIBRATION BLOCK

No. SEE REMARKS
T 1.158" Dia. 18.0"
Temperature 75 °F
Thermometer S/N JL-9110

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒
Each Major Screen Div. = .5"
Remarks 5.0" SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	21
40	+6	80
20	+12	78

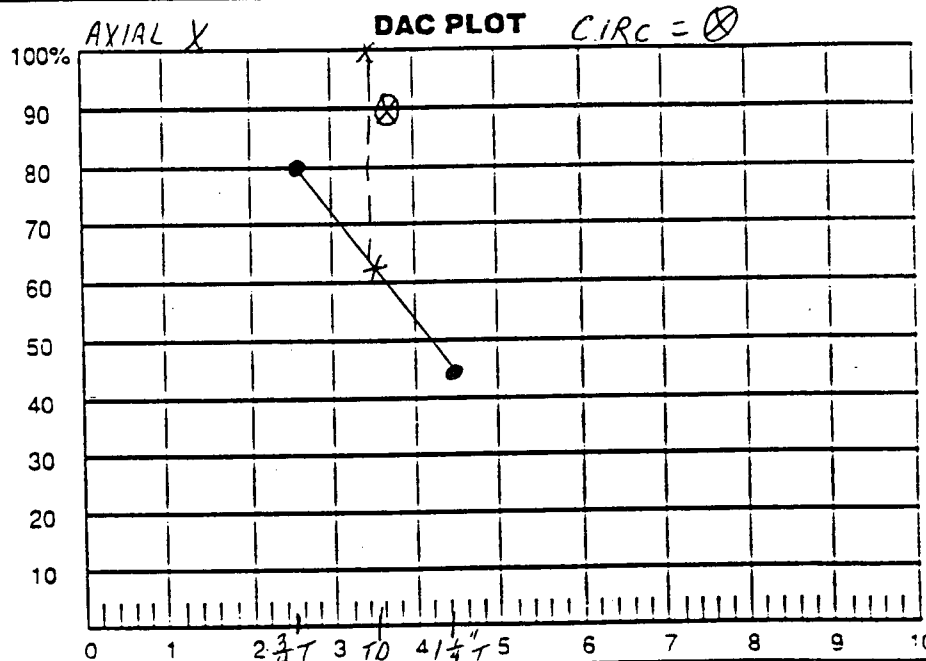
CAL. CHECKS

TIME

INITIAL CAL.	2220
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0102

COUPLANT

Brand ULTRAGEL II
Batch No. 092 041



REMARKS: NO CPL CAL BLOCK NUMBER STAMPED ON
BLOCK NUMBERS ON BLOCK ARE : DWG NO. 5359C97
HT 12-8097
OD 18" THK 1.158

EXAMINERS

1

Edmund R. Woron

LEVEL II

DATE

5-14-92

2

N/A

LEVEL N/A

DATE

N/A

REVIEWERS

1

Dale Murdock

LEVEL III

DATE

5/15/92

2

Richard D. Weber

LEVEL N/A

DATE

5/18/92

3

William J. Adams

LEVEL N/A

DATE

5/18/92

PLANT/UNIT 1089 3/11/92 HBR unit 2
DATA SHEET NO. 1089-16
PAGE 2 OF 5

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM FEEDWATER
ISO/DWG. NO. CPL 216 REV. 0
THERMOMETER S/N SL-9110
COMPONENT TEMP. 76 ° F

MINIMUM WELD/AREA

CPL-216-1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED REDUCER TO NOZZLE COMPLETE BOTH SIDES
SCANNED 40" OUT ON TO REDUCER BOTH DIRECTIONS
SCANNED 2 1/2" OUT ON TO NOZZLE BOTH DIRECTIONS

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	X	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED REDUCER TO NOZZLE COMPLETE BOTH SIDES
SCANNED 40" OUT ON TO REDUCER BOTH DIRECTIONS
SCANNED 2 1/2" OUT ON TO NOZZLE BOTH DIRECTIONS

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

1 Edmund R. Dawson LEVEL II DATE 5-14-92
2 N/A LEVEL N/A DATE N/A

REVIEWERS:
1 Dale Munder LEVEL III DATE 5/15/92
2 Richard G. Weber LEVEL N/A DATE 5/18/92
3 W. Mallabares LEVEL ANIL DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR unit 2DATA SHEET NO. 1089-16PAGE 3 OF 5EXAMINATION
DATA SHEETPROCEDURE NO. SP 1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM FEEDWATERISO/DWG. NO. CPL 215 REV. 0THERMOMETER S/N JL 9110COMPONENT TEMP. 76 ° F

MINIATION WELD/AREA

CPL-215-1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	N/A	SEE NOTE	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NOAREA SCANNED REDUCER TO NOZZLE COMPLETE BOTH SIDESSCANNED 4.0" OUT ON TO REDUCER BOTH DIRECTIONSSCANNED 2 1/2" OUT ON TO NOZZLE BOTH DIRECTIONSSEE PAGE 4 OF 5 FOR INDICATIONS RECORDED AT BELOW RECORDABLE PERCENTAGE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	X	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NOAREA SCANNED REDUCER TO NOZZLE COMPLETE BOTH SIDESSCANNED 4.0" OUT ON TO REDUCER BOTH DIRECTIONSSCANNED 2 1/2" OUT ON TO NOZZLE BOTH DIRECTIONS

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1. Edmund A. Downer LEVEL II DATE 5-14-92

2. N/A LEVEL N/A DATE N/A

1. Wally Mendenhall LEVEL III DATE 5/15/92

2. Anthony B. Weber LEVEL N/A DATE 5/18/92

3. Orlando Madano LEVEL ANTI DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CPL-215 -1

ISO/DWG. NO.

CPL-215 REV-0

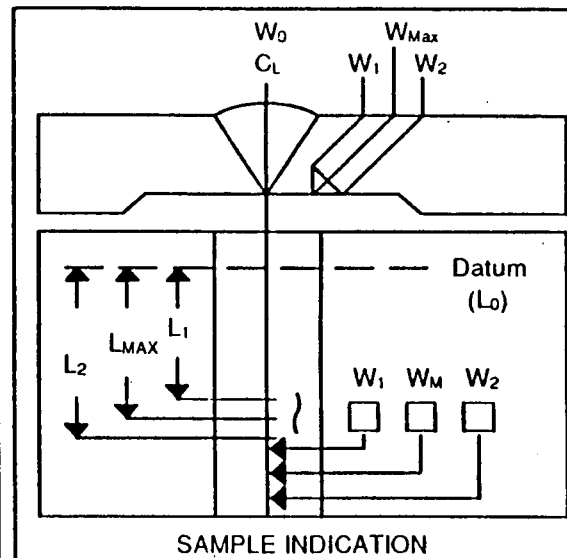
ULTRASONIC INDICATION REPORT SHEET

- ☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2" T$
☒ OTHER N/A

DATA SHEET NO. 1076PAGE 4 OF 5SEARCH UNIT ANGLE 46° ACTUALW₀ LOCATION Q OF WELDL₀ LOCATION TDC

MP Metal Path
 RBR Remaining Back Reflection
 L Distance from Datum
 W max Distance from W₀ to S.U. at maximum response.
 W₁ Distance from W₀ at 50% of DAC (fwd)
 W₂ Distance from W₀ at 50% of DAC (backward)

Ind. No.	% of DAC*	W		FWD 50% DAC*		BACKWARD 50% DAC*		L ₁ 50% DAC	L max	L ₂ 50% DAC	RBR amp	S.U. Loc.
		W	MP	W ₁	MP	W ₂	MP					
1	12%	.45"	1.0"	N/A	N/A	N/A	N/A	13.75 _{cw}	14 _{4cw}	15"cw	N/A	REDUCER SIDE
2	10%	1.0"	1.0"	N/A	N/A	N/A	N/A	13.75 _{cw}	14 _{4cw}	15"cw	N/A	NOZZLE SIDE



REMARKS

INDICATION SEEN FROM BOTH
 SIDES OF WELD.
 NOTED DURING 0° THICKNESS
 READINGS 0° INDICATION AT .62"
 20% FSH WITH 80% FSH BACK
 REFLECTION AT .74"

* Ferritic vessels $\geq 2" T$: record 50% of maximum response for indications over 100% DAC.

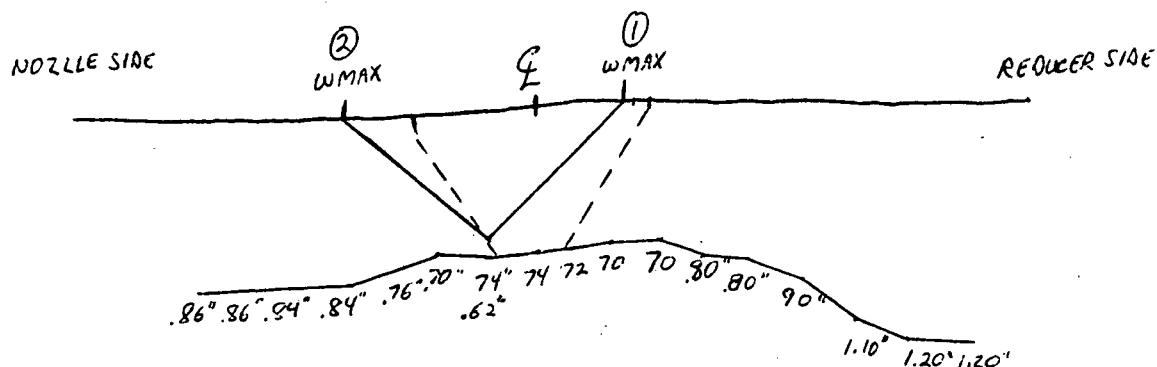
EXAMINERS 1 Edmund R. Dawson LEVEL II DATE 5/14/92
 2 N/A LEVEL N/A DATE N/A
 REVIEWERS 1 Del. Muroch LEVEL III DATE 5/15/92
 2 Richard S. White LEVEL N/A DATE 5/18/92
 3 R. Palladau LEVEL N/A DATE 5/18/92

NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 5 OF 5
DATA SHEET NO. 108976
EXAM ITEM CPL-215-1
ISO DWG. NO. CPL 215 REV. 0

SKETCH SHEET



EXAMINER Edward R. Donovan
EXAMINER NA
REVIEWER Del. Murchick
REVIEWER Richard B. Weber
REVIEWER M. Balladare ANTI

LEVEL II
LEVEL NA
LEVEL III
DATE 5/18/92
DATE 5/18/92

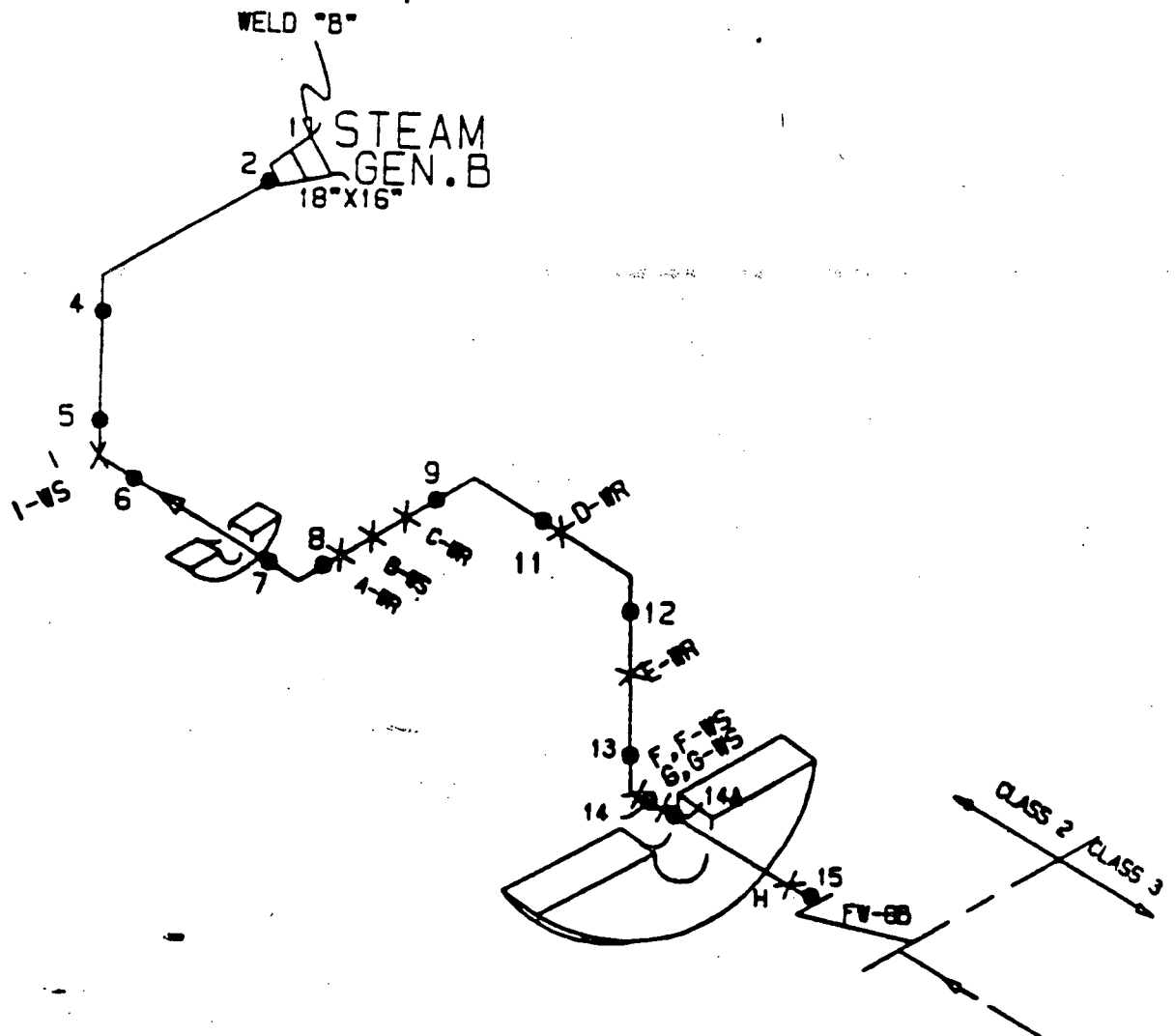
DATE 5-14-92
DATE NA
DATE 5/13/91

SPRING HANGERS

B, I

WELDED SUPPORT

F-WS
G-WS



CPL-216

REV.0

H.B. ROBINSON S.E. PLANT

UNIT NO. 2

DESCRIPTION: LOOP B 16" FEEDWATER

LINE NO. 16-FDW-B CPL-216 REV.

DATA SHEET NO. 1089-15
PAGE 1 OF 5

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276-3784
Sweep Length 9.78 Delay 7.44
Range .5"
Gain (coarse) =0 ±0 dB
Gain (fine) 24 20 dB
Reference Sensitivity 24 20 dB
Remarks: /

SEARCH UNIT

Serial No. D22084
Size 1/2"
Frequency 2.25 MHz
Mode shear
Nom. Angle 45°
Measured Angle 44°
Cable Type 174 RG 14
Cable Length 6'
Remarks: exit pt to front edge = .5"

CALIBRATION BLOCK

No. CPL 54
T 1.010 Dia. 16"
Temperature 75° F
Thermometer S/N JL 91-10

CALIBRATION

0° ☐ N/A Axial ☒ Circ. ☒
Metal Path ☒ Depth ☐ N/A
Each Major Screen Div. = .25"
Remarks 2.5" screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	26
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	42
80	-12	22
40	+6	78
20	+12	74

CAL. CHECKS

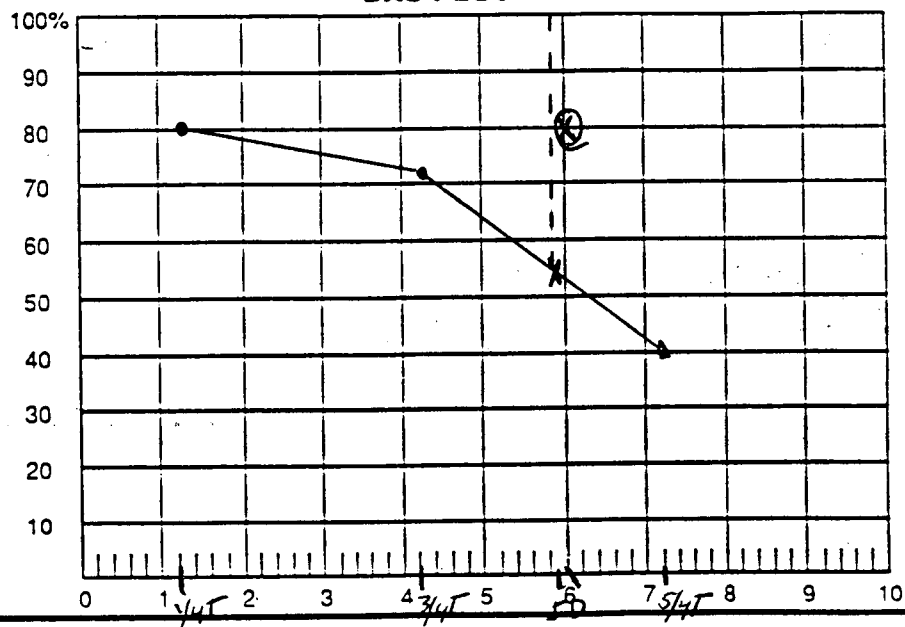
TIME

INITIAL CAL.	2241
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0110

COUPLANT

Brand ultracel II
Batch No.

DAC PLOT



REMARKS:

X-axial notch calibration
(X) circumferential calibration

EXAMINERS

1 Dale Murdoch
2 N/A

LEVEL

III
N/A

DATE

5/14/92
N/A

REVIEWERS

1 Edward R. Downer
2 Richard B. Weber
3 R. Walla Stans

LEVEL

II
N/A
ANII

DATE

5-15-92
5/18/92
5/18/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR unit 2
DATA SHEET NO. 1089-15
PAGE 2 OF 5

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM FW
ISO/DWG. NO. CPL-216 REV. 0
THERMOMETER S/N JL-9110
COMPONENT TEMP. 76 ° F

EXAMINATION WELD/AREA

CPL-216-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	45	N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned weld plus 4" on each side of weld complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	45	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned 2 directions complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Wale Muebeck LEVEL II DATE 5/14/92
2 N/A LEVEL N/A DATE N/A

1 Edward R. Danneberg LEVEL II DATE 5-15-92
2 Richard B. W. Siler LEVEL N/A DATE 5/18/92
3 Michael D. Siler LEVEL ANII DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

EXAM IT!

CPL-216-2

ISO/DWG. NO.

CPL-216 Rev. 0

ULTRASONIC INDICATION REPORT SHEET

- ☒ PIPING WELDS
☐ FERRITIC VESSELS $\geq 2"$ T *
☐ OTHER _____

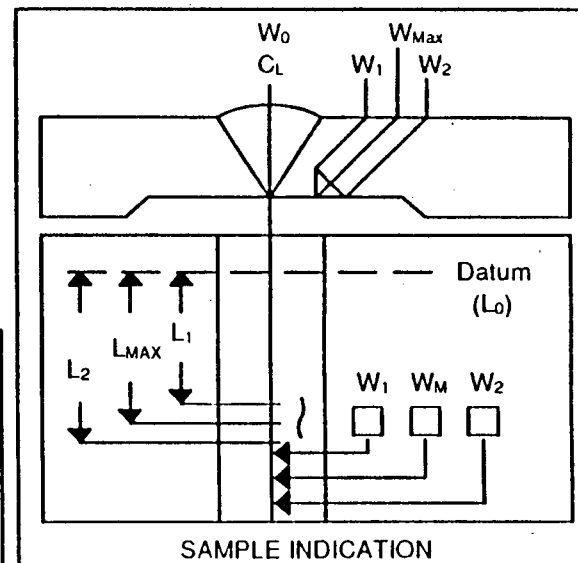
DATA SHEET NO. 1085

PAGE 3 OF 5

SEARCH UNIT ANGLE 44°

W0 LOCATION elbow side toe L0 LOCATION TDC

MP	Metal Path	W_{max}	Distance from W_0 to S.U. at maximum response.
RBR	Remaining Back Reflection	W_1	Distance from W_0 at 50% of DAC (fwd)
L	Distance from Datum	W_2	Distance from W_0 at 50% of DAC (backward)

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS

1 Dale Murdock
2 NMA

LEVEL

14

DATE _____

5/14/92

REVIEWERS

1 Edward R. Dunn
2 Richard B. Wilson
3 R. Walladave

LEVEL

II.

DATE _____

5-15.92

11/20

DATE _____

5/18/92

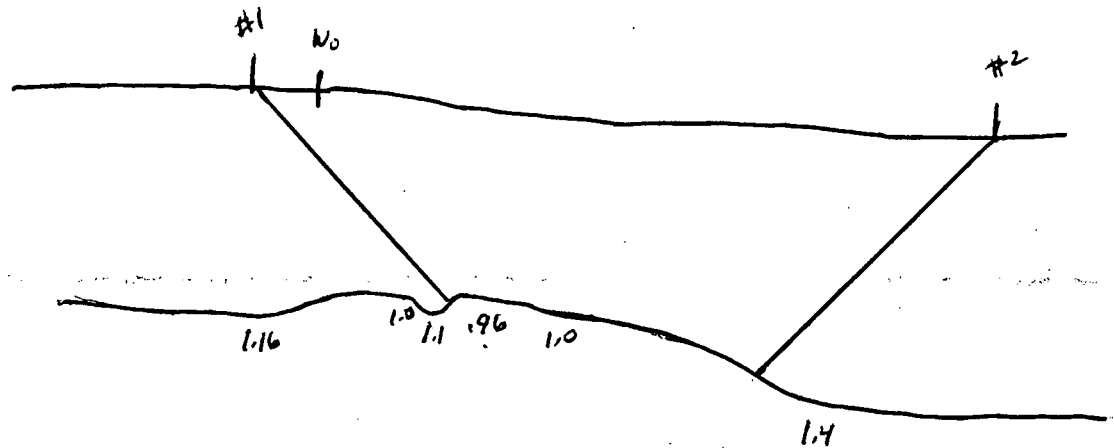
1125

NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 4 OF 5
DATA SHEET NO. 1089-75
EXAM ITEM CPL-216-2
ISO DWG. NO. CPL-216 REV. 0

SKETCH SHEET



EXAMINER Dale Murdock
EXAMINER N/A
REVIEWER Edmund R. Danner
REVIEWER Richard B. Weber
REVIEWER R. Palladino ANII

LEVEL III
LEVEL N/A
LEVEL II
DATE 5/18/92
DATE 5/18/92

DATE 5/14/92
DATE N/A
DATE 5-15-92

PLANT/UNIT HBR Unit 2
DATA SHEET NO. 1089-15
PAGE 5 OF 5

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM FW
ISO/DWG. NO. CPL-215 REV. 0
THERMOMETER S/N JL 9110
COMPONENT TEMP. 76 ° F

MINIATION WELD/AREA

CPL-215-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	↓	=	↗	YES	NO	ACC.	REJ.
N/A	45	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned weld Plus 4" on each side of weld Complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	↓	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	45	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned 2 directions complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	↓	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	↓	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Dele Murdoch LEVEL III DATE 5/14/92
2 N/A LEVEL N/A DATE N/A

1 Edmund R. Damm LEVEL II DATE 5/15/92
2 Richard B. Wiler LEVEL N/A DATE 5/18/92
3 R. R. Mollodan LEVEL III DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 108977PAGE 21 OF 3

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089REV. 0CHANGE NO. N/A

INSTRUMENT

Model USK 7D
 Serial No. NDE 32810
 Sweep Length 121.6ⁱⁿ/ms Delay 3.3 us
 Range 2.5"
 Gain (coarse) 37 dB
 Gain (fine) — dB
 Reference Sensitivity 37 dB
 Remarks: STORED IN DATA #5

SEARCH UNIT

Serial No. M 14135
 Size .5"
 Frequency 2.25 MHz
 Mode SHEAR
 Nom. Angle 45°
 Measured Angle 45°
 Cable Type RG 174/U
 Cable Length 6'
 Remarks: 1/2" FROM INDEX
TO FRONT OF SEARCH UNIT

CALIBRATION BLOCK

No. CPL 54
 T 1.010" Dia. 16"
 Temperature N/A °F
 Thermometer S/N N/A

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒ N/A
 Metal Path ☒ Depth ☒ N/A
 Each Major Screen Div. = .25"
 Remarks 2.5" SCREEN

VERTICAL LINEARITY

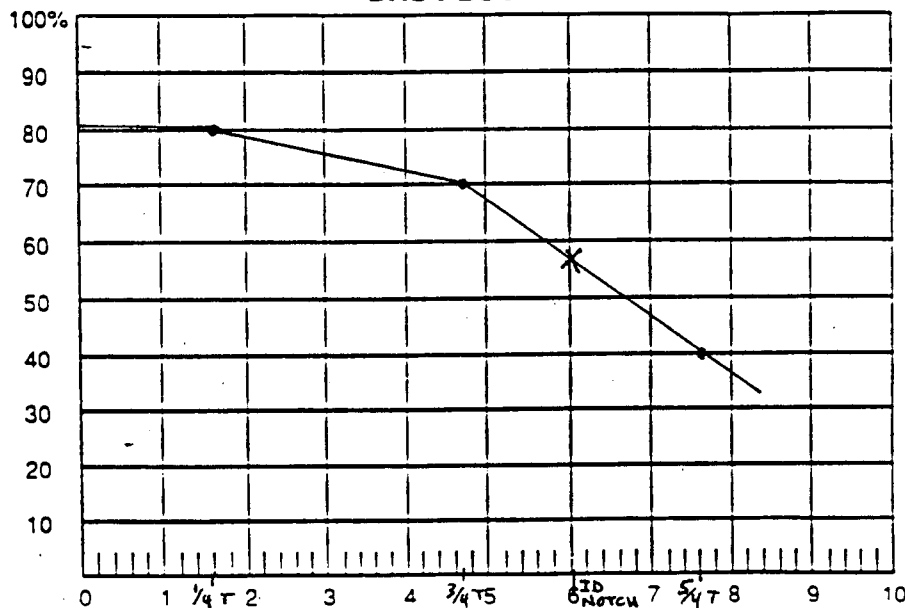
AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
	80	40	8	30	15
	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	39
80	-12	19
40	+6	82
20	+12	84

DAC PLOT

REMARKS: INFORMATION ONLY

CAL. CHECKS

TIME

INITIAL CAL.	0645
INTERMEDIATE	
INTERMEDIATE	N/A
INTERMEDIATE	
FINAL CAL.	0938

EXAMINERS

1

Art Purnan

LEVEL

III

DATE

5-18-92

2

N/A

LEVEL

N/A

DATE

N/A

REVIEWERS

1

John Munk

LEVEL

III

DATE

5/18/92

2

Richard D. Weber

LEVEL

N/A

DATE

5/20/92

3

CP Walladano

LEVEL

AN II

DATE

5/20/92

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB2 2
DATA SHEET NO. 1089-17
PAGE 2 OF 3

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM FEED WATER
ISO/DWG. NO. CPL 216 REV. 0
THERMOMETER S/N N/A
COMPONENT TEMP. N/A ° F

EVALUATION WELD/AREA

CPL-216-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.
N/A		N/A	N/A		N/A		N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED SCANNED FROM 0 TO 6" CW ON UPSTREAM AND DOWNSTREAM
SIDES OF THE WELD. VERIFIED THE LOCATION AND THE EVALUATION AS
GEOMETRY RECORDED ON 5-14-92, DATA SHEET # 1089-15. NO CRACK TIPS
WERE OBSERVED USING 60° RL. FOR INFORMATION ONLY.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Pat Mendenhall LEVEL III DATE 5-18-92
2 Linhard B. Wiles LEVEL N/A DATE 5/20/92
3 Al Balladanes LEVEL ANCI DATE 5/20/92



NUCLEAR ENERGY SERVICES, INC.

CAROLINA POWER & LIGHT COMPANY

FORM QA UT-16A

ULTRASONIC CALIBRATION SHEET FOR PLANAR FLAW SIZING

REVISION 0

Plant: H. B. ROBINSON

Unit: 2

Date: 5-18-92

Sheet number: 1089-17

Procedure: 426

Rev: 0

Couplant: ULTRAGEL II

Batch No: 092041

Examiner: A. R. PENNANEN

Level: III

Calibration Block ID: CPL UT-004

Pyrometer S/N:

Examiner: N/A

Level: N/A

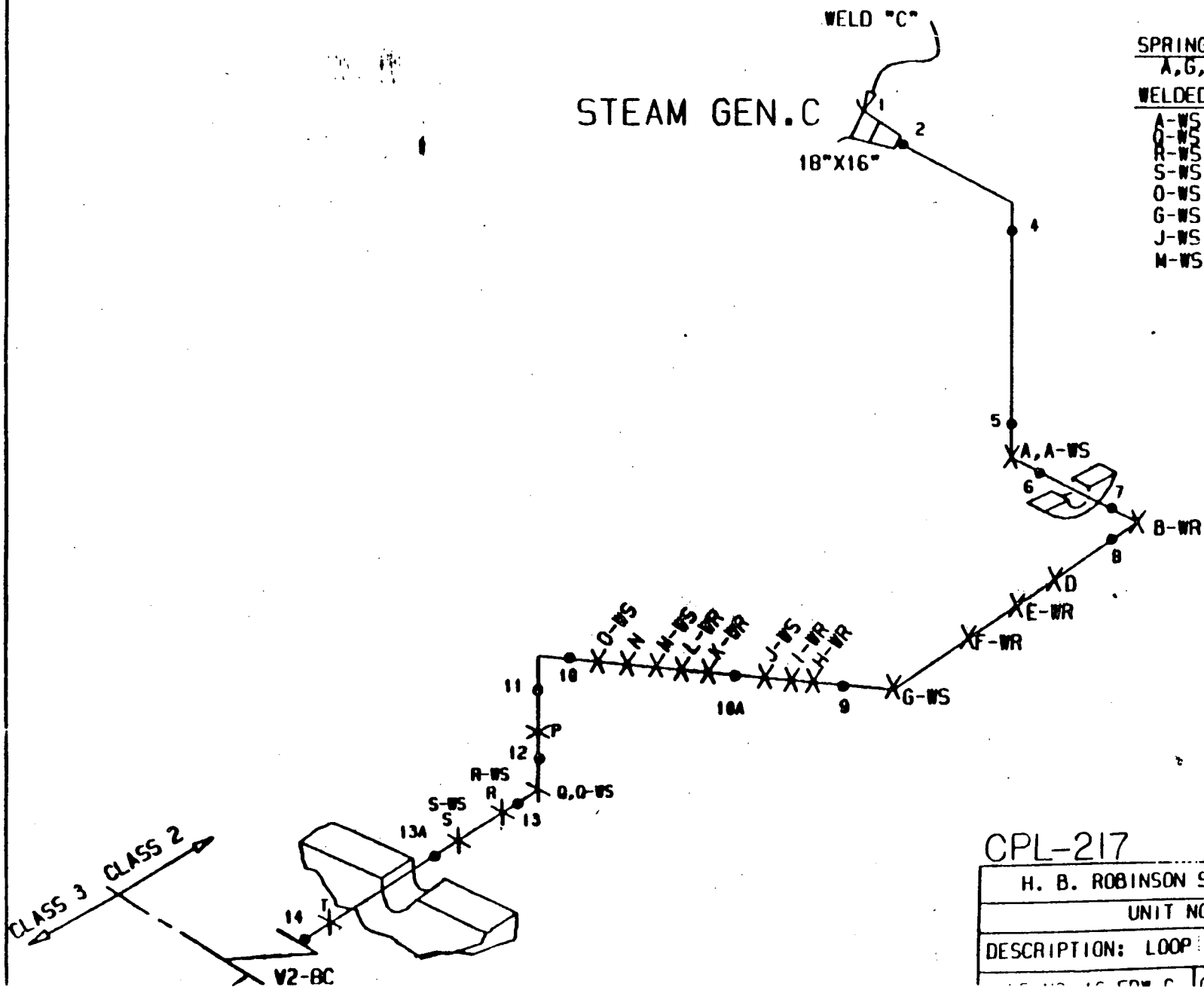
Calibration Block Temp: AMBIENT

N/A

REFERENCE BLOCK	INSTRUMENT	TRANSDUCER	SIMULATOR BLOCK
ID: _____	<input type="checkbox"/> digital <input type="checkbox"/> analog	Single <input type="checkbox"/> Dual <input checked="" type="checkbox"/>	ID: _____
Type: _____	Model: USK-7D	Serial No: 2211-89002	Reflector Type: N/A
Material: N/A	Serial No: NDE 32810-894	Frequency: 2.0 Mhz	CE-2: _____ Div's
Measured Beam Angle: _____	Manufacturer: KBR	Size: 2 (.25" x .12")	Pulse Separation: _____ Depth: _____
		Manufacturer: SIGMA	

INSTRUMENT SETTINGS			CALIBRATION		METHOD		CABLES	
Reject	OFF	N/A		Wave Mode:		RG62	<input type="checkbox"/>	
Damping	FIXED	N/A		shear:	<input type="checkbox"/>	RG58	<input type="checkbox"/>	
Delay	12.4 μ s	N/A		longitudinal:	<input checked="" type="checkbox"/>	RG174	<input checked="" type="checkbox"/>	
VEL	3413 μ s	N/A		bi-modal:	<input type="checkbox"/>	Length: 6'		
Mat-Eat	AP 5-18-92			Type Reflector		Initial Calibration		
Frequency	.5-7 m	N/A		holes:	<input type="checkbox"/>	Time: 0625		
Gain/Coarse	60.5dB	N/A	notches:	<input checked="" type="checkbox"/>	CAL CHECKS			
Gain/fine	2.5"	N/A			Time	Initials		
Filter	FIXED	N/A			0636	AP		
Pulse/Echo	<input checked="" type="checkbox"/>				N			
Thru trans	<input type="checkbox"/>					A		
Jack Used: T	<input checked="" type="checkbox"/>							
Rep Rate	FIXED							
remarks	FOR INFORMATION ONLY							
REVIEWED BY: Murch	LEVEL: III	DATE: 5-20-92	ANII REVIEW: RBW 5/20/92	CE-2: _____ Div's	DATE: 5-20-			

CAROLINA POWER & LIGHT COMPANY						Exam Start: 0755		FORM QA UT-16B		
ULTRASONIC FLAW SIZING DATA SHEET						Exam Finish: 0826		Revision 0		
Plant: H. B. ROBINSON			Unit: 2		Component/weld Identification: CPL 216-2				Date: 5-18-92	
Measured Wall Thickness (In.): 1.00			Material Type: CARBON STEEL			Surface Temperature: AMBIENT deg F				
Surface Condition: GROUND			L max: 2" & 3" (from examination data sheet)			Pyrometer S/N: NA				
Examiner: <u>Art Pinner</u>			Level: III		Configuration: ELBOW TO REDUCER		Calibration sheet No:			
Examiner: N/A			Level: NA							
Through Wall Measurement						Reported Through Wall Dimension: NA				
Exam Surface	30-70-70	PATT	SPOT	BI Modal	HALT	Subsurface <input type="checkbox"/>		a =		
						Surface Connected <input type="checkbox"/>		l =		
						Surface By Proximity <input type="checkbox"/>		a/l =		
Sketch: N/A										
Remarks: NO TIP SIGNALS OBSERVED										
						FOR INFORMATION ONLY				
						sheet _____ of _____				
Reviewed By: <u>Dale Munkel</u>			Level: III		Date: 5/18/92		NII Review Date: 5/20/92		Item No: _____	



- SPRING HANGERS
A, G, J, M, O
- WELDED SUPPORT
A-WS
O-WS
R-WS
S-WS
O-WS
G-WS
J-WS
M-WS

CPL-217	REV. 0
H. B. ROBINSON S. E. PLANT	
UNIT NO. 2	
DESCRIPTION: LOOP C 16" FEEDWATER	
CPL-217 REV	

C
P
&
I

DATA SHEET NO. 1089-14
PAGE 1 OF 6

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276.3702
Sweep Length 9.78 Delay 262
Range .5"
Gain (coarse) 20 dB
Gain (fine) 12 dB
Reference Sensitivity 32 dB
Remarks: /

SEARCH UNIT

Serial No. F26118
Size .5"
Frequency 2.25 MHz
Mode Shear
Nom. Angle 45°
Measured Angle 45°
Cable Type RG 174/u
Cable Length 6'
Remarks: Exit Pt. to Front Edge = .5"

CALIBRATION BLOCK

No. CPL 54
T 1010 to 1015 Dia. 16"
Temperature 61° F
Thermometer S/N SP 70-01

CALIBRATION

0° ☐ N/A Axial ☒ Circ. ☐ N/A
Metal Path ☒ Depth ☐
Each Major Screen Div. = .25"
Remarks 2.5" Screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	9
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-5	40
80	-12	20
40	+6	80
20	+12	80

CAL. CHECKS

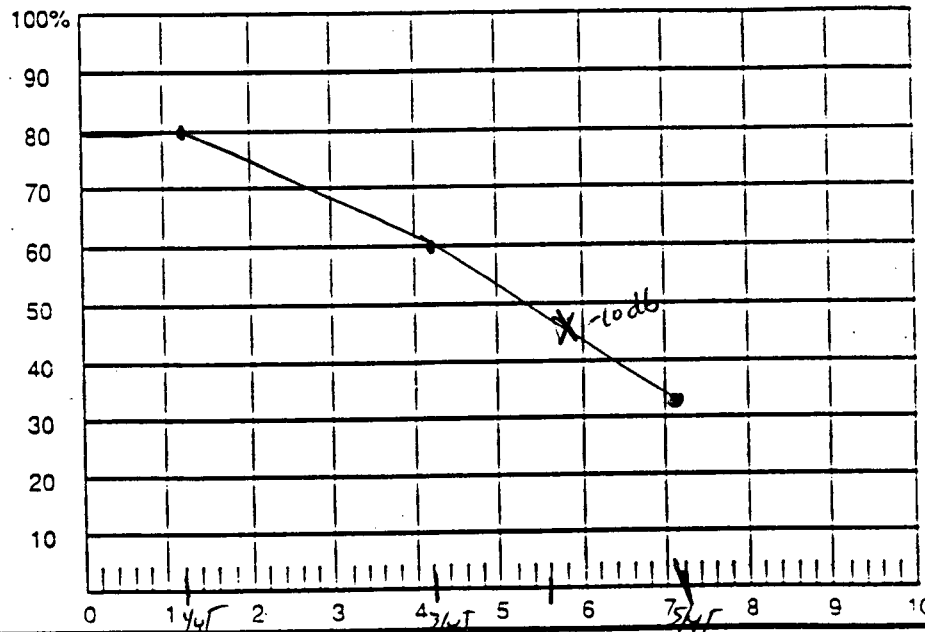
TIME

INITIAL CAL.	0100
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0346

COUPLANT

Brand Ultragel 4
Batch No. 092041

DAC PLOT



REMARKS: N/A

EXAMINERS

1 Dale Mendenhall
2 Edward R. Brown
3 Richard B. Winters
4 R. M. Williams

LEVEL III
LEVEL II
LEVEL III
LEVEL N/A
LEVEL ANTI

DATE 4/30/92
DATE 4-30-92
DATE 5-7-92
DATE 5/9/92
DATE 5-13-92

REVIEWERS

nes

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-14
PAGE 2 OF 6

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276.3789
Sweep Length 9.80 Delay 7.58
Range 5"
Gain (coarse) 20 dB
Gain (fine) 12 dB
Reference Sensitivity 32 dB
Remarks: /

SEARCH UNIT

Serial No. F26118
Size 5" d
Frequency 2.25 MHz
Mode Shear
Nom. Angle 45 °
Measured Angle 45 °
Cable Type RG-174/U
Cable Length 6'
Remarks: Exit point to front edge = .5"

CALIBRATION BLOCK

No. CPL 57 * Da 4/3/92
T 18 1/2" Dia. 1.58 18"
Temperature 61 ° F
Thermometer S/N SEP 90-21

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒ N/A
Metal Path ☒ Depth ☐
Each Major Screen Div. = .25"
Remarks 2.5" screen
* CPL-57 is not marked on the block permanently

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
	80	40	8	30	15
	70	35	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

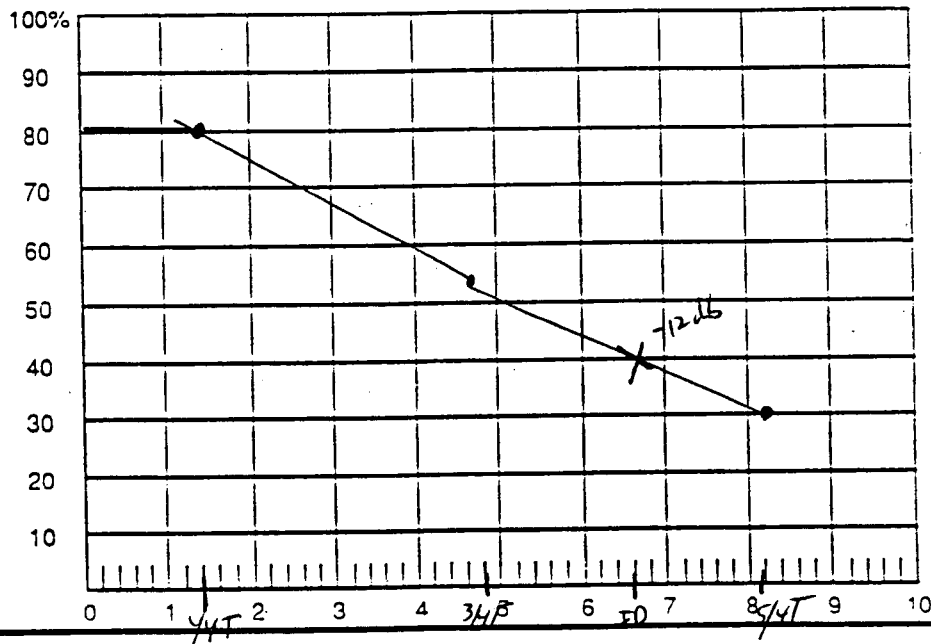
INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	80
20	+12	80

CAL. CHECKS

TIME

INITIAL CAL.	0/20
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0342

DAC PLOT



REMARKS: N/A

EXAMINERS

1 Del. Murdoch
2 Edmund R. Dawson

LEVEL III
LEVEL II

DATE 4/3/92
DATE 4-30-92

REVIEWERS

1 Art Pinner
2 Richard B. Weber
3 CP Calladanes

LEVEL III
LEVEL N/A
LEVEL ANTI

DATE 5-7-92
DATE 5/9/92
DATE 5-13-92

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model HSK-7
Serial No. 27276 3784
Sweep Length 496 Delay 781
Range 2.5
Gain (coarse) 20 dB
Gain (fine) 8 dB
Reference Sensitivity 28 dB
Remarks: /

SEARCH UNIT

Serial No. M12411
Size 0.5"
Frequency 5.0 MHz
Mode LONG
Nom. Angle 0 °
Measured Angle N/A °
Cable Type RG-174/U
Cable Length 6
Remarks: /

CALIBRATION BLOCK

No. COMPONENT
T 1.010" NOM Dia. 16"
Temperature 72 °F
Thermometer S/N SEP-9001

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒
Each Major Screen Div. = 0.40"
Remarks 4.0" SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	21
40	+6	78
20	+12	76

CAL. CHECKS

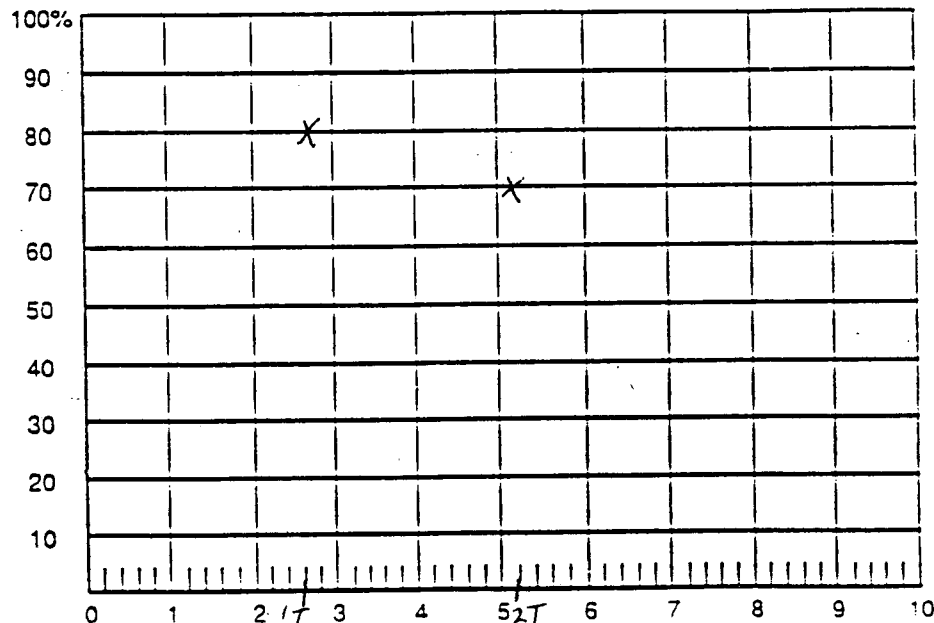
TIME

INITIAL CAL.	0215
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0306

COUPLANT

Brand ULTRAGEL
Batch No. 092041

DAC PLOT



REMARKS:

EXAMINERS

1

Edmund R. Dawson

LEVEL II

DATE 4-30-92

2

Dale M. Muellock

LEVEL III

DATE 4/30/92

REVIEWERS

1

John P. Pinner

LEVEL III

DATE 5-1-92

2

Richard B. Weber

LEVEL N/A

DATE 5/9/92

3

R. P. Villalobos

LEVEL AUII

DATE 5-13-92

DATA SHEET NO. 1089-14
PAGE 4 OF 6

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276-3784
Sweep Length 496 Delay 781
Range 2.5
Gain (coarse) 20 dB
Gain (fine) 10 dB
Reference Sensitivity 30 dB
Remarks: /

SEARCH UNIT

Serial No. M12411
Size 0.5
Frequency 5.0 MHz
Mode LONG
Nom. Angle 0 °
Measured Angle N/A °
Cable Type R/L-74/U
Cable Length 6'
Remarks: /

CALIBRATION BLOCK

No. COMPONENT
T 1.158 NOM Dia. 1.2"
Temperature 72 °F
Thermometer S/N SEP-9001

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒
Each Major Screen Div. 0.40"
Remarks 4.0 SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
30	-12	21
40	+6	78
20	+12	76

CAL. CHECKS

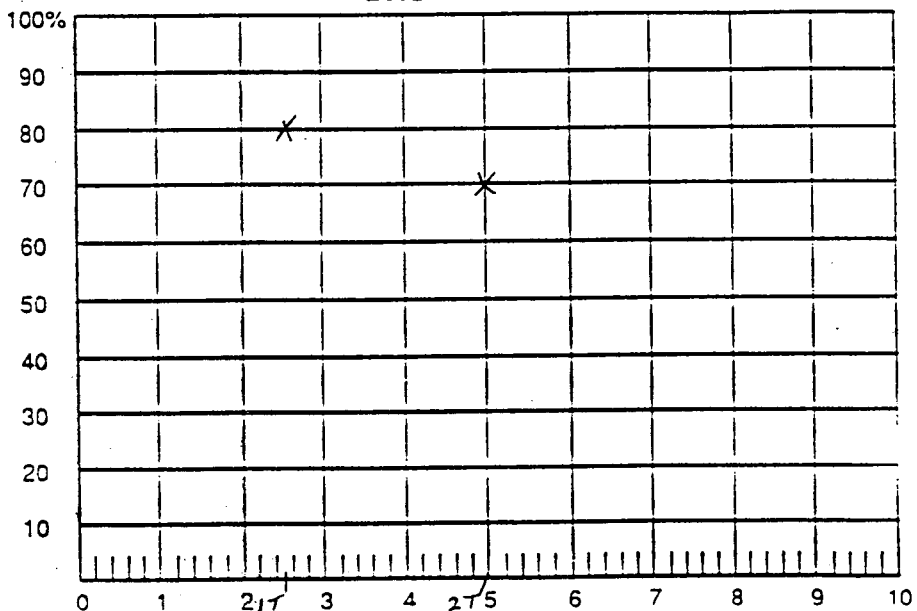
TIME

INITIAL CAL. 0215
INTERMEDIATE N/A
INTERMEDIATE N/A
INTERMEDIATE N/A
FINAL CAL. 0306

COUPLANT

Brand ULTRAGEL II
Batch No. 092 041

DAC PLOT



REMARKS: /

EXAMINERS

1

Charles K. Danner

LEVEL

II

DATE

4-30-92

2

Del. Muroch

LEVEL

III

DATE

4/30/92

REVIEWERS

1

Art Pinner

LEVEL

III

DATE

5-1-92

2

Richard B. Weber

LEVEL

N/A

DATE

5/9/92

3

AP Valladares

LEVEL

AN/11

DATE

5/13/92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR UNIT 2DATA SHEET NO. 1089-14PAGE 5 OF 6EXAMINATION
DATA SHEETPROCEDURE NO. SP 1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM FWISO/DWG. NO. CPL 217 REV. 0THERMOMETER S/N SP 90-01COMPONENT TEMP. 72 ° F

MINIMUM WELD/AREA

CPL 217-1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned volume that angle beam passed through

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	45	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned weld plus 1/2" both sides complete
Geometry noted below recording levels

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.
<input type="checkbox"/>							

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.
<input type="checkbox"/>							

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS

1 Dale Murchick LEVEL III DATE 4/30/92
2 Richard B. Weber LEVEL II DATE 4-30-92
3 R. B. Madanes LEVEL III DATE 5-13-92

1 Richard B. Weber LEVEL III DATE 5-7-92
2 Richard B. Weber LEVEL N/A DATE 5/9/92
3 R. B. Madanes LEVEL III DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR unit 2DATA SHEET NO. 108974PAGE 6 OF 6EXAMINATION
DATA SHEETPROCEDURE NO. SP 1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM FWISO/DWG. NO. CPL 217 REV. 0THERMOMETER S/N SEP 90-J1COMPONENT TEMP. 72 ° F

MINATION WELD/AREA

CPL 217-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned volume angle beams passed through

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	45	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED

Scanned weld plus 1/2" both sides complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1	<u>Dale Murdoch</u>	LEVEL <u>III</u>	DATE <u>4/30/92</u>	1	<u>Carl Pinner</u>	LEVEL <u>III</u>	DATE <u>5-7-92</u>
2	<u>Edward R. Dawson</u>	LEVEL <u>I</u>	DATE <u>4-30-92</u>	2	<u>Richard B. Weber</u>	LEVEL <u>N/A</u>	DATE <u>5/9/92</u>
				3	<u>APL Villalobos</u>	LEVEL <u>AN11</u>	DATE <u>5-13-92</u>

NES

NUCLEAR ENERGY SERVICES, INC.

PROCEDURE SP 1095
REVISION 0 F.C. NO. NLT
PAGE 1 OF 3
(Rev) 4/24/54

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL 218 REVISION 0
DATUM POINT REFERENCE ℄ of CPL 218-13 and ℄ of Pipe side Long seam

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPotcheck</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPotcheck</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPotcheck</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPotcheck</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

[illegible]

EXAMINER Dele Munder
EXAMINER NIA
REVIEWER At Pinner
REVIEWER Richard Blaber
REVIEWER ANIE B. Wallada

LEVEL III
LEVEL N/A
LEVEL II
DATE 4/28/92
DATE 4-29-92

DATE 4/24/92
DATE N/A
DATE 4-24-92

DATA SHEET NO. 1095-22
PAGE 2 OF 3

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. N/A
REV. N/A
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276.3789
Sweep Length 4.00 Delay 7.78
Range 2.5"
Gain (coarse) =20 ± 20 dB
Gain (fine) 26 22dB
Reference Sensitivity 46 42dB
Remarks:

SEARCH UNIT

Serial No. G20839
Size .25"
Frequency 2.25 MHz
Mode shear
Nom. Angle 45°
Measured Angle 46°
Cable Type MOIST-BNC
Cable Length 6'
Remarks:
Exit Point to front edge = .12"

CALIBRATION BLOCK

No. CPL 35
T .443 Dia. 14"
Temperature 65°F
Thermometer S/N SCP 90-01

CALIBRATION

0° ☐ Axial ☒ Circ. ☒
Metal Path ☐ Depth ☐
Each Major Screen Div. = .2"
Remarks 2.0" screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
30	-12	21
40	+6	80
20	+12	78

CAL. CHECKS

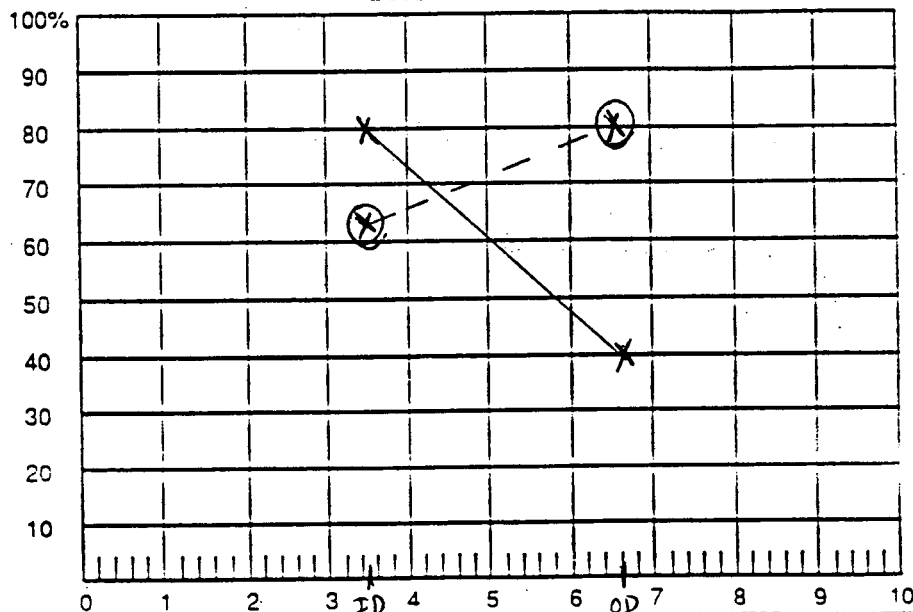
TIME

INITIAL CAL.	2/25
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2303

COUPLANT

Brand Ultragel #
Batch No. 092041

DAC PLOT



REMARKS: X - Axial Calibration
⊗ - Circ. Calibration

Full Vee Calibration - both directions to
examine area of PT indication only.

EXAMINERS 1 Dale Murbach LEVEL III DATE 4/27/92
2 N/A LEVEL N/A DATE N/A
REVIEWERS 1 Robert R. Brown LEVEL II DATE 4-28-92
2 Richard B. Weber LEVEL N/A DATE 4/28/92
3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR Unit 2
DATA SHEET NO. 1095-22
PAGE 3 OF 3

EXAMINATION DATA SHEET

PROCEDURE NO. NIA
REVISION/CHANGE NO. NIA
COMPONENT/SYSTEM RHR
ISO/DWG. NO. CPL 218 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 70 ° F

EXAMINATION WELD/AREA

CPL-218-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	X	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED

Examined OD surface in area of previously recorded PT indications
with second leg of Full vee. Scanned 10db above reference sensitivity.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Nate Murdoch LEVEL II DATE 4/25/92
2 N/A LEVEL N/A DATE N/A

1 Richard B. Brown LEVEL II DATE 4-28-92
2 Richard B. Weber LEVEL N/A DATE 4/28/92
3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

PROCEDURE SP1095
REVISION 0 F.C. NO. Nm
PAGE 1 OF 2

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL 218 REVISION 0
DATUM POINT REFERENCE DOWNSTREAM LONG SEAM AND CENTERLINE OF WELD

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC - NF</u>	<u>91M01P</u>	<u>5 MINUTES</u>
PENETRANT	<u>SPOTCHECK</u>	<u>SKL - HF/S</u>	<u>90H03K</u>	<u>15 MINUTES</u>
REMOVER	<u>SPOTCHECK</u>	<u>SKC - NF</u>	<u>91M01P</u>	<u>5 MINUTES</u>
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD - NF</u>	<u>90L03P</u>	<u>7 MINUTES</u>

[illegible]

EXAMINER W. K. Kinn
EXAMINER ^{N/A}
REVIEWER Dale Mendenhall
REVIEWER Richard B. Weber
REVIEWER ANCE Smalladanes

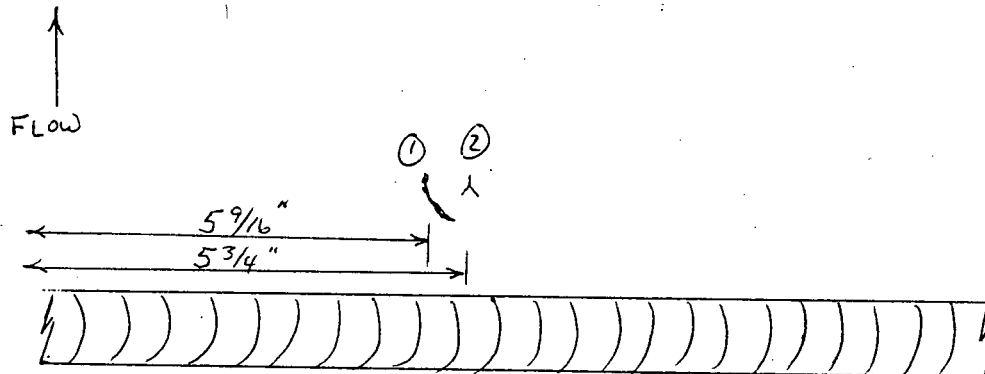
LEVEL III
LEVEL N/A
LEVEL III
DATE 4/28/92
DATE 4-30-92

DATE 4-15-92
DATE N/A
DATE 4/16/92

1125

PAGE 2 OF 2DATA SHEET NO. 1055-16EXAM ITEM CPL 218 -13ISO DWG. NO. CPL 218 REV. 0

SKETCH SHEET



EXAMINER Art Purnum
EXAMINER N/A
REVIEWER Dele Myrdach
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL III
LEVEL N/A
LEVEL III
DATE 4/28/92
DATE _____

DATE 4-15-92
DATE N/A
DATE 4/16/92

DATA SHEET NO. 1089-8
 PAGE 1 OF 5

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276-3702
 Sweep Length 4.86 Delay 7.58
 Range 0.5"
 Gain (coarse) 20 dB
 Gain (fine) 28 dB
 Reference Sensitivity 48 dB
 Remarks: MAINTAIN 80% BR ON COMPONENT.

SEARCH UNIT

Serial No. KB2825
 Size 1/2" round (dual)
 Frequency 2.25 MHz
 Mode Long
 Nom. Angle 0°
 Measured Angle N/A
 Cable Type self contained
 Cable Length 6'
 Remarks: 2.25 MHz. used to improve signal to noise ratio

CALIBRATION BLOCK

No. Component
 T 0.44 Dia. 14"
 Temperature 98 °F
 Thermometer S/N JL91-07

CALIBRATION

0° ☒ Axial ☒ N/A Circ. ☒ N/A
 Metal Path ☒ Depth ☒ N/A
 Each Major Screen Div. = 1"
 Remarks: 1.0" Screen
CAL'D FROM SDH IN
Rompas (0.3" & 0.75")

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	16
4	70	35	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	81
20	+12	83

CAL. CHECKS

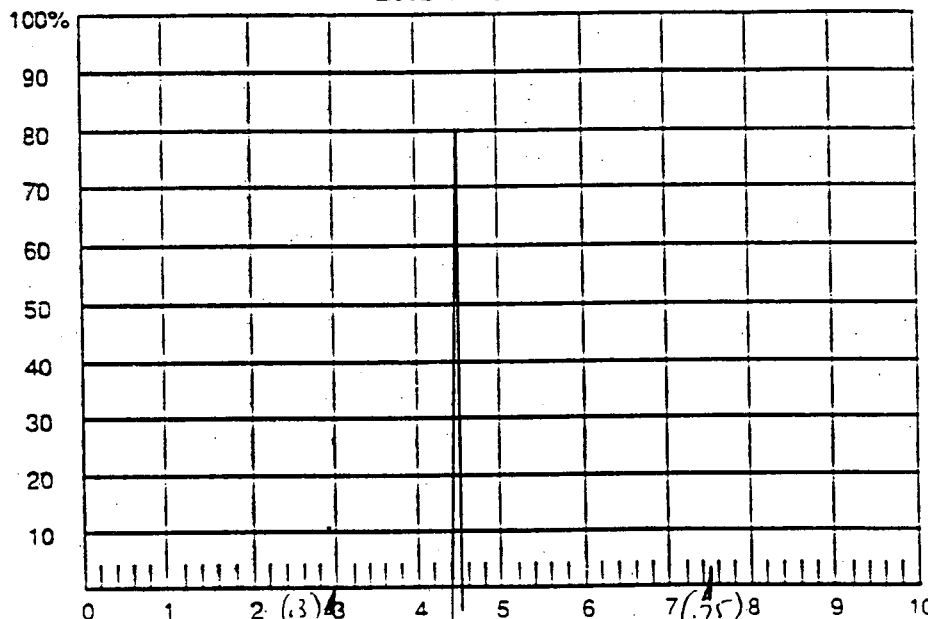
TIME

INITIAL CAL. 4/17 2335
 INTERMEDIATE
 INTERMEDIATE N/A
 INTERMEDIATE
 FINAL CAL. 4/18 0150

COUPLANT

Brand Utrageel II
 Batch No. 092041

DAC PLOT



REMARKS: 2nd B.R. WAS ON CRT

EXAMINERS

1

Chris Moss

LEVEL

II

DATE 4-17-92

2

N/A

LEVEL

N/A

DATE N/A

REVIEWERS

1

Chris Pinner

LEVEL

III

DATE 4-21-92

2

Richard B. Weber

LEVEL

N/A

DATE 4/25/92

3

JP Calladano

LEVEL

ANTI

DATE

1125

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-8
PAGE 2 OF 5

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model KB USK-7
Serial No. 2726-3789
Sweep Length 5.20 Delay 7.85
Range 2.5
Gain (coarse) 20 dB
Gain (fine) AX-16 CIRC-20 dB
Reference Sensitivity AX-36 C-40 dB
Remarks: ID NOTCH ADJUSTED
TO SDH DAC FOR REFERENCE
SENSITIVITY.

SEARCH UNIT

Serial No. G 20839
Size 0.25"
Frequency 2.25M MHz
Mode REFR. SHEAR
Nom. Angle 45 °
Measured Angle 46 °
Cable Type BNC TO MICRODOT
Cable Length 6'
Remarks: N/A

CALIBRATION BLOCK

No. CPL-35
T 443 Dia. 14"
Temperature 74 °F
Thermometer S/N JL91-07

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒ N/A
Each Major Screen Div. = 0.25"
Remarks 2.5" SCREEN
CAL'D USING ROMPAS BLOCK

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	24
2	90	45	7	40	19
3	80	40	8	30	14
4	70	35	9	20	8
5	60	29	10	N/A	

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	18
40	+6	81
20	+12	81

CAL. CHECKS

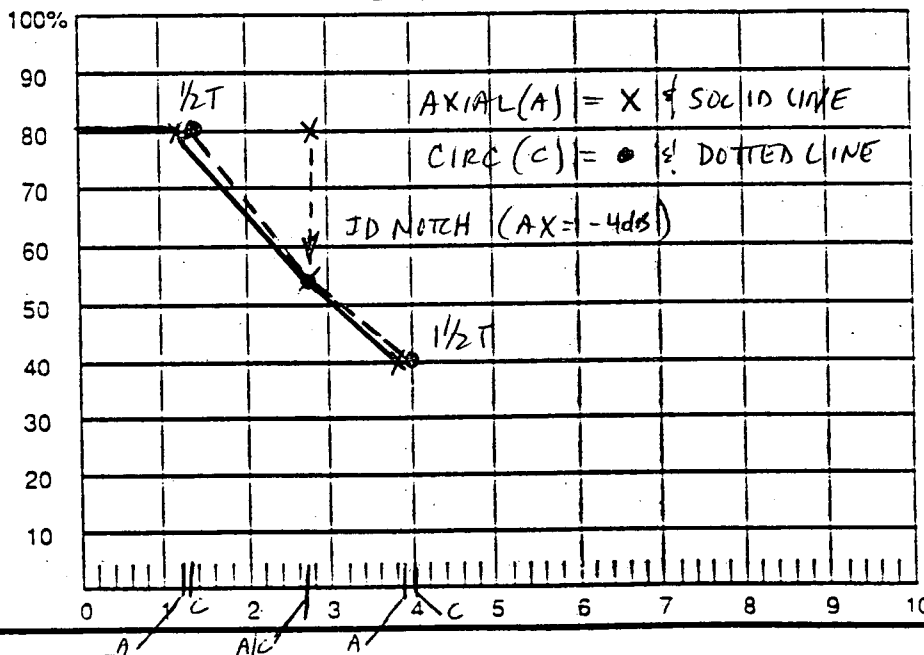
TIME

INITIAL CAL. 4/17 1920
INTERMEDIATE
INTERMEDIATE
INTERMEDIATE
FINAL CAL. 4/18/7 2210

COUPLANT

Brand ULTRASEL II
Batch No. 092041

DAC PLOT



REMARKS:

EXAMINERS

1

2

REVIEWERS

1

2

3

LEVEL

LEVEL

LEVEL

LEVEL

LEVEL

DATE

DATE

DATE

DATE

DATE

nes

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-8
PAGE 3 OF 5

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276.3784
Sweep Length 5.96 Delay 7.46
Range 2.5
Gain (coarse) = 20 120 dB
Gain (fine) 28 22 dB
Reference Sensitivity = 48 142 dB
Remarks:

SEARCH UNIT

Serial No. E 27400
Size 1.25"
Frequency 2.25 MHz
Mode shear
Nom. Angle 60°
Measured Angle 55°
Cable Type MDOT-BNE
Cable Length 6'
Remarks:
Exit point on front edge = .4"

CALIBRATION BLOCK

No. CPL-35
T .443 Dia. 1.4"
Temperature 74° F
Thermometer S/N JL 91-07

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒ N/A
Each Major Screen Div. = .25"
Remarks 2.5" screen
CAL'd FROM RAMPAS BLOCK.

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-5	42
80	-12	22
40	+6 <u>CU</u>	<u>79</u> <u>4-17-92</u> <u>39</u>
20	+12	75

CAL. CHECKS

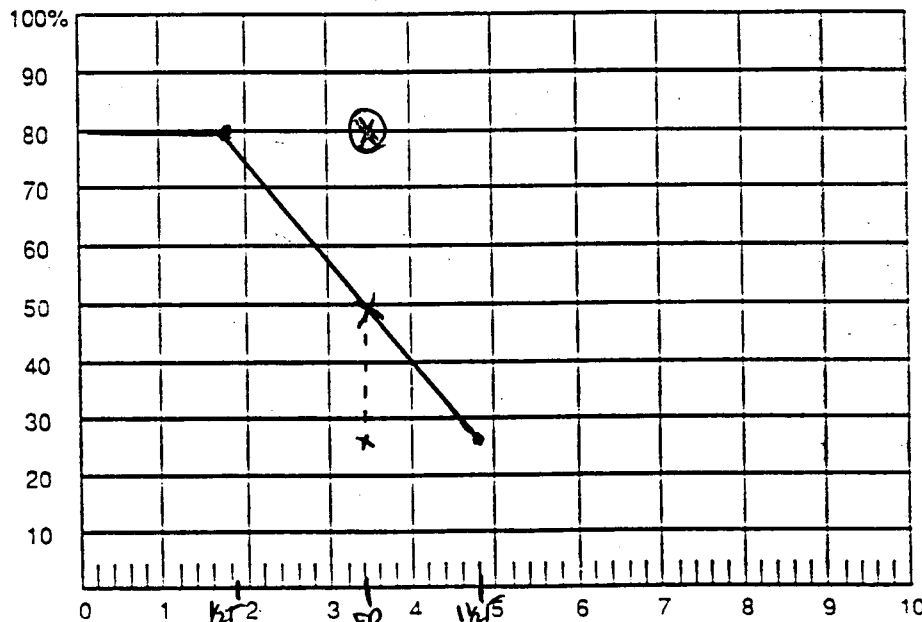
TIME

INITIAL CAL.	4/17	2345
INTERMEDIATE		
INTERMEDIATE		N/A
INTERMEDIATE		
FINAL CAL.	4/18	0200

COUPLANT

Brand ultragel II
Batch No. 092041

DAC PLOT



REMARKS:

X - ⊥ PERPENDICULAR
⊗ - = PARALLEL

EXAMINERS

1

Chris Moss

LEVEL

II

DATE

4-17-92

2

N/A

LEVEL

N/A

DATE

N/A

REVIEWERS

1

Chris Moss

LEVEL

III

DATE

4-20-92

2

Richard B. Weber

LEVEL

N/A

DATE

4/25/92

3

LEVEL

DATE

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON, UNIT #2DATA SHEET NO. 1089-8PAGE 4 OF 5EXAMINATION
DATA SHEETPROCEDURE NO. SP-1089REVISION/CHANGE NO. 0/N/ACOMPONENT/SYSTEM RHR PIPINGISO/DWG. NO. 218 REV. 0THERMOMETER S/N JL-91-07COMPONENT TEMP. 98 ° F

EXAMINATION WELD/AREA

CPL-218-13 Phys 2 1/2" Long
scum

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
X	—	N/A	—	N/A	X	— N/A	—

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED

EXAMINED ALL AREA THRU WHICH ANGLE BEAMS WILL PASS, BOTH SIDES
COMPLETE. PIPE TO ELBOW.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	—	X	N/A	X	N/A

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED

EXAMINED W & RV BOTH SIDES COMPLETE, 45° & 60°. SEE PAGE # 5 FOR
GEOMETRIC INDICATION.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	—	X	N/A	N/A	X	— N/A	—

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED

EXAMINED W & RV BOTH SIDES COMPLETE, 45° & 60°.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

N/A

SEE ATTACHED I.E.R.

REVIEWERS:

1 N/A LEVEL N/A DATE N/A
2 W. J. Moss LEVEL II DATE 4-18-92

1 Quinn LEVEL III DATE 4-20-92
2 Richard B. Weber LEVEL N/A DATE 5/9/92
3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

EXAM IT.

CPL-218-13

ISO/DWG. NO.

CPL-218 Rev 0

ULTRASONIC INDICATION REPORT SHEET

☒ PIPING WELDS

☐ FERRITIC VESSELS $\geq 2"$ T *

☐ OTHER

DATA SHEET NO. 108

PAGE 5 OF 5

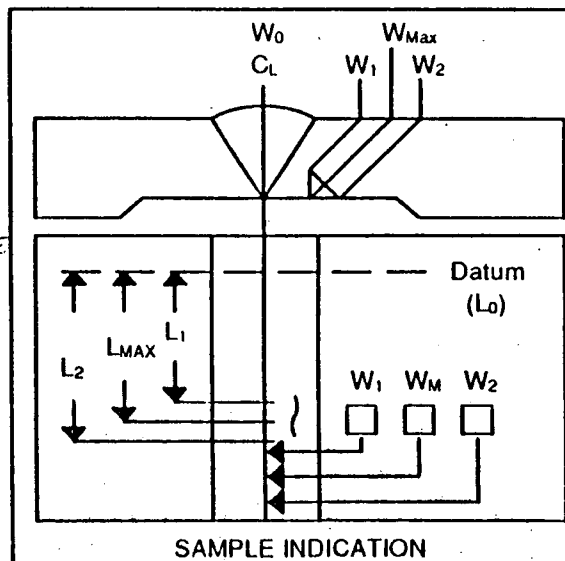
SEARCH UNIT ANGLE 45°

W0 LOCATION weld 2

ELBOW INTERDOSE
L0 LOCATION LOOKING DOWN

MP	Metal Path
RBR	Remaining Back Reflection
L	Distance from Datum

W_{max}	Distance from W_0 to S.U. at maximum response.
W_1	Distance from W_0 at 50% of DAC (fwd)
W_2	Distance from W_0 at 50% of DAC (backward)

[illegible]

REMARKS

- Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS

1

Dele Murchel
Ch. Mass

LEVEL

IV

DATE:

4/18/92

2

Richard B. Weber

LEVEL

FTI
N/A

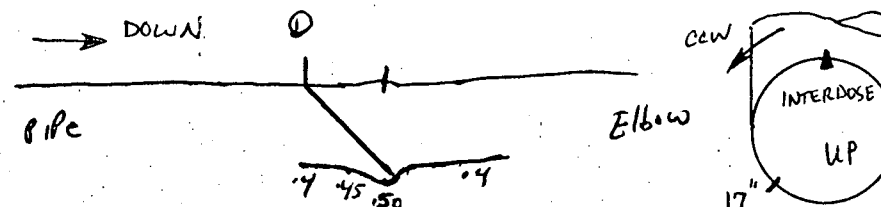
DATE _____

4-20-92
4/25/92

3

LEVEL

DATE _____



1125

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1095-H13 4/14/92
THERMOMETER S/N SEP90-01
TEMPERATURE 86 ° F
NOMINAL THICKNESS .375 INCHES (.42" per 0° 4/14/92)
MATERIAL STAINLESS STEEL
SS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 1

SYSTEM EXAMINED RHR TAKEOFF ISO/DWG/SK. # CPL-218 REVISION 0
DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>8</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
<u>CPL-218-22</u> <u>and 2.5T of Long Seam</u>	<u>No indications noted</u> <u>N/A</u>	<u>X</u> <u>N/A</u>	<u>N</u> <u>A</u>
<u>N/A</u>			

EXAMINER Chff Moss CR
EXAMINER N/A
F. 'IEWER Edmund R. Donovan
F. 'IEWER Richard B. Weber
REVIEWER R. Valladares AP SF

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE 5/5/92

DATE 4-13-92
DATE N/A
DATE 4-14-92



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-3
 PAGE 1 OF 6

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276, 3702
 Sweep Length 8.30 Delay 8.96
 Range 15
 Gain (coarse) 20 dB
 Gain (fine) 2 dB
 Reference Sensitivity 22 dB
 Remarks: A

SEARCH UNIT

Serial No. M12411
 Size 1/2"
 Frequency 5 MHz
 Mode Long
 Nom. Angle 0°
 Measured Angle N/A°
 Cable Type MDOT-BNC
 Cable Length 6'
 Remarks: A

CALIBRATION BLOCK

No. CPL 35
 T 443 Dia. 17"
 Temperature 79 °F
 Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☐
 Each Major Screen Div. = .2"
 Remarks 2.0" screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	71
80	-12	21
40	+6	78
20	+12	78

CAL. CHECKS

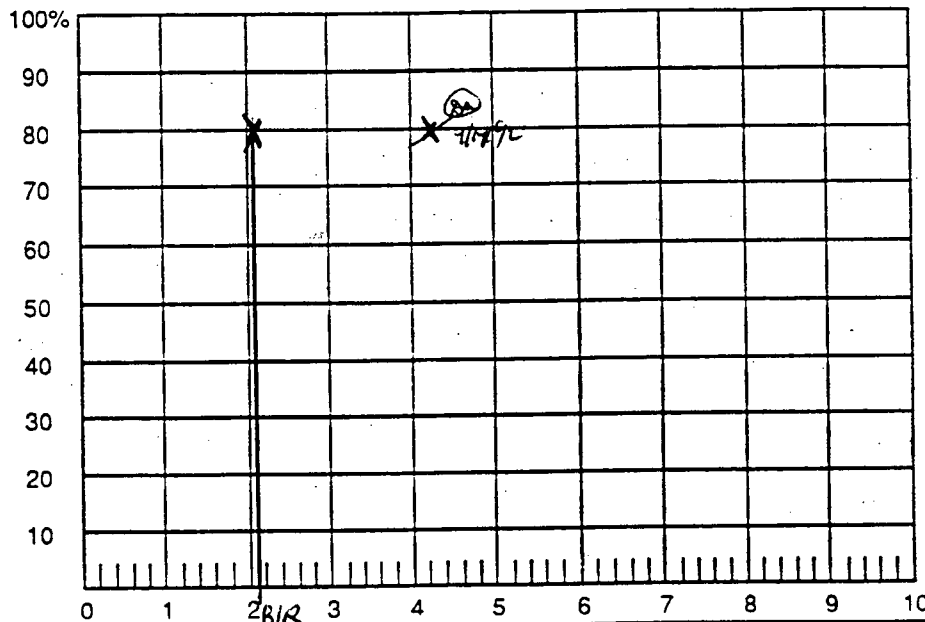
TIME

INITIAL CAL.	2325
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0147

COUPLANT

Brand Ultrage II
 Batch No. 092041

DAC PLOT



REMARKS:

A

EXAMINERS

1 Edmund D. Morgan
 2 Dale Murdoch

LEVEL

DATE 4-14-92

REVIEWERS

1 Art Pinner
 2 Richard B. Weber
 3 Wallace

LEVEL

DATE 4-14-92

LEVEL

DATE 4-14-92



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-3
PAGE 2 OF 6

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276-389
Sweep Length 5.18 Delay 7.88
Range 2.5
Gain (coarse) 20 dB
Gain (fine) 22 dB
Reference Sensitivity 42 dB
Remarks: /

SEARCH UNIT

Serial No. G20839
Size 1.25"
Frequency 2.25 MHz
Mode shear
Nom. Angle 45 °
Measured Angle 47 °
Cable Type MDOT-BNC
Cable Length 6'
Remarks: /

CALIBRATION BLOCK

No. CPL 35
T 443 Dia. 14"
Temperature 79 ° F
Thermometer S/N SEP 90-01

CALIBRATION

0° ☐ Axial ☒ Circ. ☒
Metal Path ☒ Depth ☐
Each Major Screen Div. = .25"
Remarks 2.5" screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	21
40	+6	78
20	+12	78

CAL. CHECKS

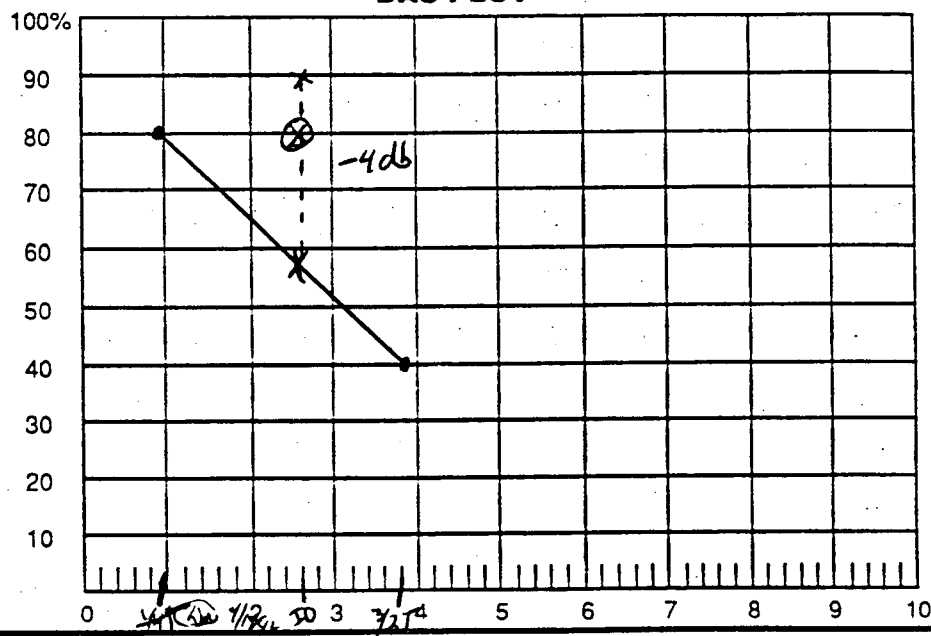
TIME

INITIAL CAL.	2320
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0145

COUPLANT

Brand Ultragel II
Batch No. 092041

DAC PLOT



REMARKS:

⊗ - Circ - used axial notch - block did not have notch for Circ.
X - axial

EXAMINERS

1 Edward R. Drown
2 John M. Mendenhall

LEVEL II

DATE 4-14-92

REVIEWERS

1 Victor P. ...
2 Richard B. Weber
3 R. Palladinos

LEVEL III

DATE 4-14-92

LEVEL N/A

DATE 4/14/92

LEVEL AME

DATE 5-1-92

nes

NUCLEAR ENERGY SERVICES, INC.

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK 7
Serial No. 27276-3784
Sweep Length 9.51 Delay 7.50
Range .5
Gain (coarse) AXIAL 20 20 CIRC dB
Gain (fine) 14 18 dB
Reference Sensitivity 44 48 dB
Remarks: 24 DB TO SET AT
HOLE TO 80% FSH

SEARCH UNIT

Serial No. B 27400
Size .25"
Frequency 2.25 MHz
Mode SHEAR
Nom. Angle 60 °
Measured Angle 55 ACTUAL °
Cable Type R6-174/4
Cable Length 6'
Remarks: .4" TO FRONT OF WEDGE

CALIBRATION BLOCK

No. CPL 35
"T" 443" Dia. 14"
Temperature 79 °F
Thermometer S/N SEP-9001

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒
Each Major Screen Div. = .2"
Remarks 2.0" SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
	80	40	8	30	15
	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	21
40	+6	78
20	+12	75

CAL. CHECKS

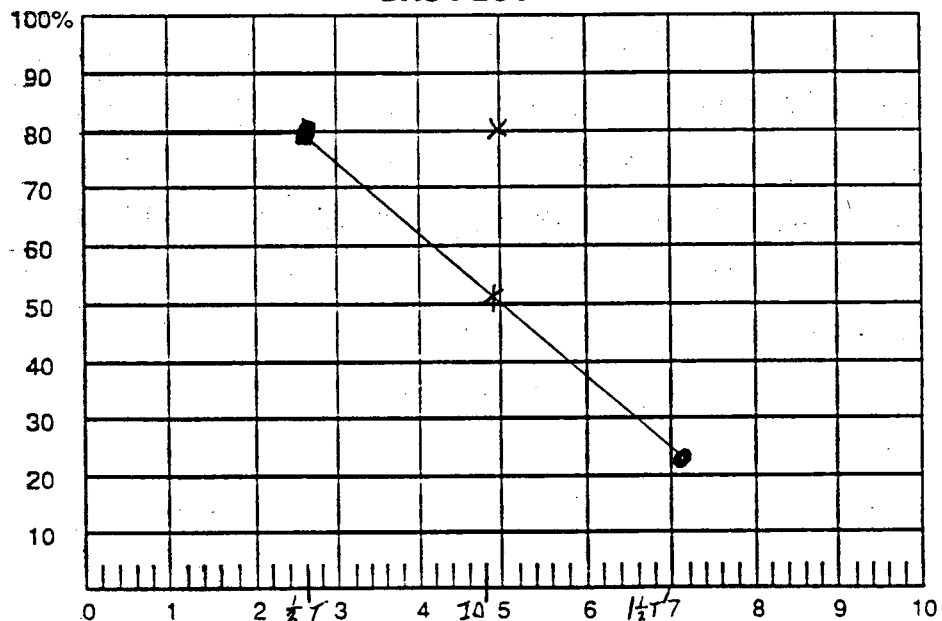
TIME

INITIAL CAL.	2308
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0055

COUPLANT

Brand ULTRAGEL II
Batch No. 092041

DAC PLOT



REMARKS: AXIAL ID NOTCH USED FOR BOTH AXIAL AND
CIRCUMFRENIAL CALIBRATIONS. NO ID CIRC NOTCH EXIST. IN
CAL BLOCK CPL 35

EXAMINERS 1 Edmund R. Doreen LEVEL II DATE 4-14-92
2 Dale Muroch LEVEL III DATE 4-14-92
REVIEWERS 1 Carl Pym LEVEL III DATE 4-14-92
2 Richard B. Weber LEVEL N/A DATE 4/14/92
3 CP Palladone LEVEL ANAL DATE 5-1-92

PLANT/UNIT H.B. ROBINSON/UNIT-2
DATA SHEET NO. 1089-3
PAGE 4 OF 6

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM RHR
ISO/DWG. NO. CPL 218 REV. 0
THERMOMETER S/N SEP-90-01
COMPONENT TEMP. 102 ° F

EXAMINATION WELD/AREA

CPL 218-22 / PLUS 2 1/2 T LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

Scanned volume that angle beams passed through

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

Scanned both sides of weld with 45° and 60° shear wave

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

Scanned 2 directions with 45° and 60° shear wave

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

N/A

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund K. Dawson LEVEL II DATE 4-14-92
2 Dale M. Wood LEVEL III DATE 4/14/92

1 Pat Rimmer LEVEL III DATE 4-14-92
2 Richard D. Weber LEVEL N/A DATE 4/14/92
3 JP Valladares LEVEL AN II DATE 5-1-92



NUCLEAR ENERGY SERVICES, INC.

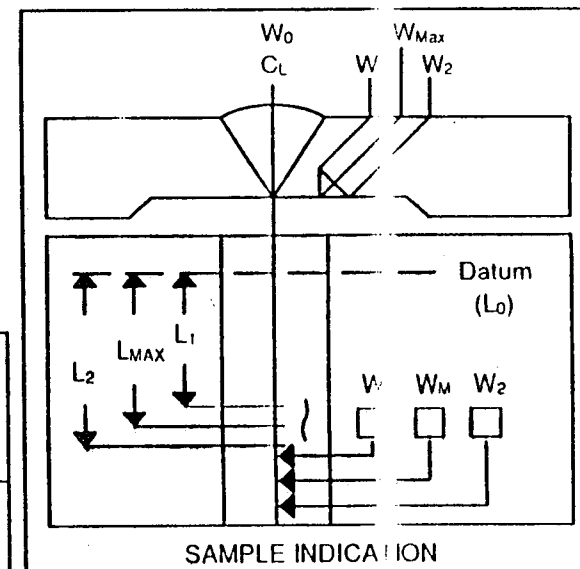
CPL-218-22

CPL 218 REV-0

☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER NA

PAGE 5 OF 6

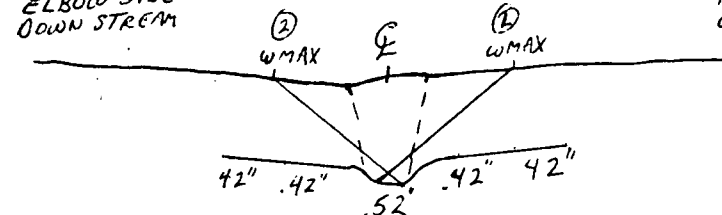
Lo LOCATION E OF PIPE
LONG SEAM

[illegible]

ELBOW SIDE
DOWN STREAM

PIKE SIDE
UP STREAM

EXAMINERS	1	<u>Glenn K. Donovan</u>	LEVEL	<u>II</u>	DATE	<u>4-14-92</u>
	2	<u>Dale Murdoch</u>	LEVEL	<u>IV</u>	DATE	<u>4/14/92</u>
REVIEWERS	1	<u>Art Penn</u>	LEVEL	<u>III</u>	DATE	<u>4-14-92</u>
		<u>Richard B. Weber</u>	LEVEL	<u>N/A</u>	DATE	<u>4/14/92</u>
		<u>RM Walla</u>	LEVEL	<u>AN II</u>	DATE	<u>5-1-92</u>



1125

NUCLEAR ENERGY SERVICES, INC.

CPL 218-22

CPL-218 Rev. 0²

ULTRASONIC INDICATION REPORT SHEET

- ☒ PIPING WELDS
☐ FERRITIC VESSELS $\geq 2"$ T *
☐ OTHER _____

DATA SHEET NO. 1089-3

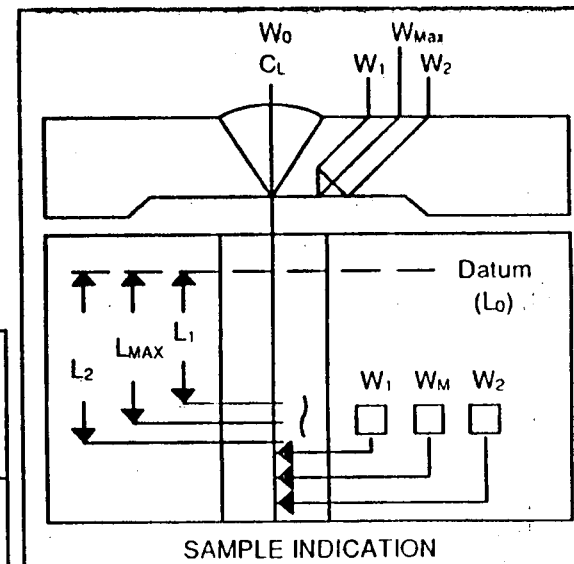
PAGE 6 OF 6

SEARCH UNIT ANGLE 47°

W0 LOCATION weld edge
Pipe side

LO LOCATION Long Seam

MP	Metal Path	W_{max}	Distance from W_0 to S.U. at maximum response.
RBR	Remaining Back Reflection	W_1	Distance from W_0 at 50% of DAC (fwd)
L	Distance from Datum	W_2	Distance from W_0 at 50% of DAC (backward)

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>Phyllis K. Dawson</u>	LEVEL	<u>II</u>	DATE	<u>4-14-92</u>
	2	<u>Nate Murdoch</u>	LEVEL	<u>III</u>	DATE	<u>4-14-92</u>
REVIEWERS	1	<u>Art Pinner</u>	LEVEL	<u>III</u>	DATE	<u>4-14-92</u>
		<u>Richard B. Weber</u>	LEVEL	<u>N/A</u>	DATE	<u>4/14/92</u>
		<u>RP Valladares</u>	LEVEL	<u>ANLI</u>	DATE	<u>5-1-92</u>



DATA SHEET NO. 1089-7
PAGE 1 OF 3

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model KB USK-7
Serial No. 27276-3789
Sweep Length 5.20 Delay 7.85
Range 2.5
Gain (coarse) 20 dB
Gain (fine) 20 dB
Reference Sensitivity 40 dB
Remarks: ID NOTCH AT DAC
AT SDH REFERENCE SENSITIVITY

SEARCH UNIT

Serial No. G 20839
Size 0.25"
Frequency 2.25 MHz
Mode REFR. SHEAR
Nom. Angle 45 °
Measured Angle 46 °
Cable Type BNC TO MICRODOT
Cable Length 6'
Remarks:

CALIBRATION BLOCK

No. CPL-35
T .443 Dia. 14
Temperature 74 °F
Thermometer S/N JL-91-07

CALIBRATION

0° ☒ N/A Axial ☒ N/A Circ. ☒
Metal Path ☒ Depth ☒ N/A
Each Major Screen Div. = 0.25"
Remarks 2.5" SCREEN CAL'D
FROM ROMPAS BLOCK.

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	24
2	90	45	7	40	19
3	80	40	8	30	14
4	70	35	9	20	8
5	60	29	10	N/A	

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	18
40	+6	81
20	+12	81

CAL. CHECKS

TIME

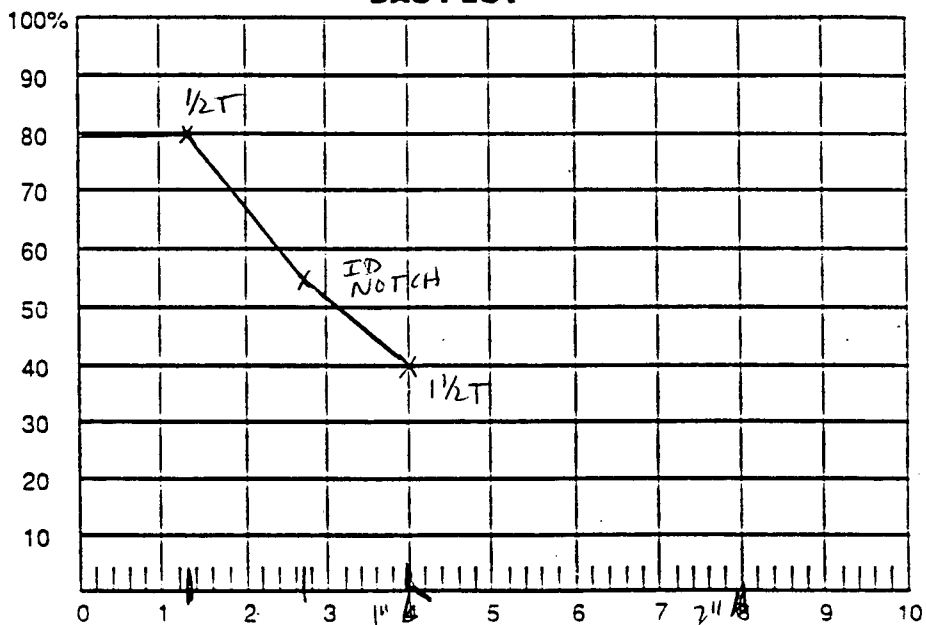
INITIAL CAL.	4/17	2345 1920
INTERMEDIATE		
INTERMEDIATE ^{END}	4-20-92	N/A
INTERMEDIATE		
FINAL CAL.	4/18	2210

0200

COUPLANT

Brand ULTRACER II
Batch No. 092041

DAC PLOT



REMARKS:

N/A

EXAMINERS

1 Cliff Moss
2 N/A

LEVEL II

DATE 4-17-92

REVIEWERS

1 Dale Mordal
2
3

LEVEL N/A

DATE N/A

LEVEL II

DATE 4/21/92

LEVEL

DATE

LEVEL

DATE



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-7
PAGE 2 OF 3

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model KB USK-7
Serial No. 27276-3784
Sweep Length 5.96 Delay 7.46
Range 2.5
Gain (coarse) 20 dB
Gain (fine) 28 dB
Reference Sensitivity 48 dB
Remarks: /

SEARCH UNIT

Serial No. E 27400
Size 0.25"
Frequency 2.25 MHz
Mode REFR. SHEAR
Nom. Angle 60 °
Measured Angle 55 °
Cable Type BNC TE MICRA DET
Cable Length 6'
Remarks: /

CALIBRATION BLOCK

No. CPL-35
T .443 Dia. 14
Temperature 74 °F
Thermometer S/N JL 91-07

CALIBRATION

0° ☒ N/A Axial ☒ N/A Circ. ☒ X
Metal Path ☒ Depth ☒ N/A
Each Major Screen Div. = 0.25"
Remarks 2.5" SCREEN
CAL'D FROM ROMPA'S BLOCK

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	42
80	-12	22
40	+6	79
20	+12	75

CAL. CHECKS

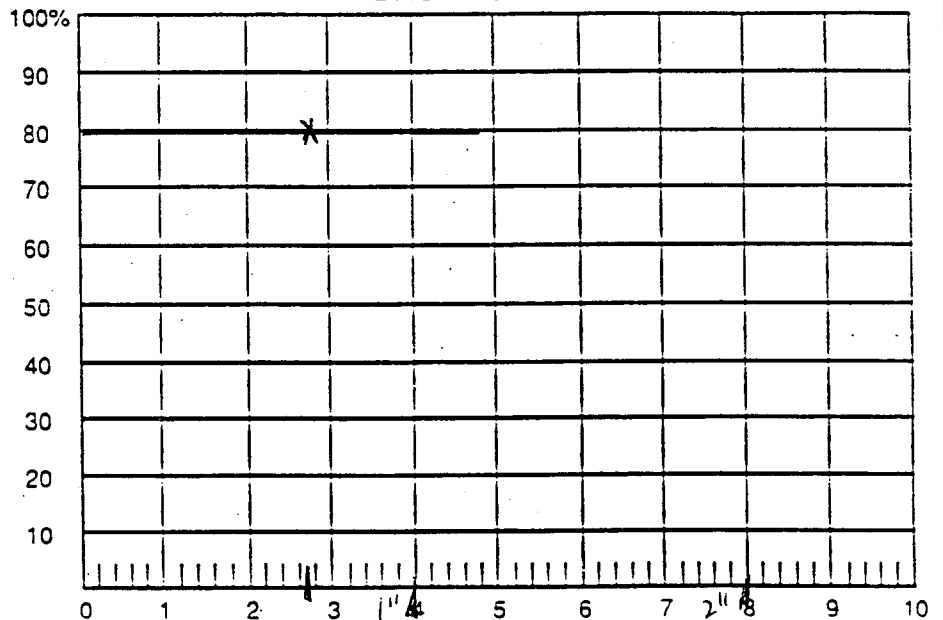
TIME

INITIAL CAL.	4/17	2345
INTERMEDIATE		
INTERMEDIATE		N/A
INTERMEDIATE		
FINAL CAL.	4/18	0200

COUPLANT

Brand ULTRAGEL II
Batch No. 092041

DAC PLOT



REMARKS: _____

EXAMINERS

1

Chiff Moss

LEVEL

II

DATE

4-17-92

2

N/A

LEVEL

UIA

DATE

4/18

REVIEWERS

1

Dale Mundel

LEVEL

II

DATE

4/20/92

2

LEVEL

DATE

3

LEVEL

DATE

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON, UNIT #2DATA SHEET NO. 1089-7PAGE 3 OF 3EXAMINATION
DATA SHEETPROCEDURE NO. SP-1089REVISION/CHANGE NO. 0/N/ACOMPONENT/SYSTEM RHR PIPINGISO/DWG. NO. CPL-218 REV. 0THERMOMETER S/N JL 91-07COMPONENT TEMP. 93 °F

EXAMINATION WELD/AREA

CPL-218-22 + 2.5T of LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	—	×	—	N/A	×	— N/A	—

WELD CROWN LIMITATION

☐ YES☒ NOAREA SCANNED PIPE TO ELBOW, SCANNED BOTH SIDES COMPLETE (45° & 60°).

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

N/A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Chaffin LEVEL II DATE 4-17-92
2 VIA LEVEL N/A DATE VIA

1 Dale Murovet LEVEL II DATE 4/20/92
2 _____ LEVEL _____ DATE _____
3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

SPRING HANGERS

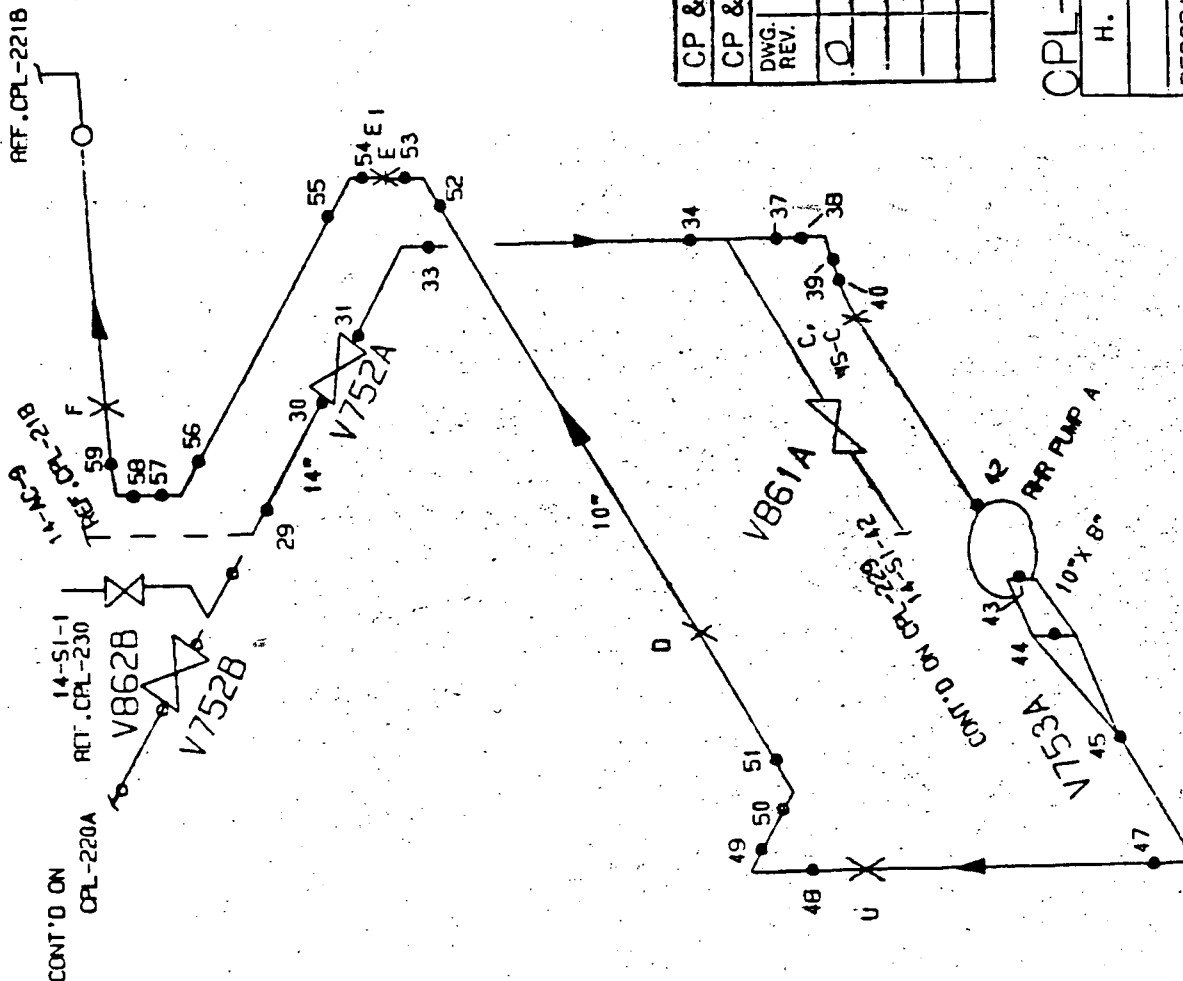
D

SNUBBERS

C

WELDED SUPPORTS

C-WS



CP & L DWG. NO. HBR2-10610 SH. 80			
CP & L P.O. No. CPL 51			
DWG. REV.	FIELD VERIFIED BY	DRAWN CHK'D APP'D BY	DATE
0	RAW	CPL	CLO
			12/12/89

CPL-220 REV. 0

H. B. ROBINSON S. E. PLANT

UNIT NO. 2

DESCRIPTION: LP-A-14" RESID. HEAT REMOVAL

CONTROLLED
RCPT ID 296

PROCEDURE SP 1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 1

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL-220 REVISION 0
DATUM POINT REFERENCE TOP DEAD CENTER

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTcheck</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5 MINUTES</u>
PENETRANT	<u>SPOTcheck</u>	<u>SKL-HFS</u>	<u>90H03K</u>	<u>15 MINUTES</u>
REMOVER	<u>SPOTcheck</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5 MINUTES</u>
DEVELOPER	<u>SPOTcheck</u>	<u>SKD-NF</u>	<u>90R03P</u>	<u>7 MINUTES</u>

[illegible]

EXAMINER Dale Meadows
EXAMINER N/A
REVIEWER Curtis Purnum
F. I. C. REVIEWER Richard B. L. Baker
REVIEWER Bob Balladens

LEVEL 1A
LEVEL 1A
LEVEL III
DATE 5/8/92
DATE 5-13-92

DATE 4/9/92
DATE N/A
DATE 4-16-92

LIQUID PENETRANT EXAMINATION

* measured ultrasonically - lowest reading found in exam. area.

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPotcheck</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPotcheck</u>	<u>SKL-HF/S</u>	<u>90K07P</u>	<u>15</u> MINUTES
REMOVER	<u>SPotcheck/s</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPotcheck</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

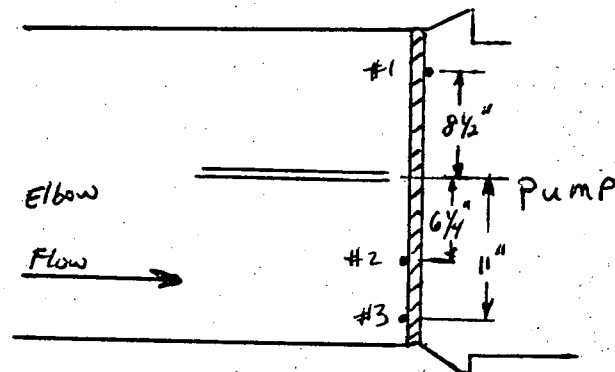
EXAMINER Dale Woodcock
EXAMINER N/A
REVIEWER Edward R. Davenport
F. OVER Richard B. Weber
REVIEWER R. Mallard

DATE 5/7/92
DATE NIA
DATE 5-7-92

1125

PAGE 2 OF 2
DATA SHEET NO. 1095-2874 RA 5/24/92
EXAM ITEM CPL 220-4842 (RA) 5/7/92
ISO DWG. NO. CPL-220 REV. 0

SKETCH SHEET



EXAMINER Dale Murdoch
EXAMINER NIA
REVIEWER Edmund R. Danner
REVIEWER Richard B. Weber
REVIEWER Chad Madames

LEVEL III
LEVEL NIA
LEVEL II
DATE 5/8/92
DATE 5-13-92

DATE 5/7/92
DATE NIA
DATE 5-7-92

DATA SHEET NO. 1019-9
PAGE 1 OF 4

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Sera. No. 27276-3702
Sweep Length 4.86 Delay 7.58
Range .5
Gain (coarse) 20 dB
Gain (fine) 28 dB
Reference Sensitivity 48 dB
Remarks: MAINTAINED 80% B.R.
FROM COMPONENT

SEARCH UNIT

Serial No. KB 2825
Size 1/2" Dual
Frequency 2.25 MHz
Mode Long
Nom. Angle 0 °
Measured Angle N/A °
Cable Type self contained
Cable Length 6'
Remarks: 2.25 mhz used to improve
signal to noise ratio

CALIBRATION BLOCK

No. Component
T .44 Dia. 14"
Temperature 79 °F
Thermometer S/N IL 91-07

CALIBRATION

0° ☒ Axial ☒ N/A Circ. ☒ N/A
Metal Path ☒ Depth ☒ N/A
Each Major Screen Div. = .1"
Remarks 1.0" screen
CAL'D FROM SDH IN
ROMPAs. (.03" @ .75")

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	280	4015	7	40	20
3	80	40	8	30	16
	70	35	9	20	10
5	60	30	10	10	4

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	81
20	+12	83

CAL. CHECKS

TIME

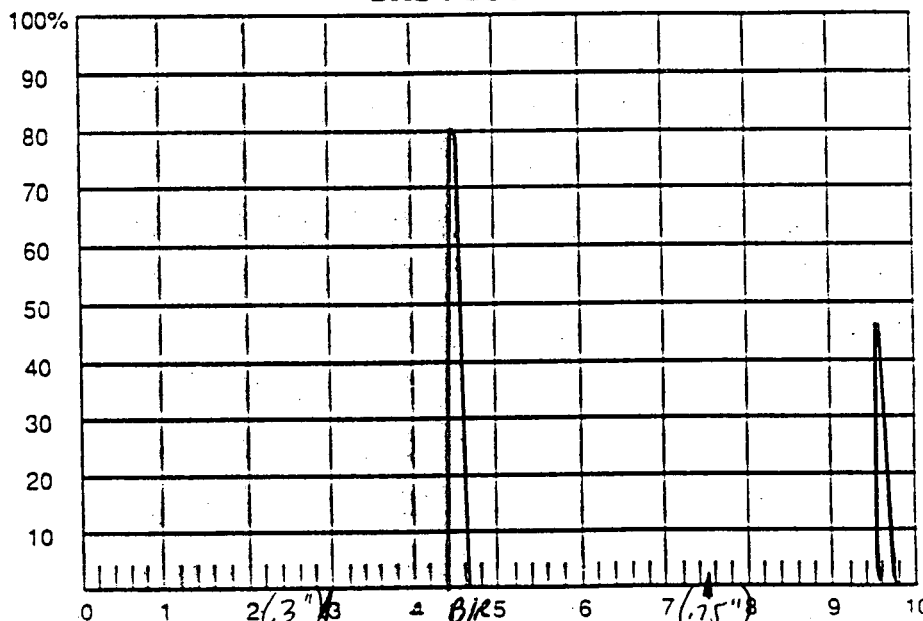
INITIAL CAL.	1958
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2115

2215
@ 4-17-92

COUPLANT

Brand Ultragel II
Batch No. 092041

DAC PLOT



REMARKS:

N/A

EXAMINERS

1

Dale Marshall

LEVEL III

DATE

4/12/92

2

Cliff Marshall

LEVEL II

DATE

4-17-92

REVIEWERS

1

Guth Pinner

LEVEL III

DATE

4-20-92

2

Richard B. Weber

LEVEL N/A

DATE

4/30/92

3

R. Valladanes

LEVEL ANII

DATE

5-1-92

NEES

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-9
PAGE 2 OF 4

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model KBI USK-7
Serial No. 27276-3789
Sweep Length 5.20 Delay 7.85
Range 2.5
Gain (coarse) 20 dB
Gain (fine) AX-16, CIRC 20 dB
Reference Sensitivity A-36, C-40 dB
Remarks: ID NOTCH ADJUSTED
TO SDH DAC FOR REF.
SENSITIVITY.

SEARCH UNIT

Serial No. G20839
Size 0.25"
Frequency 2.25 MHz
Mode REFR. SHEAR
Nom. Angle 45 °
Measured Angle 46 °
Cable Type BNC-MICRODOT
Cable Length 6'
Remarks: N/A

CALIBRATION BLOCK

No. CPL-35
T .438 Dia. 14"
Temperature 74 °F
Thermometer S/N JL91-07

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒
Each Major Screen Div. = 0.25"
Remarks 2.5" SCREEN
CAL'D USING ROMPHAS
BLOCK

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	24
2	90	45	7	40	19
3	80	40	8	30	14
4	70	35	9	20	8
5	60	29	10	N/A	

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	18
40	+6	81
20	+12	81

CAL. CHECKS

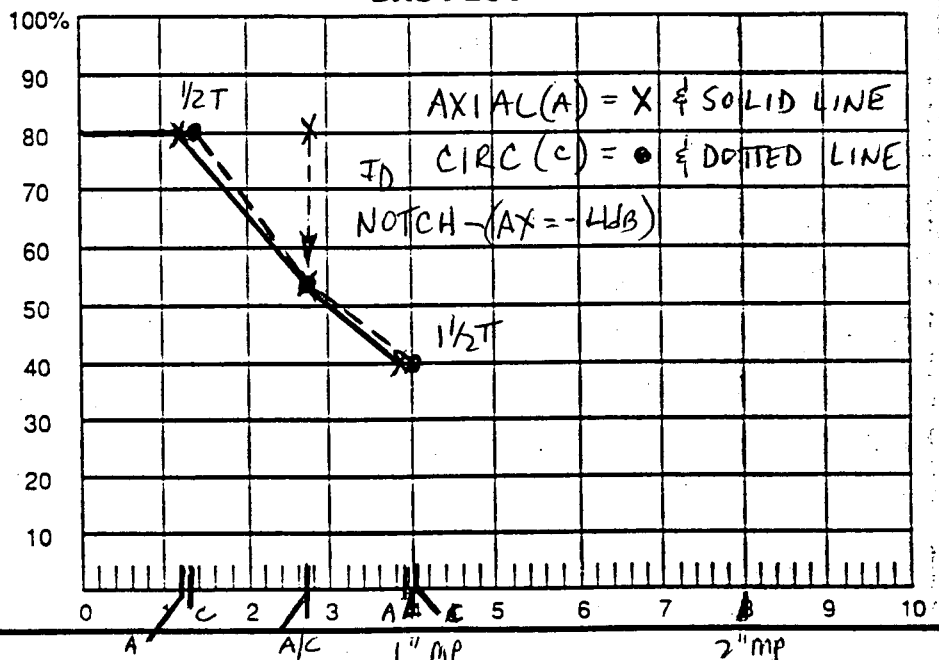
TIME

INITIAL CAL.	1915
INTERMEDIATE	
INTERMEDIATE	
INTERMEDIATE	
FINAL CAL.	2200

COUPLANT

Brand ULTRAGEZ II
Batch No. 092041

DAC PLOT



REMARKS:

AXIAL: 1.2 @ 80, 2.7 @ 55, 3.9 @ 40 WITH (-4dB) TO
BRING NOTCH TO DAC. REFERENCE = 20 + 16 = 36 dB
CIRC: 1.3 @ 80, 2.7 @ 55, 4.0 @ 40 WITH NO ADJUSTMENT
FOR NOTCH TO DAC. REFERENCE = 20 + 20 = 40 dB

EXAMINERS

1

PLA Moss

LEVEL II

DATE 4-17-92

2

Del. Albrecht

LEVEL III

DATE 4/17/92

REVIEWERS

1

Carl Penn

LEVEL III

DATE 4-20-92

2

Richard B. Weber

LEVEL N/A

DATE 4/30/92

3

CP Valladares

LEVEL AN II

DATE 5-1-92



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1087-9
PAGE 3 OF 4

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USIC-7
Serial No. 27276-3784
Sweep Length 5.96 Delay 7.46
Range 2.5
Gain (coarse) =20 ±20dB
Gain (fine) 28 ±22dB
Reference Sensitivity 248 ±42dB
Remarks:
Notch adjusted to
DAC for reference
sensitivity

SEARCH UNIT

Serial No. E27400
Size .25"
Frequency 2.25 MHz
Mode shear
Nom. Angle 60°
Measured Angle 55°
Cable Type MDOT-BNC
Cable Length 6'
Remarks:
Exit Point to Front edge = .4"

CALIBRATION BLOCK

No. CPL 35
T .443 Dia. 14"
Temperature 74° F
Thermometer S/N JL-9167

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒
Metal Path ☒ Depth ☐
Each Major Screen Div. = .25"
Remarks 2.5" Screen
CAL'D FROM ROMPAS.

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	42
80	-12	22
40	+6	38 79
20	+12	75

CAL. CHECKS

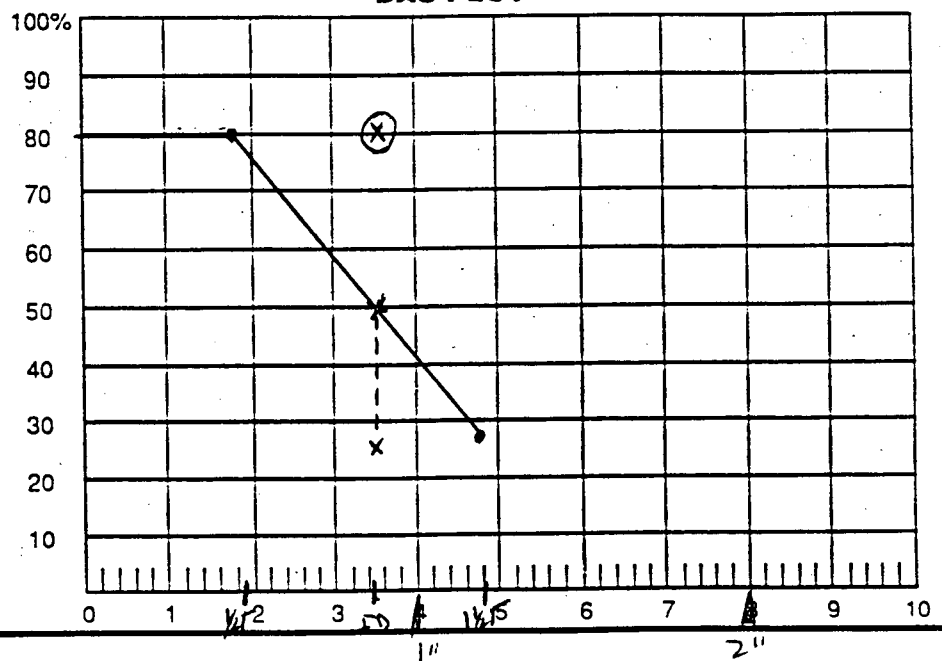
TIME

INITIAL CAL.	1920
INTERMEDIATE	
INTERMEDIATE	N/A
INTERMEDIATE	
FINAL CAL.	2205

COUPLANT

Brand Ultrage/IF
Batch No. 092041

DAC PLOT



REMARKS:

X - ⊥ PERPENDICULAR
⊗ - = PARALLEL

EXAMINERS

1

Del. Murdoch

LEVEL III

DATE 4/7/92

2

Cliff Moore

LEVEL II

DATE 4-17-92

REVIEWERS

1

Cliff Moore

LEVEL III

DATE 4-20-92

2

Richard B. Weber

LEVEL N/A

DATE 4/30/92

3

Dr. Valladares

LEVEL ANIS

DATE 5-1-91

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON UNIT #2DATA SHEET NO. 1089-7PAGE 4 OF 4**EXAMINATION
DATA SHEET**PROCEDURE NO. SP-1089REVISION/CHANGE NO. 0 / N/ACOMPONENT/SYSTEM RHR PUMP AISO/DWG. NO. CPL-220 REV. 1THERMOMETER S/N JL91-07COMPONENT TEMP. 79 ° F

EXAMINATION WELD/AREA

CPL-220-42 + 2.5T of LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED ELBOW TO PUMP CASING, SCANNED ALL AREA THRU WHICH THE
ANGLE BEAMS WILL PASS ON ELBOW SIDE ONLY.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED ELBOW TO PUMP CASING, SCANNED WELD & REQUIRED VOLUME ON
ELBOW SIDE ONLY DUE TO CONFIGURATION. (45° & 60°)

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☒ NO

AREA SCANNED ELBOW TO PUMP CASING, SCANNED WELD & REQUIRED VOLUME ON
ELBOW SIDE ONLY DUE TO CONFIGURATION (45° & 60°)

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

N/A

SEE ATTACHED I.E.R.

REVIEWERS:

1 Dale M. Murr LEVEL III DATE 4/17/92
 2 C. B. Murr LEVEL II DATE 4-17-92

1 Carl R. Murr LEVEL III DATE 4-20-92
 2 Richard B. Weber LEVEL N/A DATE 4/30/92
 3 Ann R. Murr LEVEL III DATE 5-1-92

NEES

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. _____
PAGE 1 OF 2

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP1093
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model PANAMETRICS 26DL PROS
Serial No. 91039708
Velocity 2300 m/s Delay N/A
AP 5-6-92
Range 1.00
Gain (coarse) 60dB
Gain (fine) N/A
Reference Sensitivity 60 dB
Remarks: N/A

SEARCH UNIT

Serial No. PANAMETRICS 109118
Size .312"
Frequency 5.0 MHz
Mode LONG
Nom. Angle 0°
Measured Angle N/A°
Cable Type SELF CONTAINED
Cable Length 63"
Remarks: N/A

CALIBRATION BLOCK

No. *
T * Dia. N/A
Temperature 75° F
Thermometer S/N JL 91-05

CALIBRATION

0° ☒ Axial ☐ Circ. ☐
Metal Path ☒ Depth ☐
Each Major Screen Div. = N/A
Remarks DIGITAL
INSTRUMENT

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1			6		
2		<u>N</u>	7		
3			8	<u>A</u>	
4			9		
5			10		

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	
80	<u>N-12</u>	<u>A</u>
40	+6	
20	+12	

CAL. CHECKS

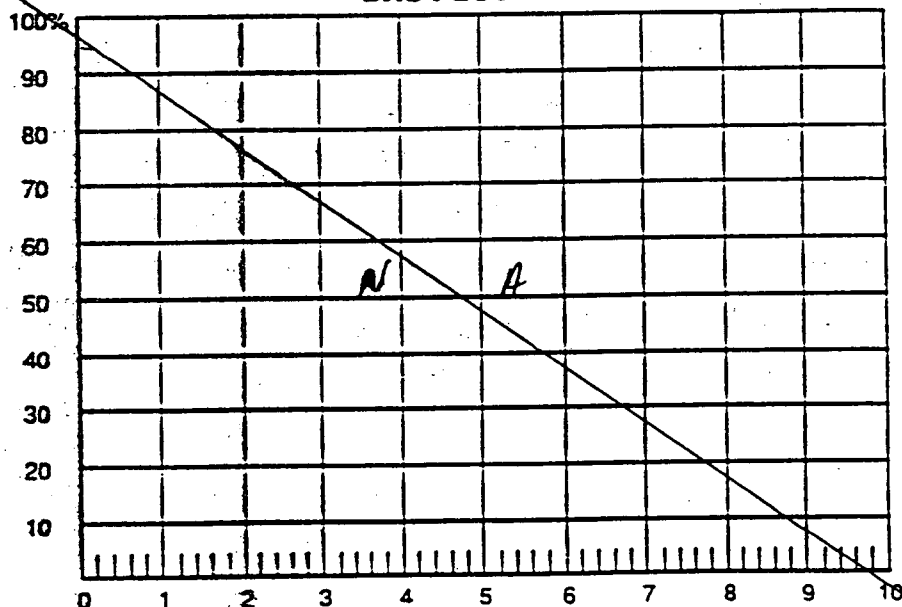
TIME

INITIAL CAL.	<u>1433</u>
INTERMEDIATE	
INTERMEDIATE	<u>N A</u>
INTERMEDIATE	
FINAL CAL.	<u>1546</u>

COUPLANT

Brand ULTRAGEL II
Batch No. 692041

DAC PLOT



REMARKS: CALIBRATION BLOCKS: ROMAS 86-3269/1.000"
CAL BLOCK CPL-35 / 0.420"

FOR INFORMATION ONLY TO DETERMINE
PROFILE AND THICKNESSES OF WELD CPL 220-42
PRIOR TO PT SURFACE PREP.

EXAMINERS 1 Get Pinner LEVEL III DATE 5-6-92
2 N/A LEVEL N/A DATE N/A
REVIEWERS 1 Jim Blum LEVEL II DATE 5-6-92
2 Richard B. W. Fisher LEVEL N/A DATE 5/8/92
3 APMachales LEVEL ANTI DATE 5-13-92

nes

NUCLEAR ENERGY SERVICES, INC.

1125

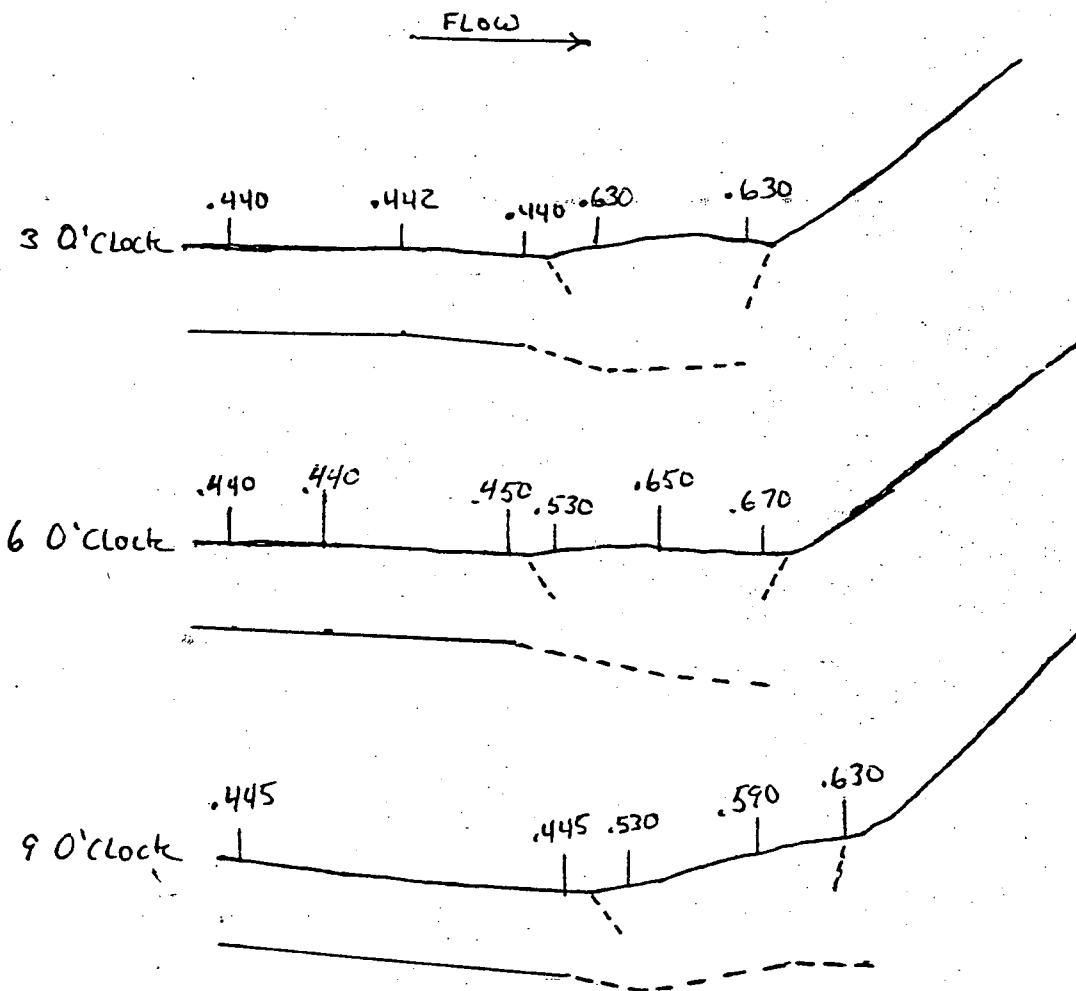
PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CPL 220-42ISO DWG. NO. CPL 220REV. 0

SKETCH SHEET

NOTE: NO PROFILE AT 12 O'CLOCK DUE TO SCAFFOLD
OBSTRUCTION $1\frac{1}{2}$ " FROM THE WELD.



EXAMINER	<u>C. P. Pinner</u>	LEVEL	<u>III</u>	DATE	<u>5-6-92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>J. P. French</u>	LEVEL	<u>II</u>	DATE	<u>5-6-92</u>
REVIEWER	<u>Richard B. Weber</u>	DATE	<u>5/8/92</u>		
REVIEWER	<u>APM/Thaddeus</u>	DATE	<u>5-13-92</u>		

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-150

WR&A # N/A

PAGE 1 OF 1

PLANT: H.B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 220 - C</u>
--------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 220 REVO / RHR PUMP ROOM (RHR PIT)

[X] VT-3 PROCEDURE: ^{SP1097 AP44292}~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [X] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>4 1/4"</u>		STROKE: <u>5</u>	S/N <u>300 79</u>

COMMENTS: NO RECORDABLE INDICATIONS
PIPING SYSTEM AT AMBIENT SNUBBER 17

EXAMINER: Art P... LEVEL: II DATE: 4-17-92

REVIEWER: Chf Moss LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4.21.92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-151

WR&A # N/A

PAGE 1 OF 1

PLANT: <u>H.B. ROBINSON</u>		UNIT <u>[] 1 [X] 2 [] PSI [X] ISI</u>	
SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>INTEGRAL ATTACHMENT</u>	COMPONENT ID NO.: <u>CPL 220-C-WS</u>	
DWG./LOC.: <u>CPL 220 REV 0</u>		<u>RHR PUMP ROOM (RHR PIT)</u>	
[X] VT-3 PROCEDURE: <u>SP1097 AP4-17-92</u> <u>NDEP-613 REV.: 0</u>		[] VT-4 PROCEDURE: <u>614 REV.: 0</u>	
DIRECT [X] REMOTE []		VIDEO RECORDING NO: [X] N/A	
EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
[X] FLASHLIGHT [] MIRROR		[X] HYDRAULIC SNUBBER [] CONSTANT SUPPORT	
[] OTHER _____		[] MECHANICAL SNUBBER [] VARIABLE SUPPORT	
		[X] SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			✓	N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>NO RECORDABLE INDICATIONS</u>				

EXAMINER: <u>Art Pym</u>	LEVEL: <u>II</u>	DATE: <u>4-17-92</u>
REVIEWER: <u>Chet Moss</u>	LEVEL: <u>II</u>	DATE: <u>4-18-92</u>

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY
REVIEWED BY: <u>Richard B. Weber 4/21/92</u>
REVIEWERS COMMENTS:

ANII REVIEW: <u>RP Valladares</u>	DATE: <u>4-21-92</u>
-----------------------------------	----------------------

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-152

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 220 - U</u>
--------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 220 REV 0 / RHR PUMP ROOM (RHR PIT)

[X] VT-3 PROCEDURE: ^{SP 1097} ~~NDEP-613~~ ^{AP 4-17-92} REV.: 0 [] VT-4 PROCEDURE: 614 REV.?

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		/
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		/
RESISTANCE TO MOVEMENT	✓			
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		N/A
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Get Purnan LEVEL: II DATE: 4-17-92

REVIEWER: Chiff Moss LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

REVIEWERS COMMENTS:

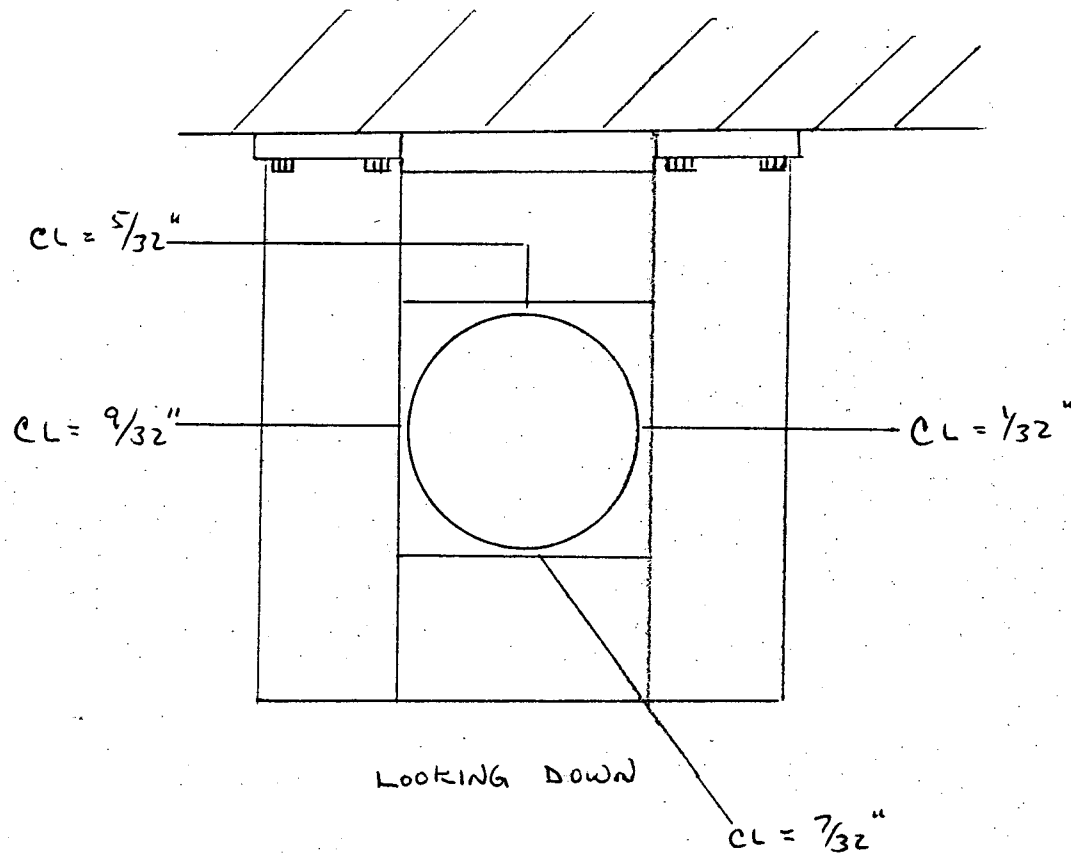
ANII REVIEW: RP Valladare

DATE: 4-23-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-152EXAM ITEM CPL 220 - UISO DWG. NO. CPL 220 REV. 0

SKETCH SHEET

EXAMINER Cert PinnerEXAMINER N/AREVIEWER Cliff MossREVIEWER Richard B. Weber

REVIEWER _____

LEVEL IILEVEL N/ALEVEL IIDATE 4/22/92

DATE _____

DATE 4-17-92DATE N/ADATE 4-18-92

CP & L Dwg. No. HBR2-10618 SH 81					
CP & L P.O. No. CPL 51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	RBW	CPL	CLO	CLO	12/12/87

SPRING HANDBERS

K.O.P.

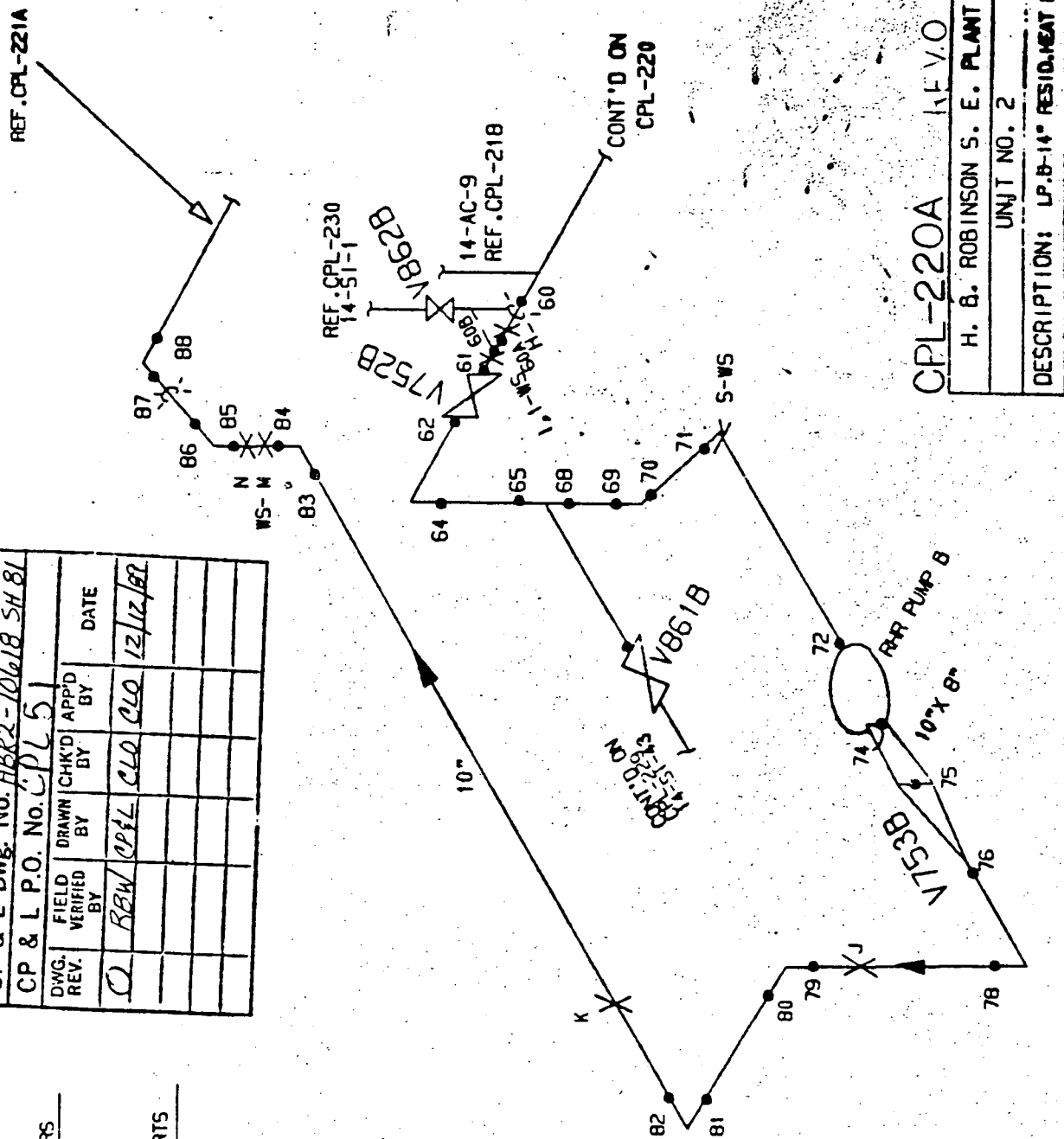
SUBBERS

H.I.S.

WEB_OED_SUPPORTS

SM-1

SA-S
SA-M



CPL-220A K.V.O.

H. B. ROBINSON S. E. PLANT

UNIT NO. 2

DESCRIPTION: LP.B-14" RESID.HEAT REMOVAL

CONTROLLED
RCPT ID 296

I certify that the image contained on this frame was made in the normal and regular course of business on the date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-92

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-220A-J</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL-220A REV 0 / RHR PUMP RM

[X] VT-3 PROCEDURE: SP 1097 AP 4-7-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]	VIDEO RECORDING NO: [X] N/A
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			N/A
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/A RECORDABLE INDICATION
AP 4-9-92

EXAMINER: Art Pinner LEVEL: II DATE: 4-7-92

REVIEWER: Edmund R. Dorman (RD) LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/10/92

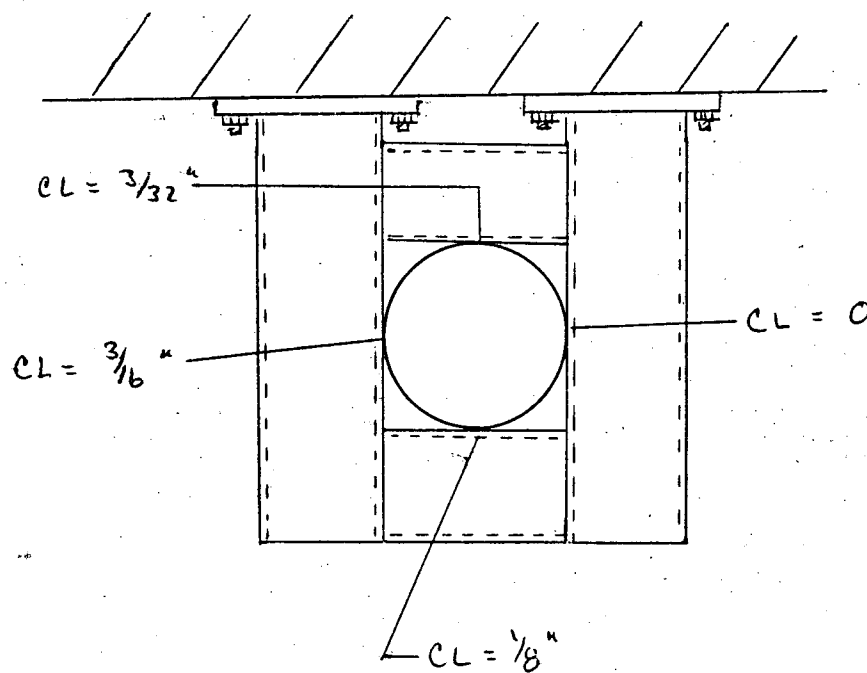
REVIEWERS COMMENTS:

ANII REVIEW: AP Valladares DATE: 4-18-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-42EXAM ITEM CPL 220A - JISO DWG. NO. CPL 220A REV. 0

SKETCH SHEET



EXAMINER Art P...
EXAMINER N/A
REVIEWER William R. Dawson
REVIEWER Richard B. Heber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/10/92
DATE _____

DATE 4-7-92
DATE N/A
DATE 4-9-92

W

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-93

WR&A # N/A

PAGE 1 OF 2

PLANT: H. P. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-220A-K</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL 220A REV 0 / RHR PUMP RM

[X] VT-3 PROCEDURE: SP 1097 AP 4-7-92 NDEP 613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]	VIDEO RECORDING NO: <u>[X] N/A</u>
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER <u></u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [X] VARIABLE SUPPORT [] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT		✓		
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: 1/8" ABOVE THE COLD SETTING, 1" DEFLECTION, 1870°F			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: N/A 4-8-92 RECORDABLE INDICATIONS

EXAMINER: Art Purnum LEVEL: II DATE: 4-7-92

REVIEWER: Edmund R. Doonan DN LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/10/92

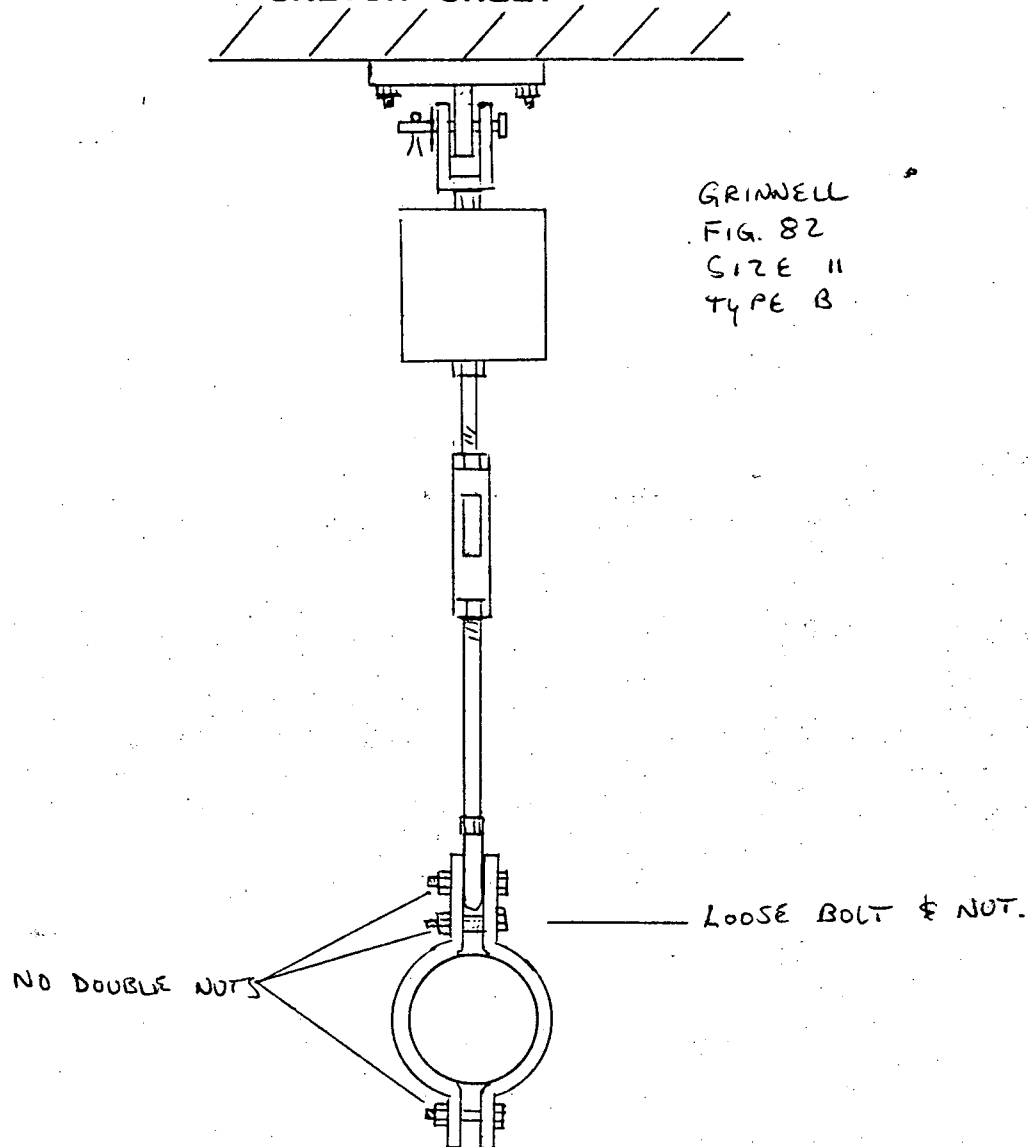
REVIEWERS COMMENTS:

ANII REVIEW: AS Valladares DATE: 4-18-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-43EXAM ITEM CPL 220A-KISO DWG. NO. CPL 220A REV. 0

SKETCH SHEET

EXAMINER Art PurnanLEVEL IIDATE 4-7-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Edmund R. DonovanLEVEL IIDATE 4-8-92REVIEWER Richard B. WeberDATE 4/10/92

REVIEWER _____

DATE _____

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-55 ^{269 (N)} ₅₇₁₅

WR&A # NA

PAGE 1 OF 1

PLANT: HB ROBINSON

UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM:
RHR

COMPONENT
NAME: HANGER

COMPONENT
ID NO.: CPL-220A-K

DWG./LOC.: CPL-220A REV-0 / RHR PIT

☒ VT-3 PROCEDURE: SP 1097 ERO 5-7-92
NDEP-613 REV.: 0

1 1 VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO: NA

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☒ VARIABLE SUPPORT
☐ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>NA</u>			
SNUBBER	ACTUAL: <u>NA</u> STROKE: <u>NA</u> S/N: <u>NA</u>			

COMMENTS: NO RECORDABLE INDICATIONS

REEXAM AFTER REPAIR

WR 100 92-AEMKI

EXAMINER: Edward R. Donovan

LEVEL: II

DATE: 5-6-92

REVIEWER: Art Purnan

LEVEL: II

DATE: 5-7-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/8/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Malladars

DATE: 5-13-92

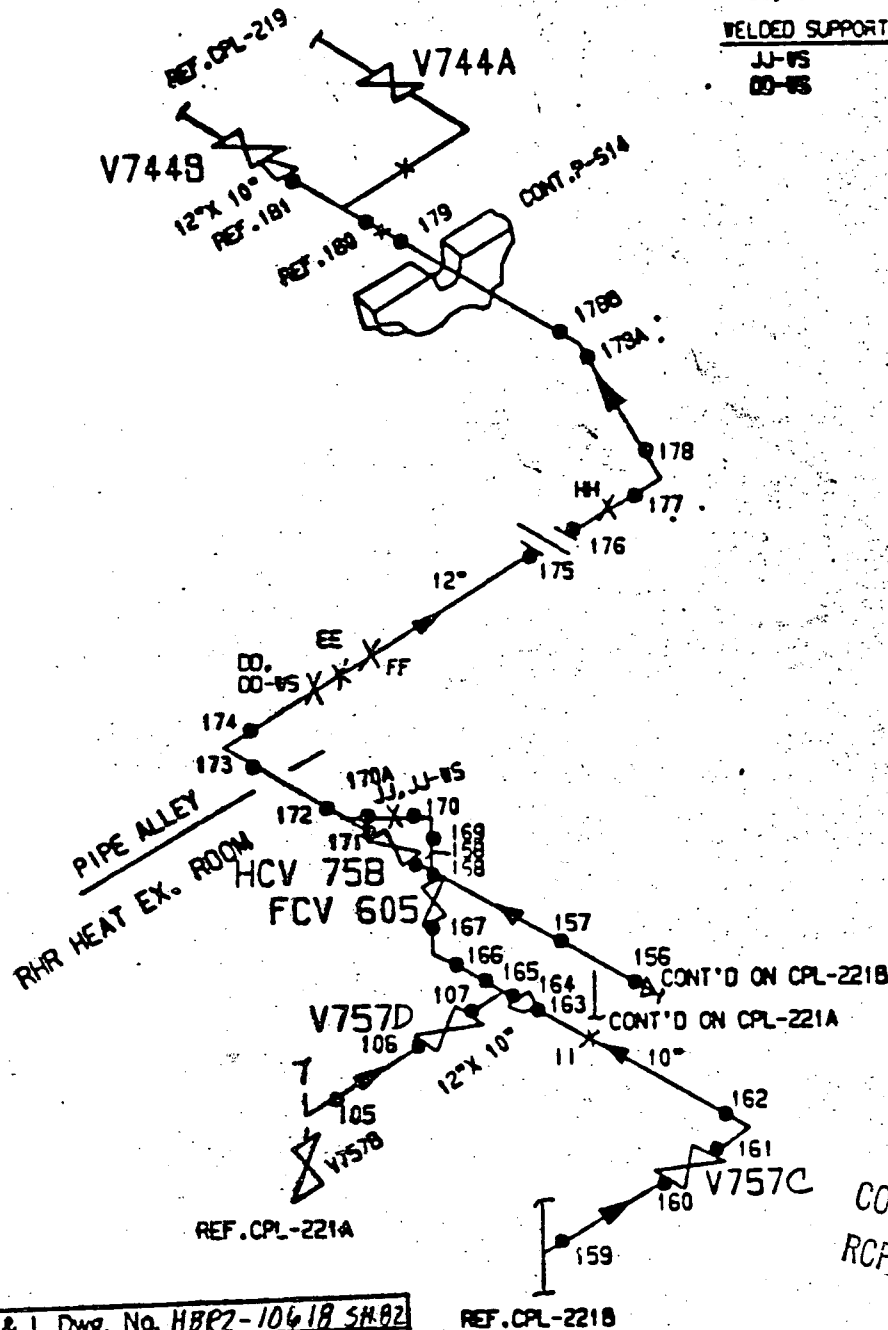
SPRING HANGERS

00, JJ

WELDED SUPPORTS

JJ-WS

00-WS



CP & L Dwg. No. HBR2-10618 SH82					
CP & L P.O. No. CPL 51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	RBW	CPL	CLO	CLO	12/12/89
1	RBW	HELU	JLW	CLO	2-11-91

D/R 91-156

CPL-221

REV.1

H.B. ROBINSON S.E. PLANT			C P & L
UNIT NO. 2			
DESCRIPTION: SIS & RHR RETURN			
LINE NO. 12-AC-3	CPL-221	REV.	

The image contained on this frame was made in the normal and regular course of business by CP&L on the date stated below. It is an accurate reproduction of the document submitted for microfilming.

VISUAL EXAMINATION DATA SHEET

"NOTE"

REPORT NO. 1097-153

WR&A # N/A

PAGE 1 OF 2

@ 4-19-92
See pg. #2 - comments

PLANT: HB ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SIS & RHR RETURN

COMPONENT NAME: ROD HANGER
SUPPORT

COMPONENT

ID NO.:

CPL-221-HH

DWG./LOC.: CPL-221 Rev 1 / PIPE ALLEY-CENTER

[X] VT-3 PROCEDURE: SP-1097 @ 4-19-92
NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR
[] OTHER

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	[X]			See page #2 for details
MISALIGNMENT		[X]		
DEBRIS		[X]		
CORROSION/EROSION		[X]		
STRUCTURAL INTEGRITY		[X]		N/A
RESISTANCE TO MOVEMENT			[X]	
CLEARANCES OF MOVING PARTS			[X]	
ARC STRIKES/GOUGES		[X]		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details

* EXPANDED SCOPE

EXAMINER: Cliff Moss @

LEVEL: II

DATE: 4-19-92

REVIEWER: Art Pinner

LEVEL: II

DATE: 4-20-92

COMPONENT CONDITION: [] SATISFACTORY

[] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

REVIEWERS COMMENTS:

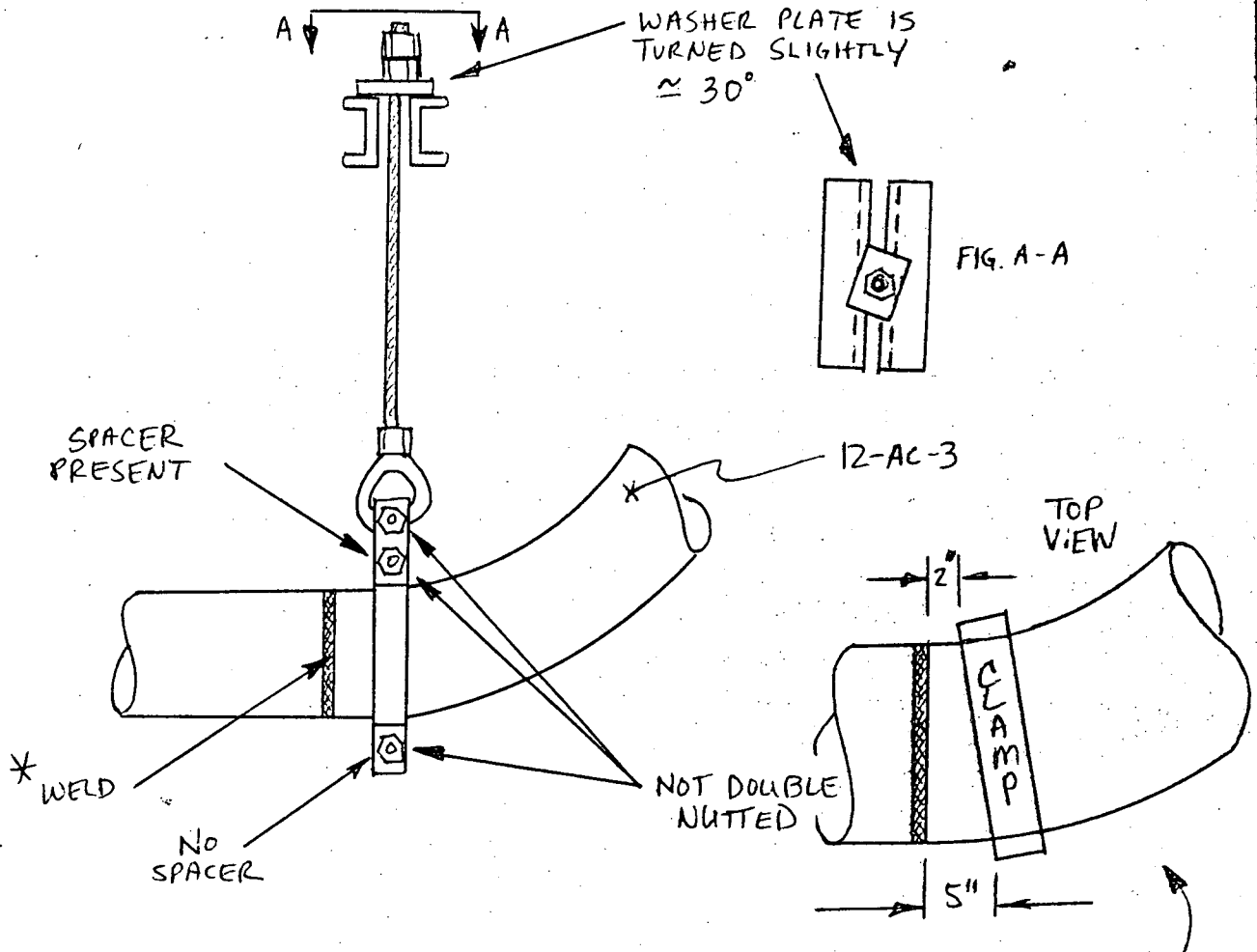
ANII REVIEW: RP Valladares

DATE: 4-23-92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-153
EXAM ITEM CPL-221-HH
ISO DWG. NO. CPL-221 REV. 1

SKETCH SHEET



* CLAMP IS (5") FROM WELD ON ONE SIDE AND (2") ON THE OTHER.
NOTE: This clamp appears to be new. This may be a PSI exam.

EXAMINER Cliff Moss
EXAMINER N/A
REVIEWER Richard B. Weber
REVIEWER

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/22/92
DATE

DATE 4-19-92
DATE N/A
DATE 4-20-92



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-116

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 221 - II</u>
--------------------	--------------------------------	---------------------------------------

DWG./LOC.: CPL 221 REV 0 / RHR HEAT EXCHANGER ROOM

[X] VT-3 PROCEDURE: SP1097 AP 4-12-92 NDEP-613 REV.: [] VT-4 PROCEDURE: 614 REV. 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Cut Purnan LEVEL: II DATE: 4-11-92

REVIEWER: Cliff Mass CD DN LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

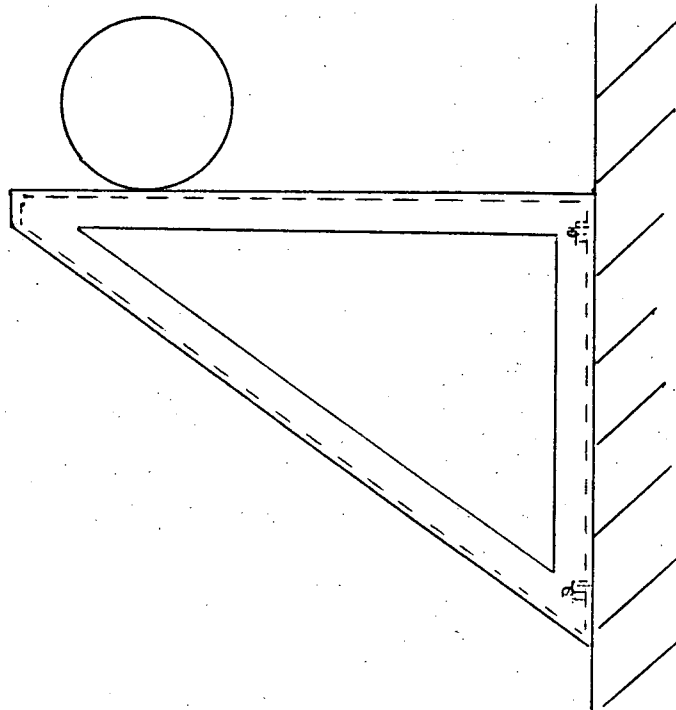
ANII REVIEW: R Valladares

DATE: 4-17-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097716EXAM ITEM CPL 221 - IIISO DWG. NO. CPL 221 REV. 0

SKETCH SHEET

EXAMINER Art PinnerLEVEL IIDATE 4-11-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Chris MossLEVEL IIDATE 4-14-92REVIEWER Richard B. WeberDATE 4/14/92REVIEWER DATE

PROCEDURE SP 1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 1

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL 221 REVISION 0
DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91M01P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

[illegible]

EXAMINER G. T. Fineman
EXAMINER N/A
REVIEWER Dale M. Muck
FOLLOWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL III
DATE 4/28/92
DATE _____

DATE 4-25-92
DATE N/A
DATE 4/25/92

RP Valladares APT 4-29-92

195

NUCLEAR ENERGY SERVICES, INC.



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-117

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON

UNIT [] 1 [X] 2 [X] PSI [X] ISI

SYSTEM:

RHR

COMPONENT

NAME:

SUPPORT

COMPONENT

ID NO.:

CPL 221 - JJ

DWG./LOC.: CPL 221 REV 0 / RHR HEAT EXCHANGER ROOM

[X] VT-3 PROCEDURE: NOEP-613 ^{SP1097 Rev 4-12-92} REV.: 0 [] VT-4 PROCEDURE: 614 REV.?

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR

[] OTHER

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] MECHANICAL SNUBBER

[] SUPPORT/HANGER

[] CONSTANT SUPPORT

[X] VARIABLE SUPPORT

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: AT COLD SET MARK, 2475#, 1" DEFLECTION			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: NO RECORDABLE INDICATIONS

* UPPER PART OF SUPPORT IS NEW (PSI EXAMINATION)

EXAMINER:

Art P...

LEVEL: II

DATE: 4-11-92

REVIEWER:

Chf Moss QA

LEVEL: II

DATE: 4-14-92

COMPONENT CONDITION:

[] SATISFACTORY

[] UNSATISFACTORY

REVIEWED BY:

Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

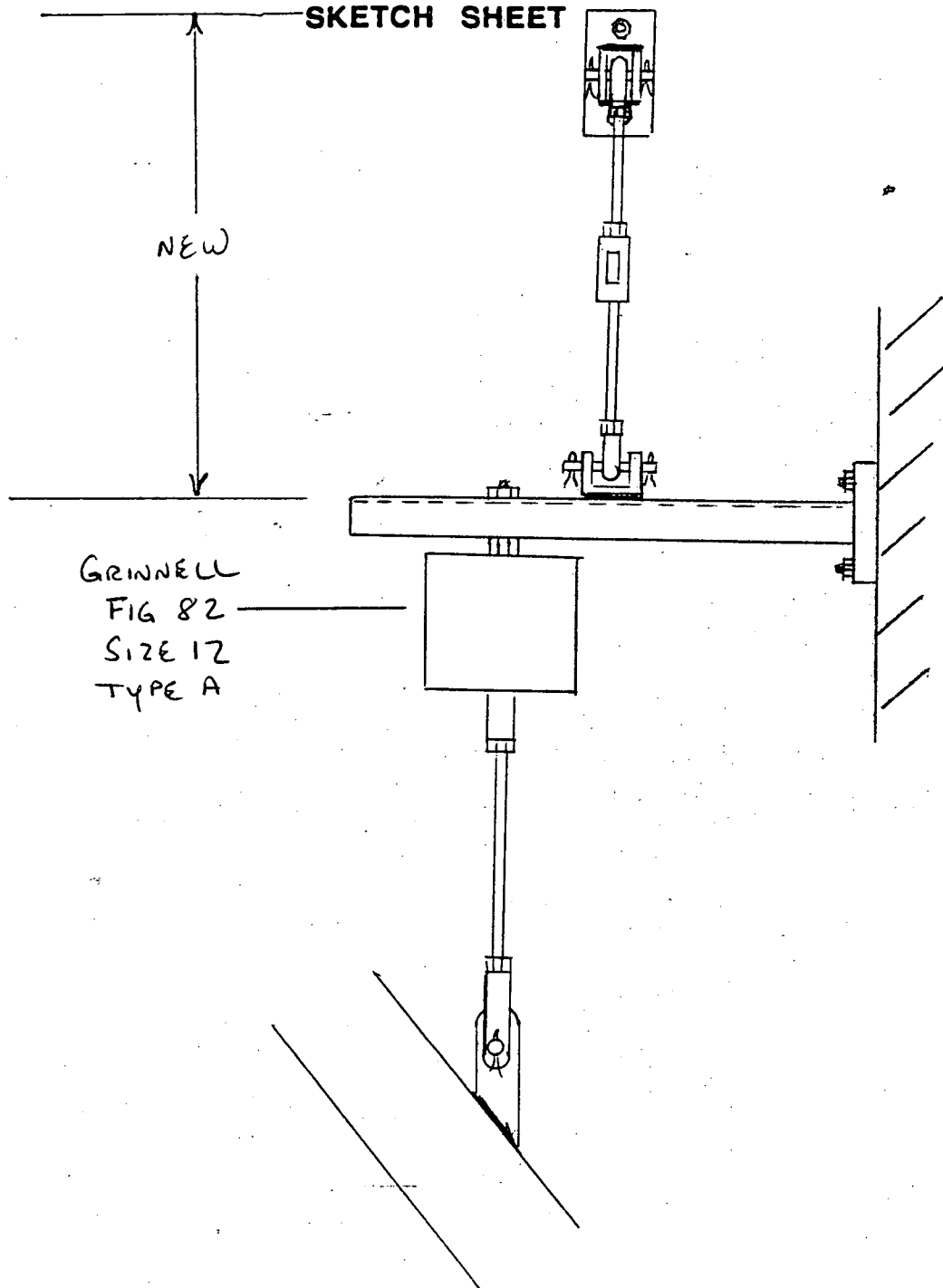
ANII REVIEW: Ar Valladares

DATE: 4-17-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097717EXAM ITEM CPL 221-JJISO DWG. NO. CPL 221 REV. 0

SKETCH SHEET

EXAMINER Cert PinnerLEVEL IIDATE 4-11-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Chris MossLEVEL IIDATE 4-14-92REVIEWER Richard B. WeberDATE 4/14/92

REVIEWER _____

DATE _____

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-234

WR&A # N/A

PAGE 1 OF 1

PLANT: H.B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM:

RHR

COMPONENT

NAME: INTEGRAL ATTACHMENT

COMPONENT

ID NO.: CPL 221-JJ-WS

DWG./LOC.: CPL 221 REV 0 / RHR HEAT EXCHANGER ROOM

[x] VT-3 PROCEDURE: SP-1097 AP-4-28-92
NDEP-613 REV.: 0

[] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x]

VIDEO RECORDING NO:

[x] N/A

EQUIPMENT USED:

[x] FLASHLIGHT [x] MIRROR

[] OTHER

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] MECHANICAL SNUBBER

[] SUPPORT/HANGER

[] CONSTANT SUPPORT

[x] VARIABLE SUPPORT

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			✓	N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: *Art Purnell* LEVEL: II

DATE: 4-11-92

REVIEWER: *Edmund R. Donnan* LEVEL: I

DATE: 4-29-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: *Richard B. Weber* 4/30/92

REVIEWERS COMMENTS:

ANII REVIEW: *R. Valladares*

DATE: 5-1-92

SPRING HANGERS

Z, A, H

WELDED SUPPORTS

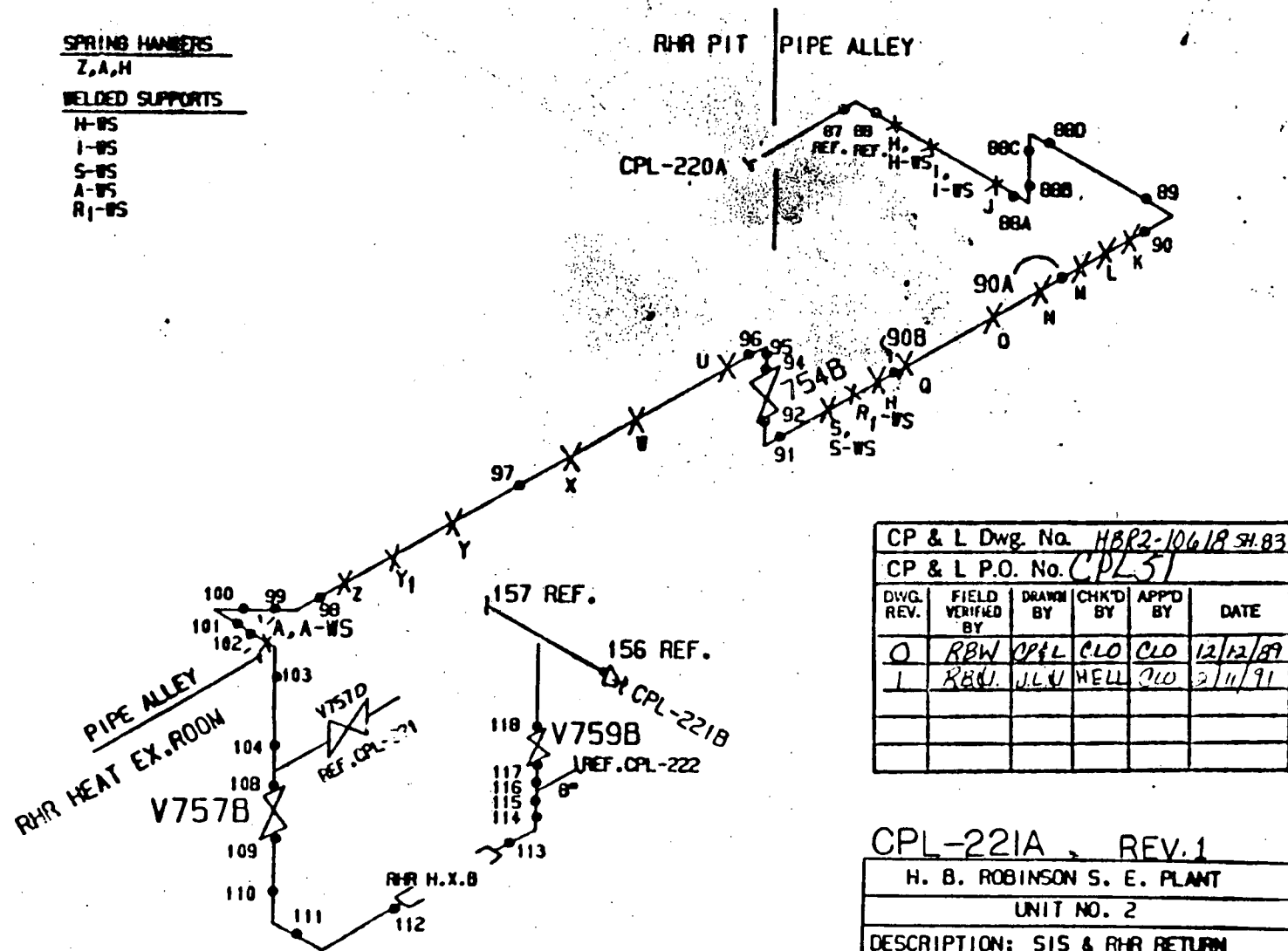
H-WS

I-WS

S-WS

A-WS

R₁-WS



CP & L Dwg. No. <i>HBR2-10618 SH.83</i>					
CP & L P.O. No. <i>CPL51</i>					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	RBW	CPL	CLO	CLO	12/12/89
1	RBW	JLV	WELL	CLO	2/11/91

DCR 91-157

CPL-221A, REV.1	
H. B. ROBINSON S. E. PLANT	
UNIT NO. 2	
DESCRIPTION: SIS & RHR RETURN	
LINE NO.	10-AC-1
CP - 221A	REV 1

CPS

CONTROLLED
RCPT ID *296*



Carroll Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-118

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 221A - A</u>
--------------------	--------------------------------	---------------------------------------

DWG./LOC.: CPL 221A REV 0 / RHR HEAT EXCHANGER ROOM

☒ VT-3 PROCEDURE: SP1097^{Rev 4} NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
<input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> OTHER _____	<input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> VARIABLE SUPPORT
	<input type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: HALF WAY BETWEEN HOT & COLD SET POINT, 3150#, 7/8" DEFLECTION			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Ruyman LEVEL: II DATE: 4-11-92

REVIEWER: Chf Moss LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

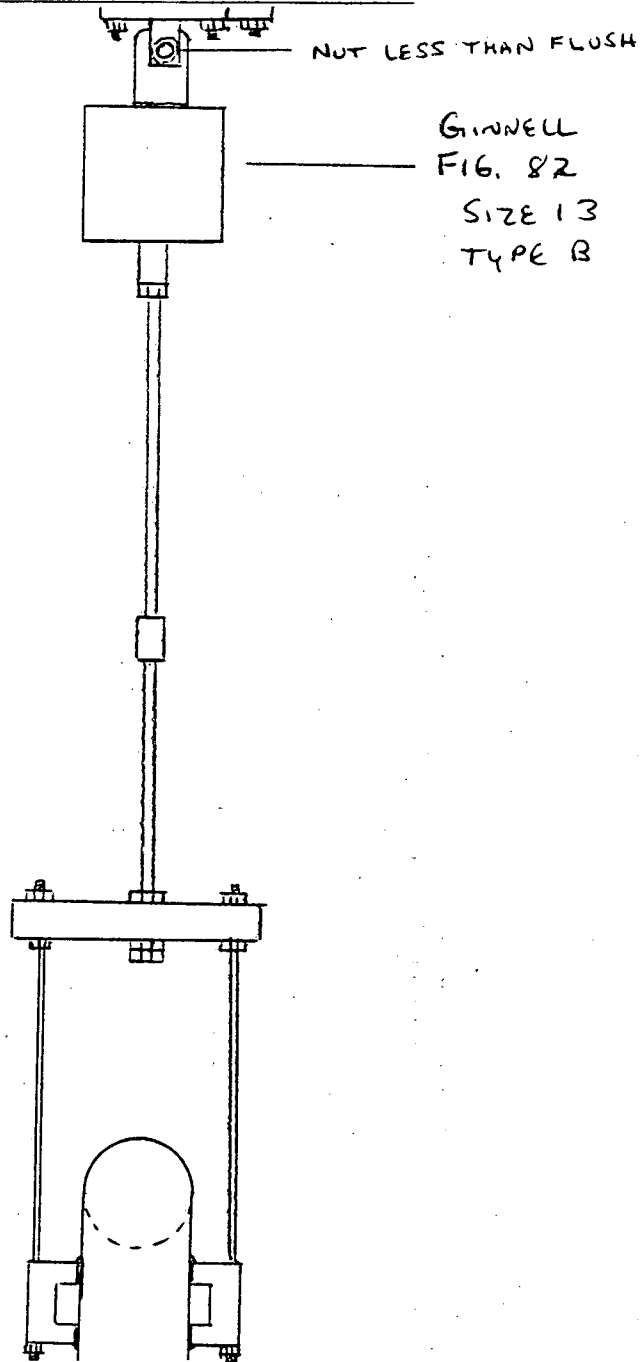
REVIEWERS COMMENTS:

ANII REVIEW: AP Valladares DATE: 4-17-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-48EXAM ITEM CPL 221A - AISO DWG. NO. CPL 221A REV. 0

SKETCH SHEET

EXAMINER GD PurnanEXAMINER N/AREVIEWER Chiff MossREVIEWER Richard D. WeberREVIEWER AMLEVEL IILEVEL N/ALEVEL IIDATE 4/14/92

DATE _____

DATE 4-11-92DATE N/ADATE 4-14-92



PAGE 1 OF 1

QA NDE ISI 5, Revision 5 11/88

PROCEDURE SP 1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 12 (over)
4/14/91

SYSTEM EXAMINED RHR ISO/DWG/SK. # CPL 221 A REVISION 0
 DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91MO1P</u>	<u>5 MINUTES</u>
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90403K</u>	<u>15 MINUTES</u>
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>91MO1P</u>	<u>5 MINUTES</u>
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90403P</u>	<u>7 MINUTES</u>

[illegible]

EXAMINER Cutler
EXAMINER N/A
REVIEWER Chaffin
REVIEWER Lynch B. J. Fisher
REVIEWER R.P. Valladares AN II

LEVEL III
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE 5/5/92

DATE 4-11-92
DATE N/A
DATE 4-14-92

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP1093
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model KBI USK-7
Serial No. 27276-3702
Sweep Length 8.28 Delay 8.98
Range 5"
Gain (coarse) 0 dB
Gain (fine) 12 dB
Reference Sensitivity 12 dB
Remarks: N/A

SEARCH UNIT

Serial No. B17620
Size .25
Frequency 5 MHz
Mode LONG.
Nom. Angle 0 °
Measured Angle N/A °
Cable Type RG174/V
Cable Length 6'
Remarks: N/A

CALIBRATION BLOCK

No. 86-3269
"T" 1" Dia. N/A
Temperature 85 °F
Thermometer S/N SEP90-01

CALIBRATION

0° ☒ Axial ☐ Circ. ☐
Metal Path ☒ Depth ☐
Each Major Screen Div. = .2"
Remarks N/A

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	AP 4-16-92 <u>20</u> 40
80	-12	AP 4-16-92 <u>40</u> 20
40	+6	80
20	+12	80

CAL. CHECKS

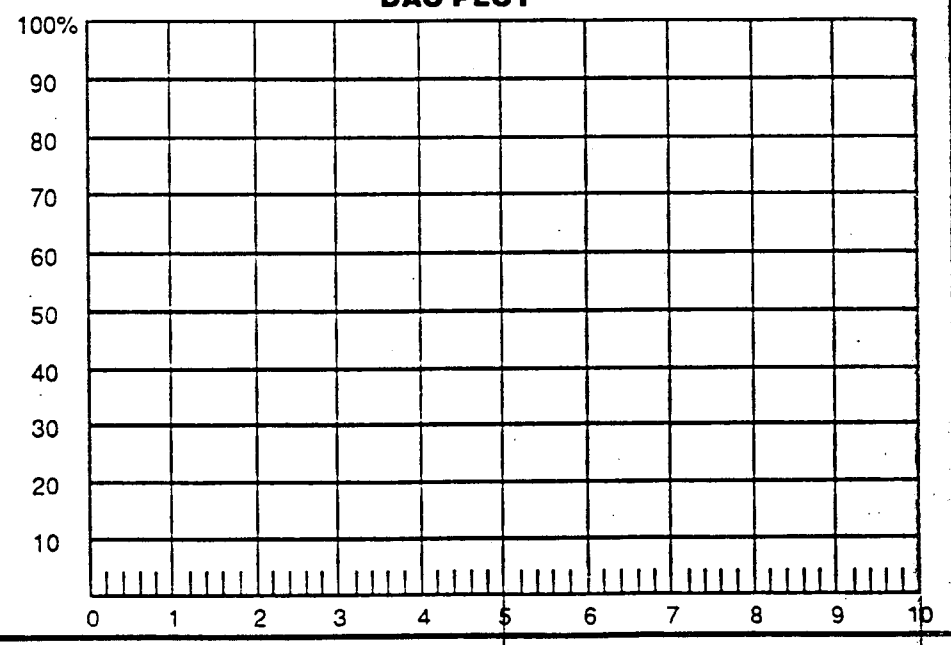
TIME

INITIAL CAL.	2020
INTERMEDIATE	
INTERMEDIATE	N/A
INTERMEDIATE	
FINAL CAL.	2245

COUPLANT

Brand ULTRAGEL II
Batch No. 092041

DAC PLOT



REMARKS: FOR UT THICKNESS MEASUREMENT OF
CPL 721A-A PIPE WALL.
THICKNESS = .365"

EXAMINERS 1 Carl P... LEVEL III DATE 4-11-92
2 N/A LEVEL N/A DATE N/A
REVIEWERS 1 CHUMM... LEVEL II DATE 4-14-92
2 6 LEVEL DATE
3 LEVEL DATE

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-5

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: RHR COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-221A-K

DWG./LOC.: CPL-221A Rev 1 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP-1097' CR 4-1-92 WDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR
[] OTHER TYPE OF COMPONENT SUPPORT:
[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>[X]</u>		<u>N/A</u>
MISALIGNMENT	<u>[X]</u>			<u>Hanger support is misaligned slightly (approx. 5-10°) in direction of flow and away from support wall</u>
DEBRIS		<u>[X]</u>		<u>N/A</u>
CORROSION/EROSION		<u>[X]</u>		<u></u>
STRUCTURAL INTEGRITY	<u>[X]</u>			<u>See page #2 for questionable condition.</u>
RESISTANCE TO MOVEMENT			<u>[X]</u>	<u>N/A</u>
CLEARANCES OF MOVING PARTS			<u>[X]</u>	<u></u>
ARC STRIKES/GOUGES		<u>[X]</u>		<u></u>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: See page #2 for misalignment and questionable condition concerning structural integrity. **RECORDABLE INDICATIONS**

EXAMINER: Chf Mass CR LEVEL: II DATE: 4-1-92

REVIEWER: CR Pinner LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

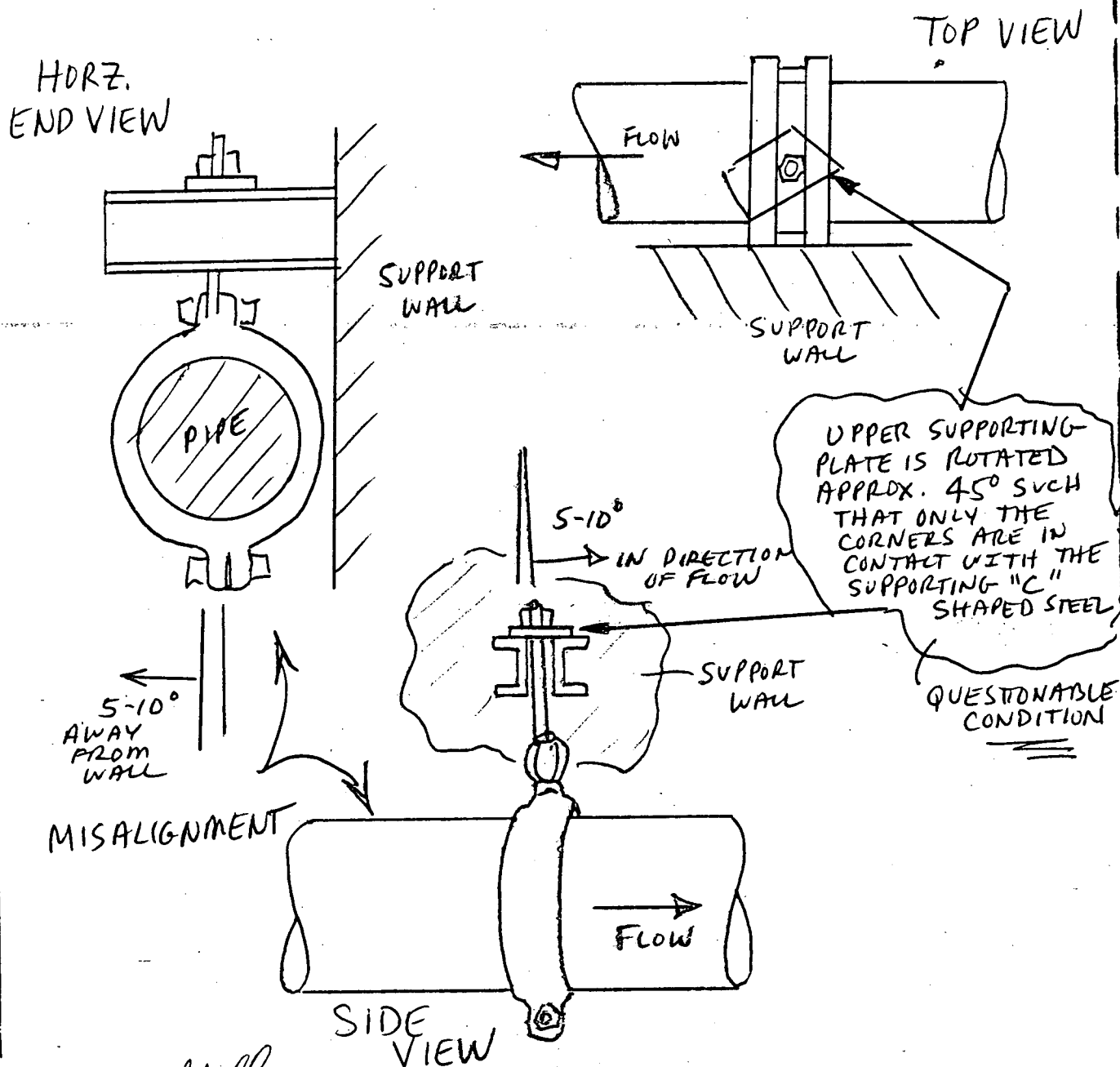
REVIEWED BY: Richard S. Weber 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: CR Valladares DATE: 4-9-92

DATA SHEET NO. 1097-5EXAM ITEM CPL-221A-KISO DWG. NO. CPL-221AREV. 1

SKETCH SHEET



EXAMINER

Cliff Moss

LEVEL

II

DATE

4-1-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Geist P...

LEVEL

II

DATE

4-4-92

REVIEWER

Richard B. Weber

LEVEL

N/A

DATE

4/8/92

REVIEWER

CP&L
Carroll Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-261

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 11 ☒ 12 ☐ 1 PSI ☒ ISI

SYSTEM: <u>SIS + RHR RETURN</u>	COMPONENT NAME: <u>HANGER</u>	COMPONENT ID NO.: <u>CPL-221A-K</u>
------------------------------------	----------------------------------	--

DWG./LOC.: CPL-221A REV-0 / PIPE ALLEY

☒ VT-3 PROCEDURE: NOEP 613 ^{SP4097 ERO 5-892} REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> <u>N/A</u>
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u></u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		<u>N</u>
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		<u>A</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL:	<u>N/A</u>		
SNUBBER	ACTUAL:	<u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS
RE-EXAM AFTER REPAIR WR/JO 92-AEFF1

EXAMINER: Edward R. Dorman LEVEL: II DATE: 5-8-92

REVIEWER: Art Pinner LEVEL: II DATE: 5-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/9/92

REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares DATE: 5-12-92

VISUAL EXAMINATION DATA SHEET

 REPORT NO. 1097-1

 WR&A # N/A

 PAGE 1 OF 2

 PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221A-L</u>
--------------------	--------------------------------	-------------------------------------

 DWG./LOC.: CPL-221A, Rev 1 / PIPE ALLEY

<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097 (rev 4/1/92)</u> NDEP-613 REV.: <u>0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>
---	---

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			Top surface of Box is covered with apparent concrete residue (medium-heavy)
CORROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Upper Box weld to support steel is generally in bad condition due to lack of fill, insufficient throat and a series of gage-like suspensions over the entire length.
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: See page #2 for details concerning structural integrity.

RECORDABLE INDICATIONS

 EXAMINER: Chf Most @ LEVEL: II DATE: 4-1-92

 REVIEWER: W. P. ... LEVEL: II DATE: 4-9-92

 COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

 REVIEWED BY: Richard B. Weber 4/9/92

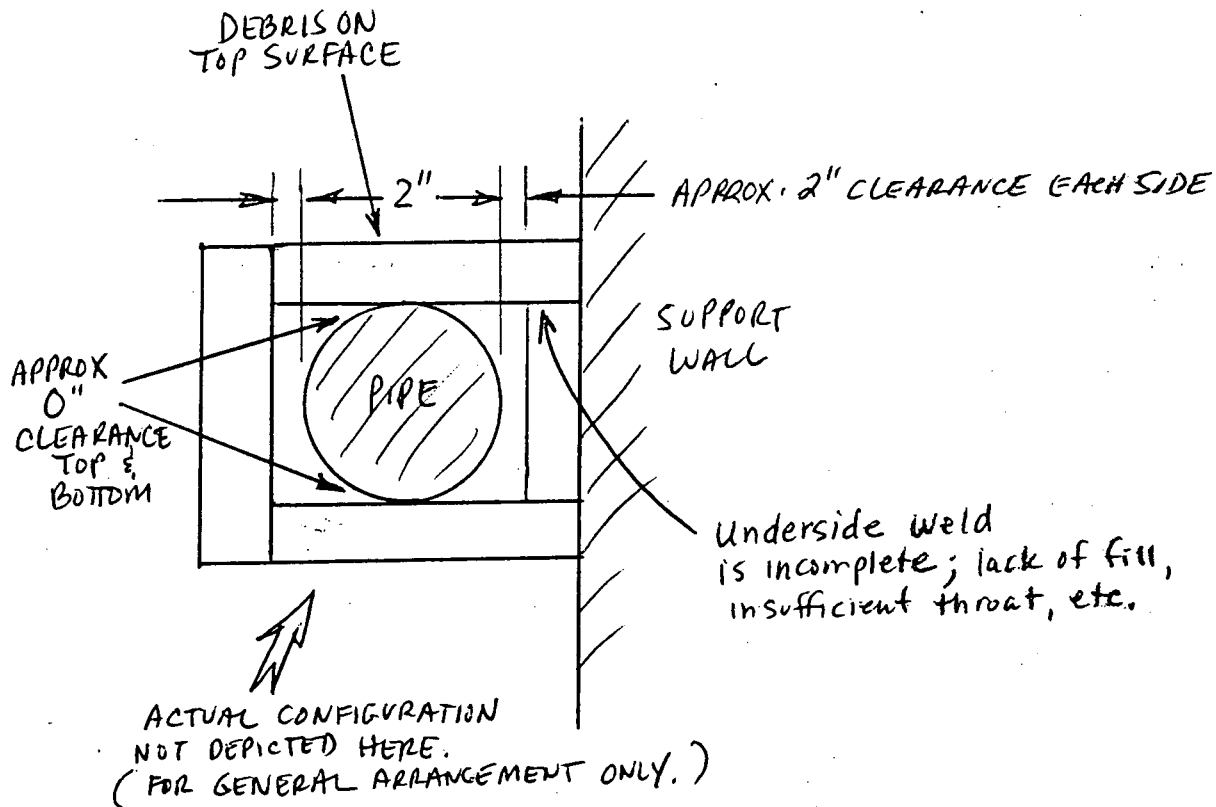
REVIEWERS COMMENTS:

 ANII REVIEW: R. Valladares

 DATE: 4-9-92

DATA SHEET NO. 1097-1EXAM ITEM CPL-221A-LISO DWG. NO. CPL-221A REV. 1

SKETCH SHEET



EXAMINER

Chiff Moss

LEVEL

II

DATE

4-1-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Richard B. Weber

LEVEL

II

DATE

4-4-92

REVIEWER

N/A4/3/92

REVIEWER

DATE

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-6

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221A-M</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL-221A, Rev 1 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CN 4-1-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u></u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
CORROSION/EROSION		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: None NO RECORDABLE INDICATIONS

EXAMINER: Chf Most CN LEVEL: II DATE: 4-1-92

REVIEWER: Art Puma LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Wiler 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Walders

DATE: 4-9-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-154

WR&A # N/A

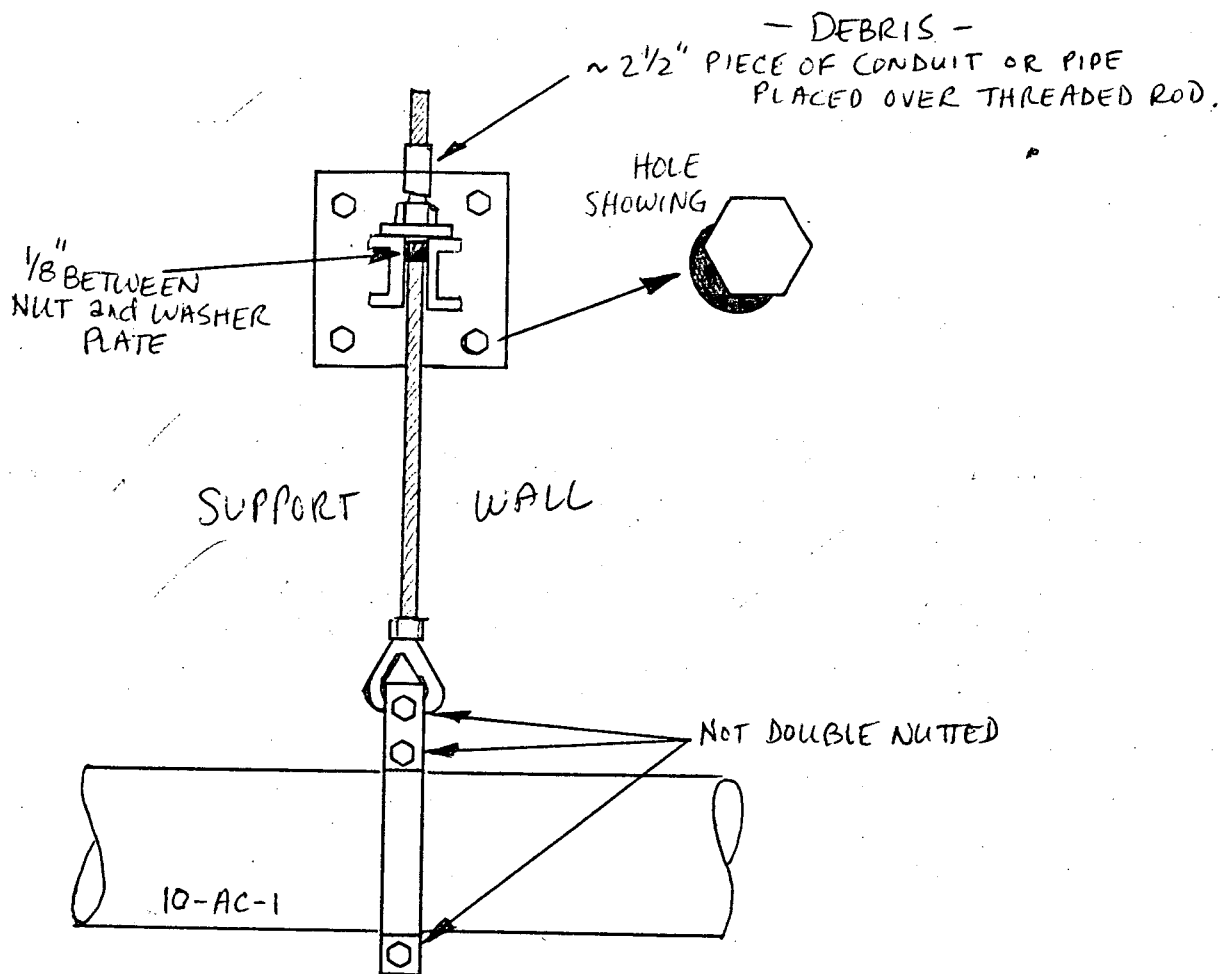
PAGE 1 OF 2

PLANT: HB ROBINSON		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: SIS & RHR RETURN		COMPONENT NAME: ROD HANGER SUPPORT	COMPONENT ID NO.: CPL-221A-N
DWG./LOC.: CPL-221A, REV 1 / PIPE ALLEY-NORTH			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: SP-1097 (CD) 4-18-92 NDEP-613 REV.: 0		<input type="checkbox"/> VT-4 PROCEDURE: 614 REV.?	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER 6" Scale		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES	<input checked="" type="checkbox"/>		See page #2 for details
MISALIGNMENT		<input checked="" type="checkbox"/>	N/A
DEBRIS	<input checked="" type="checkbox"/>		See page #2 for details
CORROSION/EROSION		<input checked="" type="checkbox"/>	N/A
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>	
ARC STRIKES/BOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A		
SNUBBER	ACTUAL: N/A	STROKE: N/A	S/N N/A
COMMENTS: RECORDABLE INDICATIONS - See page #2 for details.			
* EXPANDED SCOPE			
EXAMINER: <i>[Signature]</i>	LEVEL: II	DATE: 4-18-92	
REVIEWER: <i>[Signature]</i>	LEVEL: II	DATE: 4-20-92	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: <i>[Signature]</i> 4/22/92			
REVIEWERS COMMENTS:			
ANII REVIEW: <i>[Signature]</i> DATE: 4.23.92			

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-154
EXAM ITEM CPL-221A-N
ISO DWG. NO. CPL-221A REV. 1

SKETCH SHEET

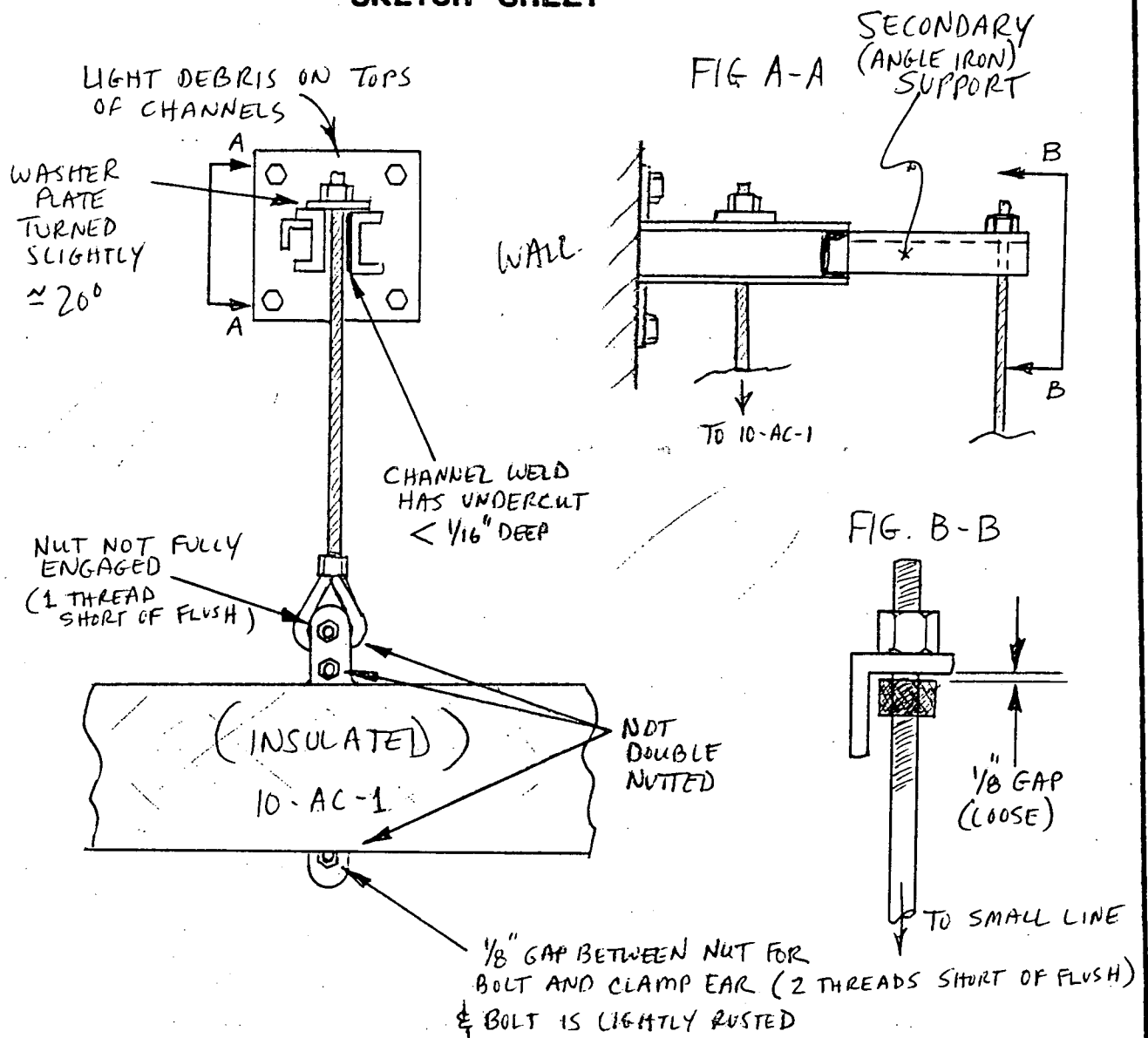


EXAMINER Chf Moss
EXAMINER N/A
REVIEWER Art Ruman
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/22/92
DATE _____

DATE 4-18-92
DATE N/A
DATE 4-20-92

SKETCH SHEET



EXAMINER Cliff Most
 EXAMINER N/A
 REVIEWER Art P...
 REVIEWER Richard B. Weber
 REVIEWER ...

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE 4/22/92
 DATE ...

DATE 4-18-92
 DATE N/A
 DATE 4-20-92

**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-8

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221A-W</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL-221A REV.0 / PIPE ALLEY

☒ VT-3 PROCEDURE: ^{SP-1097 AP-4-92} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	VIDEO RECORDING NO: _____ <input checked="" type="checkbox"/> N/A TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GONGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: W. P. ... LEVEL: II DATE: 4-1-92

REVIEWER: Edward L. ... LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/8/92

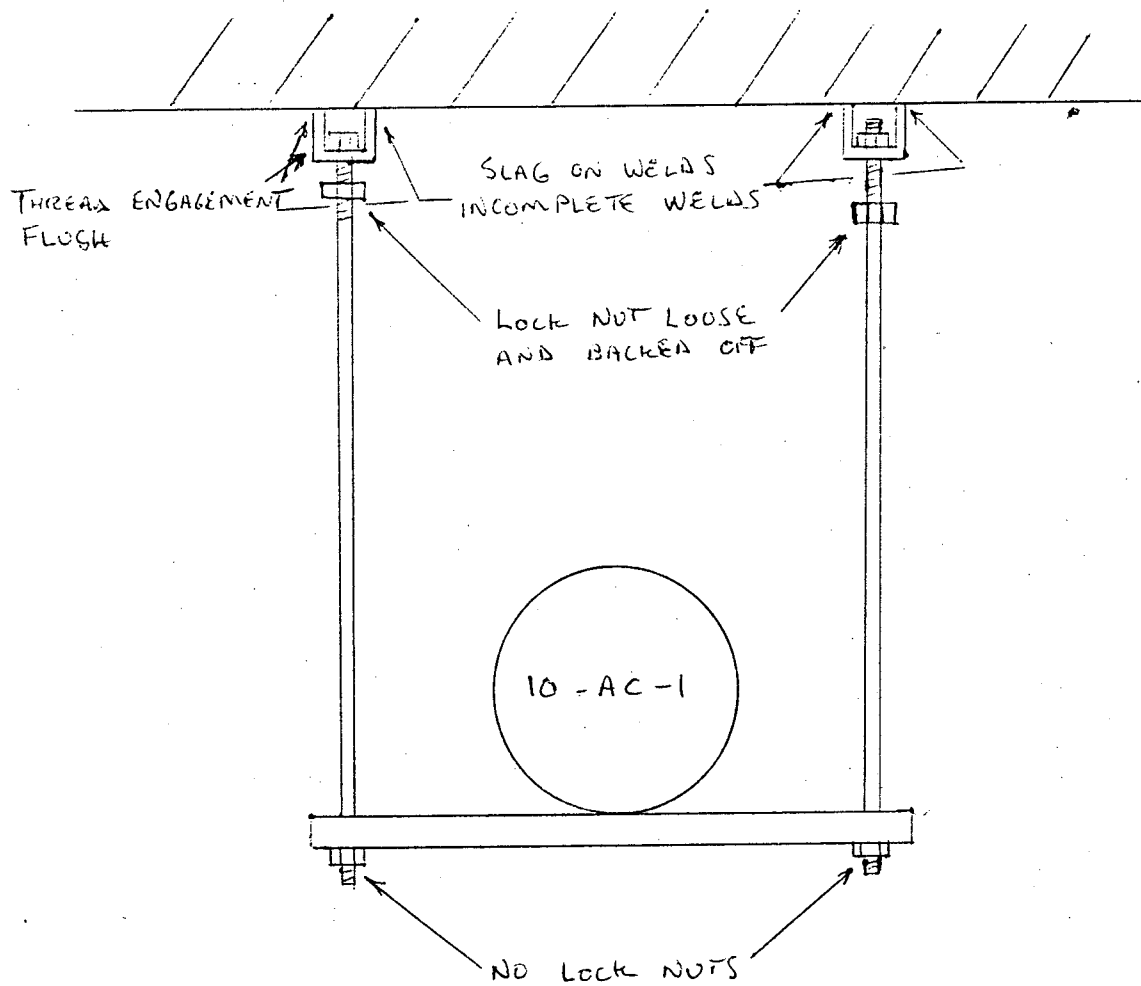
REVIEWERS COMMENTS:

ANII REVIEW: W. Valladares DATE: 4.8.92

DATA SHEET NO. _____

EXAM ITEM CPL - 221A - WISO DWG. NO. CPL - 221A REV. 0

SKETCH SHEET



EXAMINER

Art Pinner

LEVEL

II

DATE

4-1-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Edmund B. Doreau

LEVEL

II

DATE

4-4-92

REVIEWER

Richard B. Weber

LEVEL

N/A

DATE

4/3/92

REVIEWER

BN

DATE

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-7

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

RHR

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL-221A-X

DWG./LOC.: CPL-221A REV. 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097^{APR 82} NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SHEET</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SHEET</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Purnan

LEVEL: IF

DATE: 4-1-92

REVIEWER: Edmund R. Norman

LEVEL: IF

DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/8/92

REVIEWERS COMMENTS:

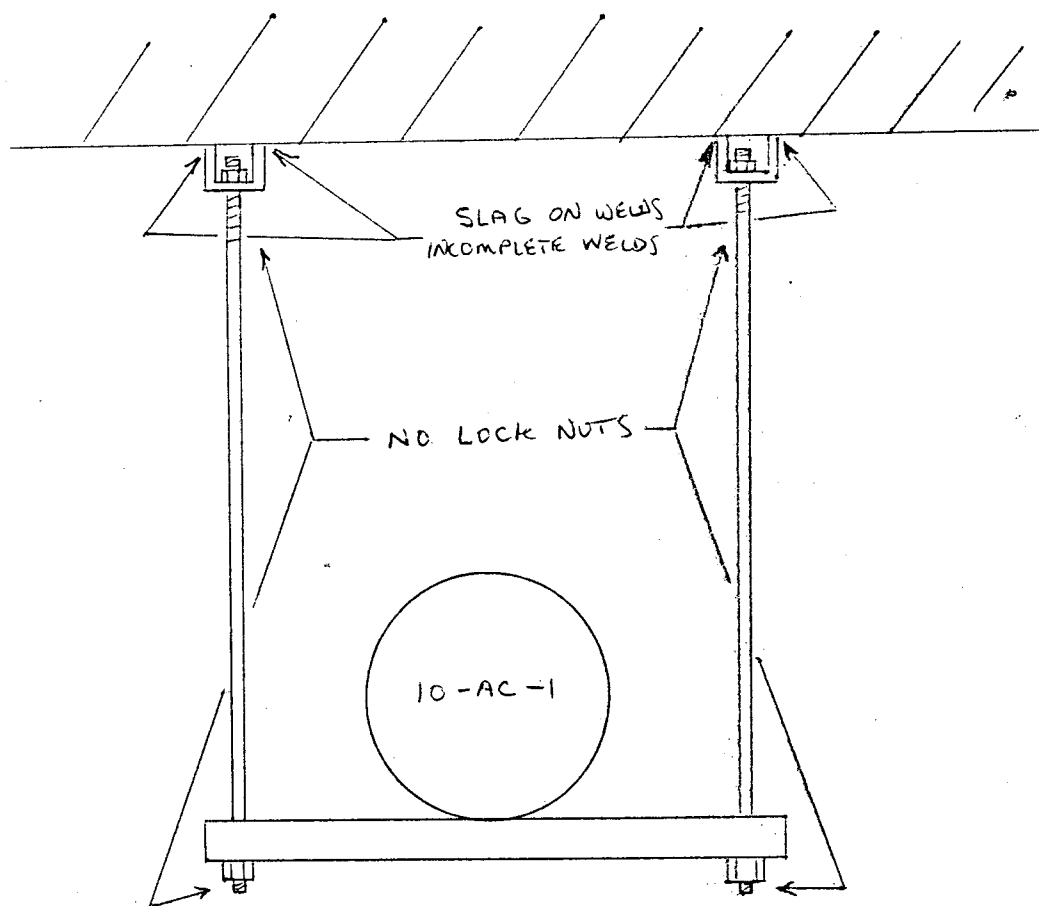
ANII REVIEW: R. Malladene

DATE: 4-8-92

DATA SHEET NO. _____

EXAM ITEM CPL-221A-XISO DWG. NO. CPL-221A REV. 0

SKETCH SHEET



EXAMINER	<u>At P. P. P.</u>	LEVEL	<u>III</u>	DATE	<u>4-1-92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Edmund R. Dawson</u>	LEVEL	<u>II</u>	DATE	<u>4-4-92</u>
REVIEWER	<u>Richard B. Weber</u>	LEVEL	<u>N/A</u>	DATE	<u>4/7/92</u>
REVIEWER	_____	DATE	_____		

VISUAL EXAMINATION DATA SHEET

REPORT NO. 109770

WR&A # N/A

PAGE 1 OF 2

PLANT: AB ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

RHR

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL-221A-Y

DWG./LOC.: CPL-221A REV.0 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP-1097 AP 4-8-92
NDEP-613 REV.: 0

[] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR
[] OTHER _____

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHED SKETCH
MISALIGNMENT	✓			SUPPORT IS DISPLACED APPROX. 10° UPSTREAM
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-1-92

REVIEWER: Edmund R. Dornan LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/8/92

REVIEWERS COMMENTS:

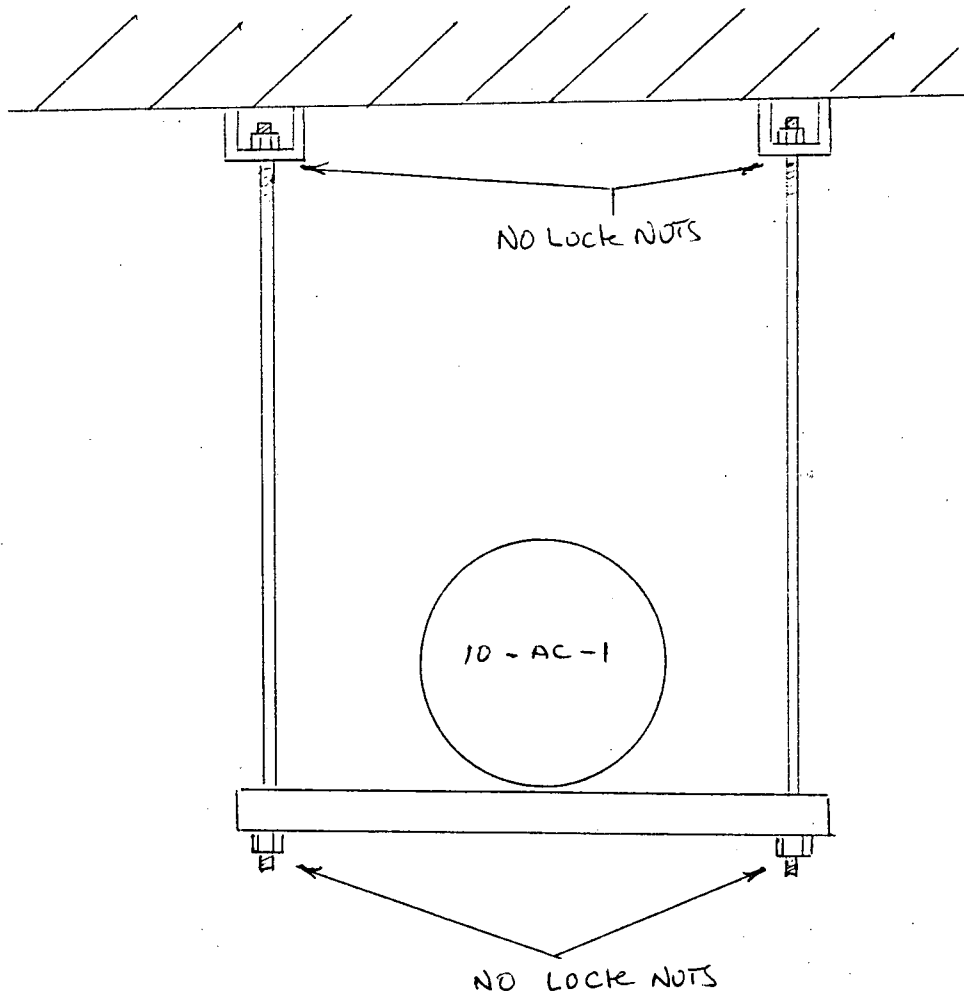
ANII REVIEW: AP Walladone

DATE: 4-8-92

DATA SHEET NO. _____

EXAM ITEM CPL-221A-YISO DWG. NO. CPL-221AREV. 0

SKETCH SHEET



EXAMINER

Art PumaLEVEL IIDATE 4-1-92

EXAMINER

N/ALEVEL N/ADATE N/A

REVIEWER

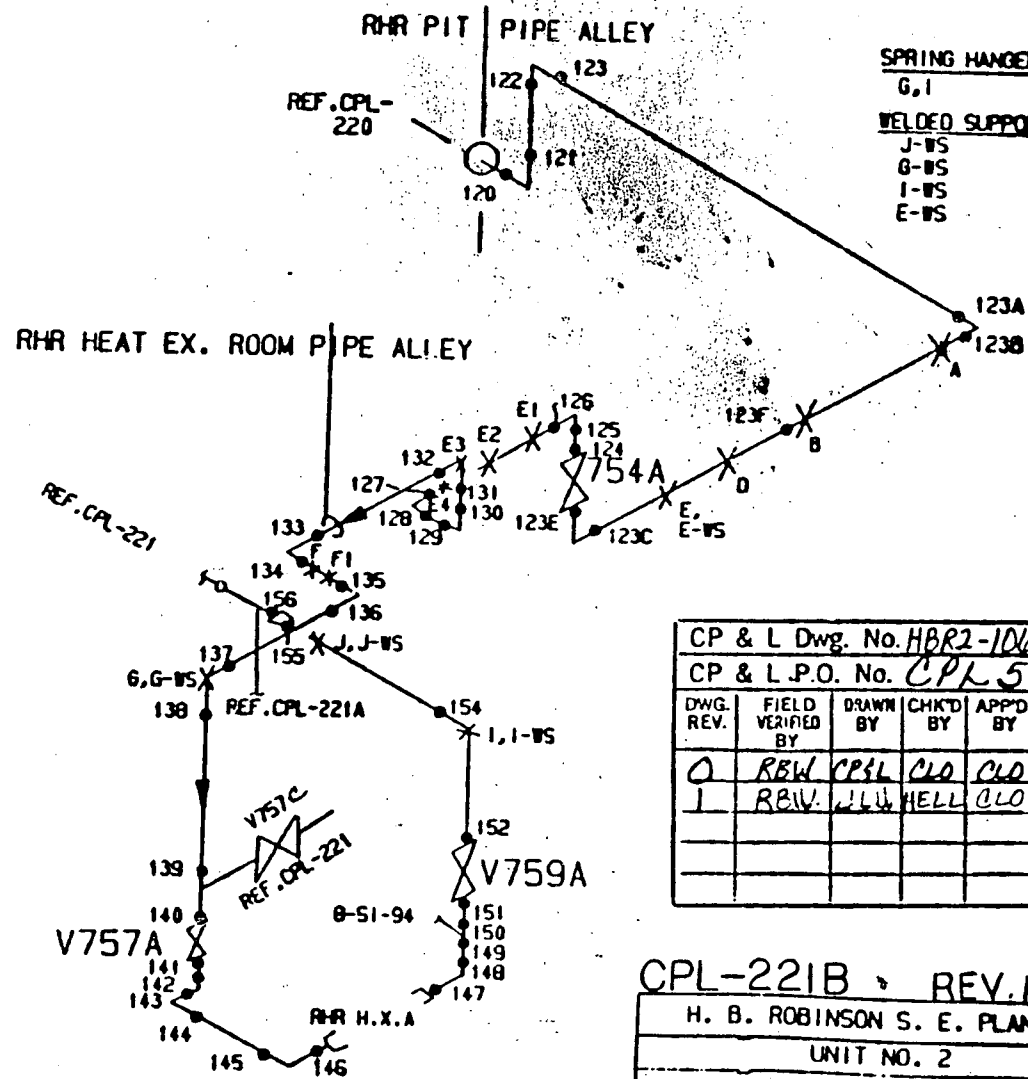
Edward R. DonovanLEVEL IIDATE 4-4-92

REVIEWER

Richard B. WeberLEVEL N/ADATE 4/7/92

REVIEWER

DATE _____



SPRING HANGERS
G, I

WELDED SUPPORTS
J-WS
G-WS
I-WS
E-WS

CP & L Dwg. No. <i>HBR2-10618 SH. 84</i>					
CP & L P.O. No. <i>CPL 51</i>					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHKD BY	APPD BY	DATE
0	RBW	CPL	CLO	CLO	12/12/89
1	RBW	JLU	HELL	CLO	5/11/91

CPL-221B - REV. 1

H. B. ROBINSON S. E. PLANT

UNIT NO. 2

DESCRIPTION: SIS & RHR RETURN

CONTROLLED
RCPT ID *296*

DCR 91-158

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-304

WR&A # _____

PAGE 1 OF 1

PLANT: HBR

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

SI

COMPONENT

NAME: Support

COMPONENT

ID NO.: 221B-A

DWG./LOC.: CPA-221B-R/O / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 NDEP-613 REV.: 0

☐ VT-4 PROCEDURE: N/A 614 REV.: 0

DIRECT ☒ REMOTE ☐

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☐ MIRROR

☒ OTHER 6' SCALE

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION
Present

YES

NO

N/A

COMMENTS

FASTENING DEVICES

☒

MISALIGNMENT

☒

DEBRIS

☒

CORROSION/EROSION

☒

STRUCTURAL INTEGRITY

☒

RESISTANCE TO MOVEMENT

☒

CLEARANCES OF MOVING PARTS

☒

ARC STRIKES/GOUGES

☒

VARIABLE/CONSTANT SUPPORT

ACTUAL: N/A

SNUBBER

N/A

ACTUAL: N/A

STROKE: N/A

S/N N/A

COMMENTS: REINSPECTION FOR CLEARANCES TOP 3/8" BOTTOM 0" PER NER
RECORDABLE INDICATION

EXAMINER:

LEVEL: 5-22-92 II DATE: 5-22-92

REVIEWER:

LEVEL: 5-22-92 II DATE: 5-22-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/22/92

VIEWS COMMENTS:

ANII REVIEW: R. M. Halladanes

DATE: 6.2.92

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-7

WR&A # N/A

PAGE 1 OF 1

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221B-A</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL 221B REVO / PIPE ALLEY

[X] VT-3 PROCEDURE: ^{SP 1097 APY-8-92}~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS	✓			INSULATION DEBRIS LOCATED ON TOP OF SUPPORT
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Purnan LEVEL: II DATE: 4-1-92

REVIEWER: Edward R. Donagan LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard D. Weber 4/8/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladores DATE: 4-8-92

VISUAL EXAMINATION DATA SHEET

 REPORT NO. 1097-4

 WR&A # N/A

 PAGE 1 OF 2

 PLANT: HB ROBINSON UNIT 1 1 2 1 PSI 1 1 1

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221B-B</u>
--------------------	--------------------------------	-------------------------------------

 DWG./LOC.: CPL-221B Rev 1 / PIPE ALLEY

<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097 (CP 4-1-92)</u> NOEP-613 REV.: <u>0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614</u> REV.:
--	---

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
---	---

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>10th scale</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT	<input checked="" type="checkbox"/>			Support is bent slightly (approx 5-10°) downward and in the direction of flow.
DEBRIS		<input checked="" type="checkbox"/>		N/A
CORROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Upper weld of "C" shape to structural steel is generally bad; undercut, lack of fill (upper 1/2)
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: See page #2 for details of misalignment and structural integrity.

RECORDABLE INDICATIONS

 EXAMINER: Chf Moss @ LEVEL: II DATE: 4-1-92

 REVIEWER: Art Puma LEVEL: II DATE: 4-9-92

 COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

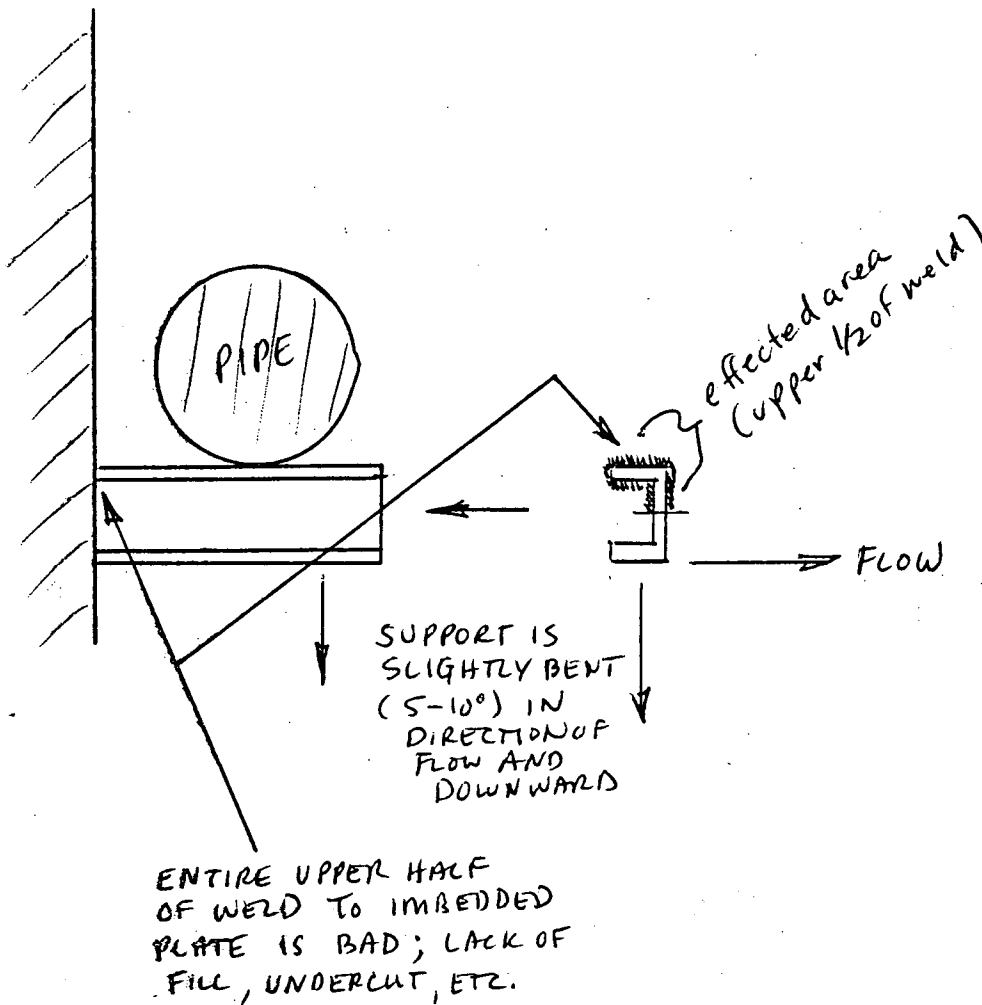
 REVIEWED BY: Richard D. Weber 4/9/92

REVIEWERS COMMENTS:

 ANII REVIEW: R Palladanes DATE: 4-9-92



SKETCH SHEET



EXAMINER	<u>Chiff Mass</u>	EVAL	<u>II</u>	DATE	<u>4-1-92</u>
EXAMINER	<u>N/A</u>	EVAL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Rich P...</u>	EVAL	<u>II</u>	DATE	<u>4-4-92</u>
REVIEWER	<u>Richard B. Weber</u>	EVAL	<u>N/A</u>	DATE	<u>4/3/92</u>
REVIEWER	_____	EVAL	_____	DATE	_____

(Signature)

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-3

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: RHR COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-221B-D

DWG./LOC.: CPL-221B Rev 1 / PIPE ALLEY

X VT-3 PROCEDURE: SP-1097 EN 4-1-92 NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR
X OTHER 10th scale

TYPE OF COMPONENT SUPPORT:
1 1 HYDRAULIC SNUBBER 1 1 CONSTANT SUPPORT
1 1 MECHANICAL SNUBBER 1 1 VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	<u>N/A</u>
MISALIGNMENT	<u>X</u>			<u>Support is bent slightly (approx 5-10°) downward and in direction of flow.</u>
DEBRIS		<u>X</u>		<u>N/A</u>
CORROSION/EROSION		<u>X</u>		
STRUCTURAL INTEGRITY	<u>X</u>			<u>Upper weld of "C" shape to imbedded plate has large area of undercut on underside.</u>
RESISTANCE TO MOVEMENT			<u>X</u>	
CLEARANCES OF MOVING PARTS			<u>X</u>	<u>N/A</u>
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: See page #2 for details of misalignment, structural integrity, and questionable condition.

RECORDABLE INDICATIONS

EXAMINER: Chiff Moss CP LEVEL: II DATE: 4-1-92

REVIEWER: W. Pinner LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: 1 1 SATISFACTORY 1 1 UNSATISFACTORY

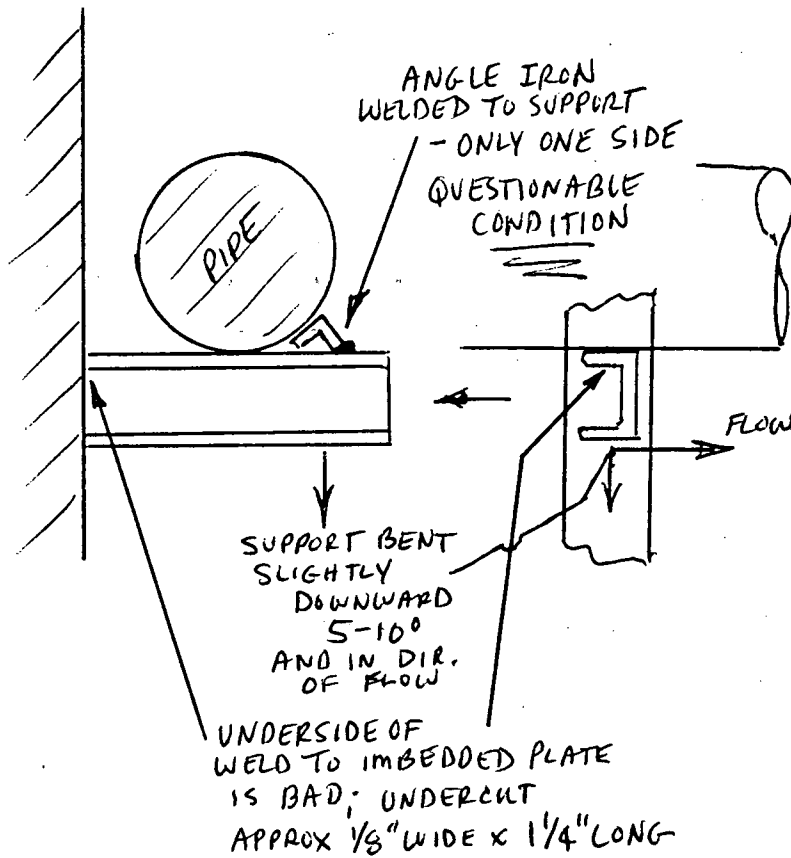
REVIEWED BY: Richard B. Weber 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares

DATE: 7-9-92

SKETCH SHEET



EXAMINER	<u>Cliff Moss</u>	LEVEL	<u>II</u>	DATE	<u>4-1-92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Carl Pungen</u>	LEVEL	<u>II</u>	DATE	<u>4-4-92</u>
REVIEWER	<u>Richard B. Weber</u>	LEVEL	<u>N/A</u>	DATE	<u>4/3/92</u>
REVIEWER		DATE			

dm

PLANT: HB ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:	RHR	COMPONENT NAME:	SUPPORT	COMPONENT ID NO.:	CPL-221B-E
---------	-----	-----------------	---------	-------------------	------------

DWG./LOC.: CPL-221B Rev 1 / PIPE ALLEY

SP-1097 (en) 4-1-92
 [X] VT-3 PROCEDURE: ~~NDEP-613~~ REV.: O [] VT-4 PROCEDURE: 614 REV.: []

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> OTHER _____		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION
Present

YES	NO	N/A
-----	----	-----

COMMENTS

FASTENING DEVICES

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

RESISTANCE TO MOVEMENT

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

VARIABLE/CONSTANT SUPPORT	ACTUAL:	N/A
---------------------------	---------	-----

SNUBBER	N/A	ACTUAL: N/A	STROKE: N/A	S/N N/A
---------	-----	-------------	-------------	---------

COMMENTS: Conditions listed above do NOT appear to effect structural integrity.

RECORDABLE INDICATIONS

EXAMINER: Chas Moss (CN) LEVEL: II DATE: 4-1-92

REVIEWER: John P. ... LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☒ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: *Richard B. Weber* 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: *R. Valledares*

DATE: 4-9-92

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-43 4/92

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 1 1 12 1 PSI ISI
SYSTEM: RHR COMPONENT NAME: WELDED SUPPORT COMPONENT ID NO.: CPL-221B-E-WS

DWG./LOC.: CPL-221B, Rev 1 / PIPE ALLEY

VT-3 PROCEDURE: SP-1097 CP 4-1-92 NDEP-613 REV.: 0 VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: None NO RECORDABLE INDICATIONS

EXAMINER: Cliff Moss CR LEVEL: II DATE: 4-1-92

REVIEWER: Bert Turner DR LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/10/92

REVIEWERS COMMENTS: < 3/4" T

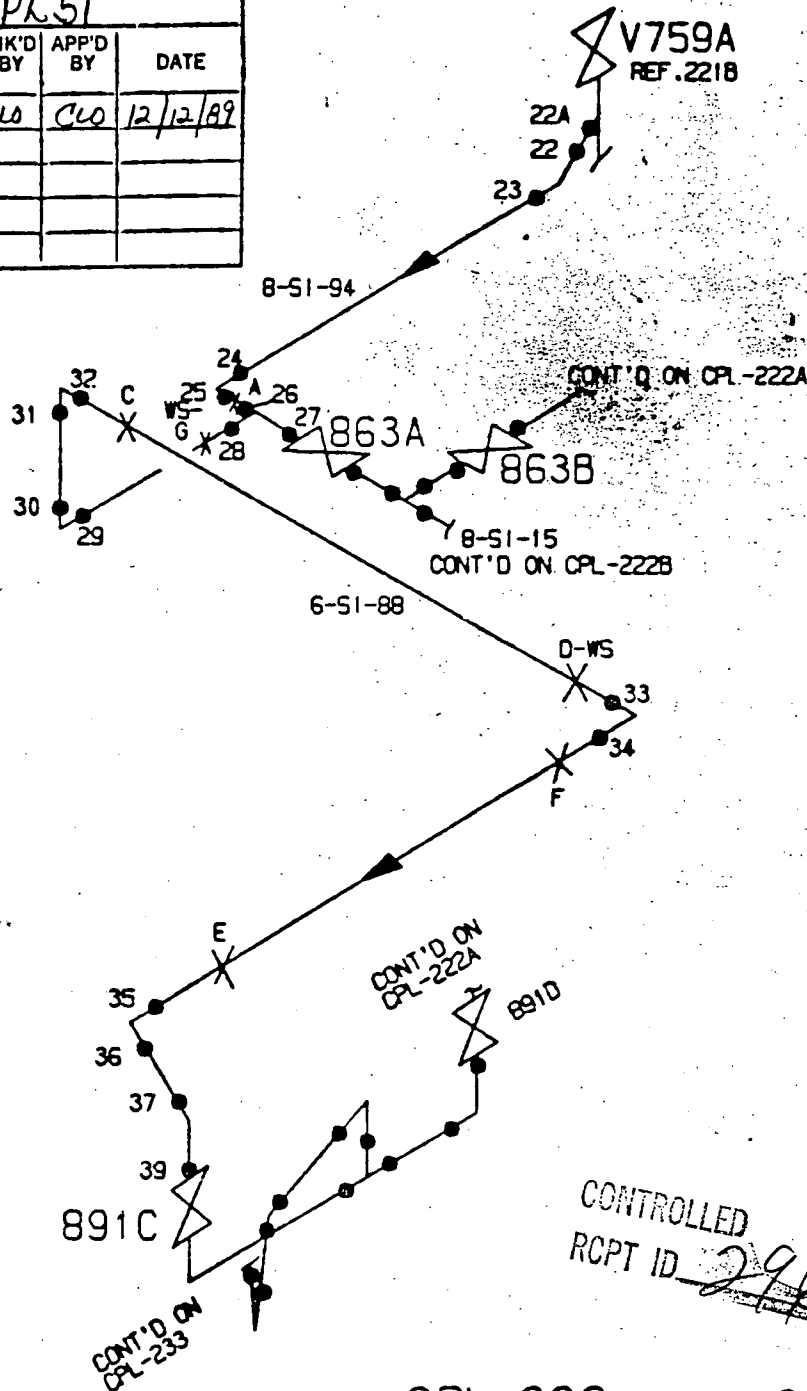
ANII REVIEW: R. Valladares

DATE: 4-10-92

WELDED SUPPORTS

G-WS
D-WS

CP & L Dwg. No. HBR2-10618 SH. 85					
CP & L P.O. No. CPL 51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	RBW	CPL	CLD	CLD	12/12/89



CPL-222 REV. 0

H.B. ROBINSON S.E. PLANT		C P & L
UNIT NO. 2		
DESCRIPTION:		
LINE NO. 6-SI-84	CPL- 222 REV. 0	

I certify that the image contained on this frame was made in the normal and regular course of business on the date



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-87

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-222-A</u>
---------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-222, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 (CN 4-10-92) NDP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER _____	<input checked="" type="checkbox"/> MIRROR	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER	<input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
---	--	---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bottom clamp bolt not double notted. N/A
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATION - see page #2 for details
This exam report supplements 1097-86 which was examined before blanket removal.

EXAMINER: Chiff Moss (CN) LEVEL: II DATE: 4-10-92

REVIEWER: Art Purner LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

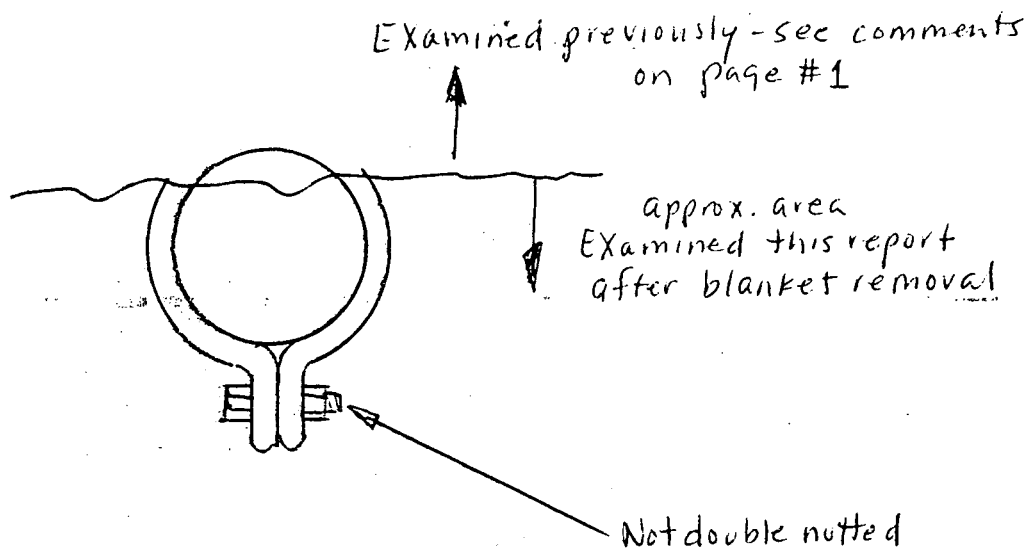
REVIEWERS COMMENTS:

ANII REVIEW: AP Valladone DATE: 4-15-92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-87
EXAM ITEM CPL-222-A
ISO DWG. NO. CPL-222 REV. 0

SKETCH SHEET



EXAMINER

Chiff Moss
N/A

LEVEL

II

DATE

4-10-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Joe Purnell
Richard B. Weber

LEVEL

II

DATE

4-11-92

REVIEWER

DATE

4/14/92

REVIEWER

DATE

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-26

WR&A # N/A

PAGE 1 OF 2

PLANT: H3 ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-222-A

DWG./LOC.: CPL-222, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097, CN 4-4-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER _____
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thread engagement, clamp bolts not double nutted, turnbuckle. See page #2 for details.
MISALIGNMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Clevis forced to one side of clamp bolt.
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>N/A</u>
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>N/A</u>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insufficient thread engagement in turnbuckle and questionable (weld missing) condition.
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>N/A</u>
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>N/A</u>
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>N/A</u>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

This exam report supplemented by 1097-87 for exam after blanket removal.

EXAMINER: Cliff Moss (CN) LEVEL: II DATE: 4-4-92

REVIEWER: Edward R. Dorman (DN) LEVEL: # DATE: 4-10-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

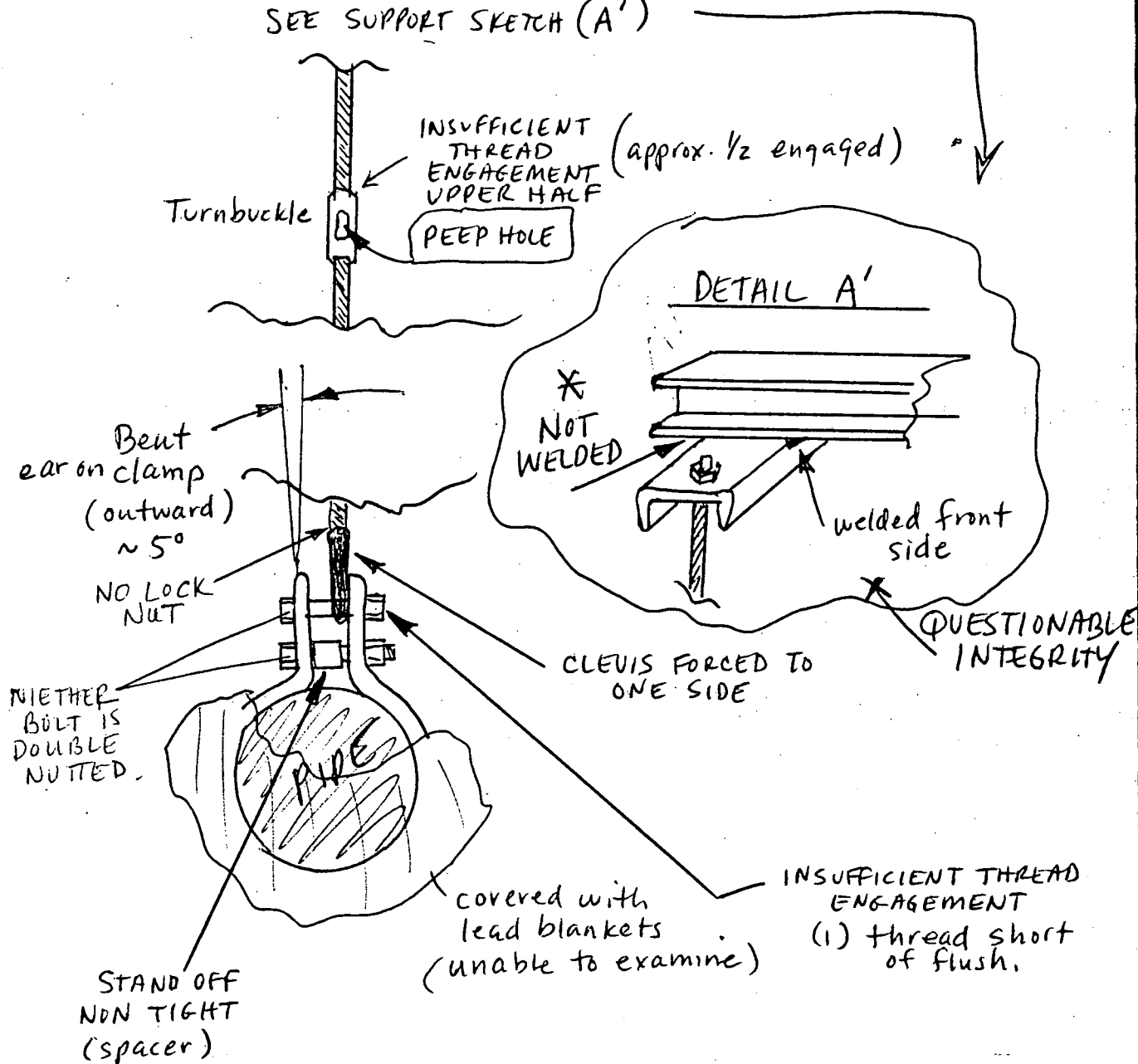
REVIEWERS COMMENTS:

ANII REVIEW: AP Valladane

DATE: 4.15.92

SKETCH SHEET

SEE SUPPORT SKETCH (A')



EXAMINER

Cliff Moss

EXAMINER

N/A

REVIEWER

Charles R. Duncan

REVIEWER

Richard B. Weber

REVIEWER

LEVEL

II

LEVEL

N/A

LEVEL

II

DATE

4/14/92

DATE

DATE

4-4-92

DATE

N/A

DATE

4-6-92

QW

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-156

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: SAFETY INJECTION COMPONENT NAME: ROD HANGER SUPPORT COMPONENT ID NO.: CPL-222-C

DWG./LOC.: CPL-222/Rev 0 1 PIPE ALLEY - CENTER

☒ VT-3 PROCEDURE: SP-1097 @ 4-18-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☒ OTHER 6" Scale

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No double nuts or jamb nuts
MISALIGNMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Skewed rod, bent clamp ear } see page # 2
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Support lug bent - see pg # 2
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL:			
SNUBBER	ACTUAL:		STROKE:	S/N

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details

* EXPANDED SCOPE

EXAMINER: Chf Mass @ LEVEL: II DATE: 4-18-92

REVIEWER: Art P... LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

REVIEWERS COMMENTS:

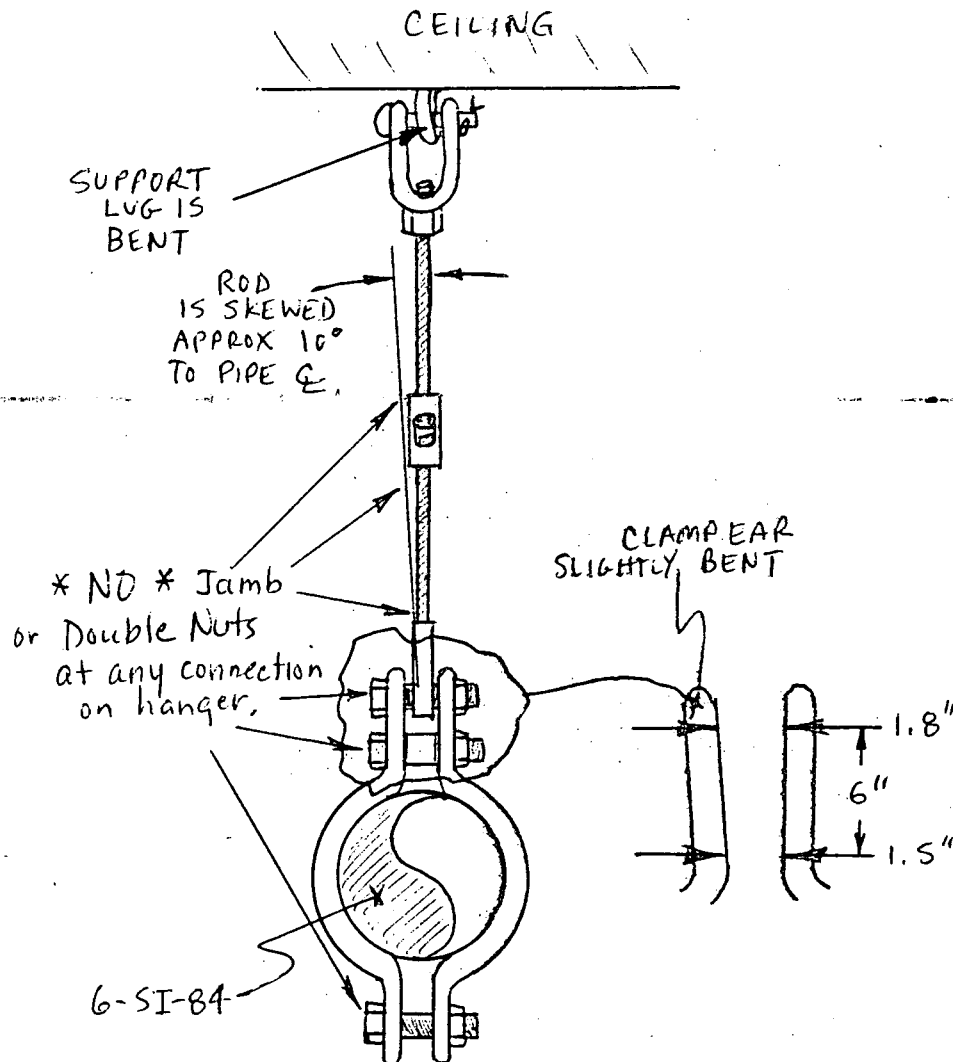
ANII REVIEW: R. Walladau

DATE: 4-23-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-156EXAM ITEM CPL - 222 - CISO DWG. NO. CPL - 222 REV. 0

SKETCH SHEET

EXAMINER Cliff MossEXAMINER N/AREVIEWER Carl PinnerREVIEWER Richard B. WeberREVIEWER AMLEVEL IILEVEL N/ALEVEL IIDATE 4/22/92DATE DATE 4-18-92-DATE N/ADATE 4-20-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097 ¹⁴⁸⁰ ~~42~~ 4/92

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-222-G

DWG./LOC.: CPL-222, Rev 0 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP-1097 ^{CD} 4-4-92 ~~NDEP-613~~ REV.: C [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [] MIRROR TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	
MISALIGNMENT		X		N/A
DEBRIS		X		
CORROSION/EROSION		X		
STRUCTURAL INTEGRITY	X			See page #2 for details of bad weld.
RESISTANCE TO MOVEMENT		X		
CLEARANCES OF MOVING PARTS		X		N/A
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: See page #2 for details of structural integrity and inadequate clearances. RECORDABLE INDICATIONS

EXAMINER: *Chiff Moss* ^{CD} LEVEL: II DATE: 4-4-92

REVIEWER: *Edmund R. Darrow* LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

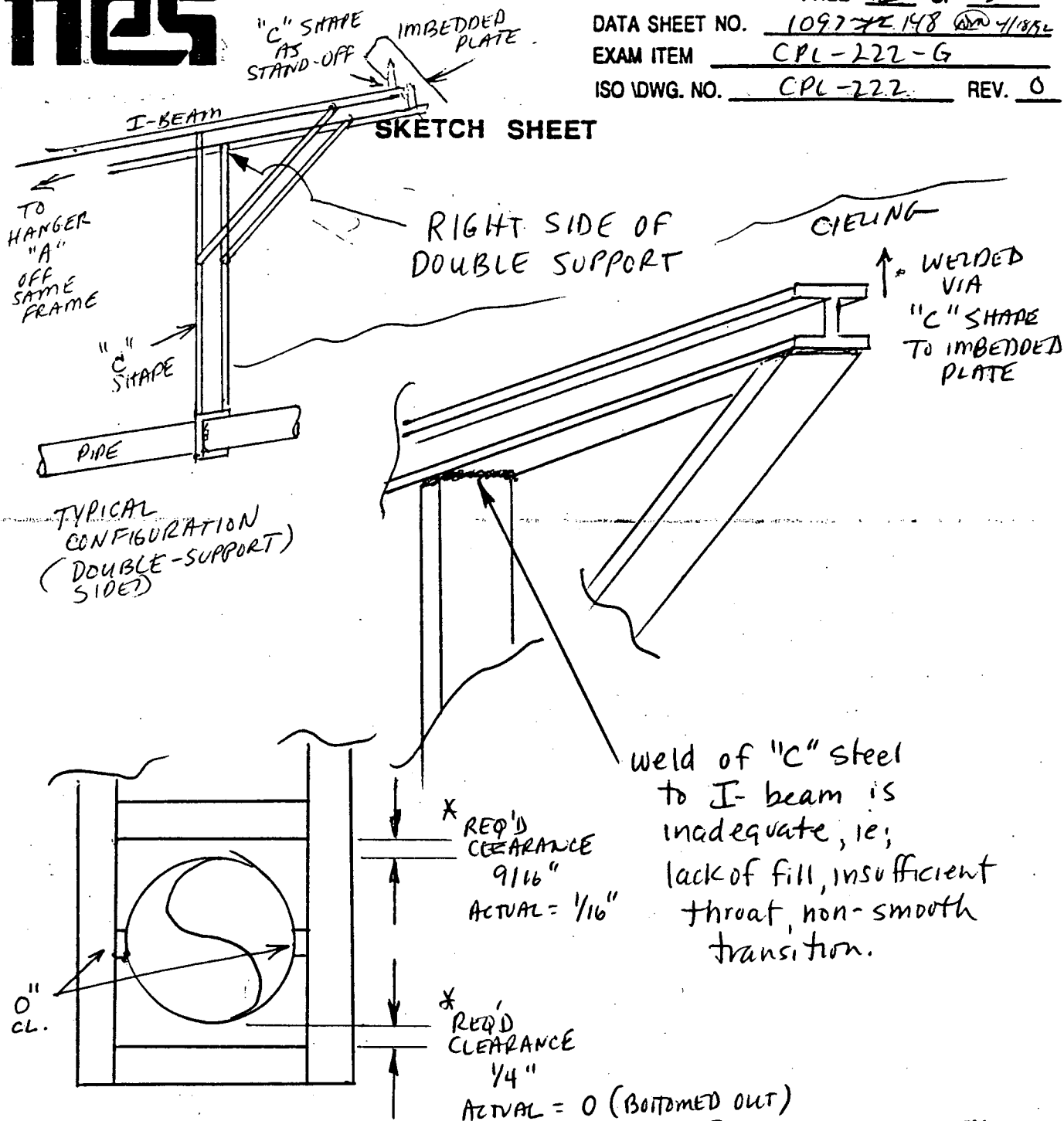
REVIEWED BY: *Richard B. Selzer* 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: *A. Valladares*

DATE: 4-9-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097 XE 148 4/18/92EXAM ITEM CPL-222-GISO DWG. NO. CPL-222 REV. 0

* REQ'D CLEARANCES PER SI-20A-8413

REFER TO SITE MEMO
TSE-92-BE, Item #10

EXAMINER

Chiff Moss

LEVEL

II

DATE

4-4-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Edmund K. Brown

LEVEL

II

DATE

4-8-92

REVIEWER

Richard B. Weber

DATE

4/9/92

REVIEWER

DATE

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-242

WR&A # NA

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: SI COMPONENT NAME: INTEGRAL ATTACHMENT WELD COMPONENT ID NO.: CPL-222-WS-G

DWG./LOC.: CPL-222 REV-0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP 1097 ERD 430-92 NDP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER _____

TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>NA</u>			
SNUBBER	ACTUAL: <u>NA</u> STROKE: <u>NA</u> SIN <u>NA</u>			

COMMENTS: NO RECORDABLE INDICATIONS. SEE PAGE 2 FOR MORE INFORMATION

EXAMINER: Edmund R. Duman LEVEL: II DATE: 4-30-92

REVIEWER: Art P. ... APD LEVEL: II DATE: 5-2-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/2/92

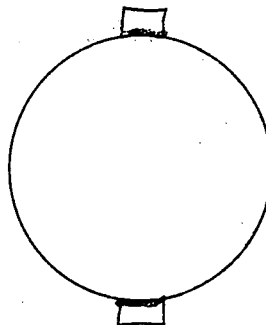
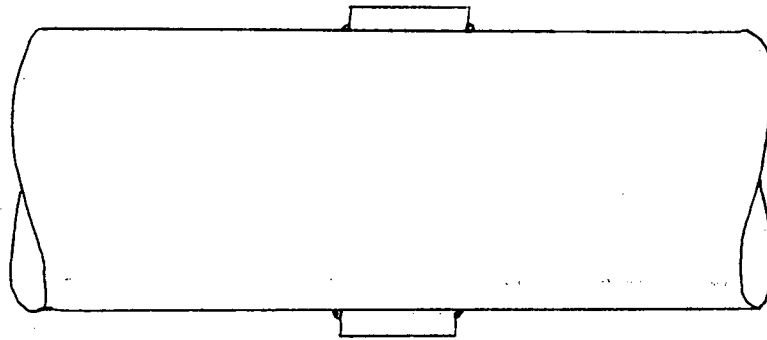
REVIEWERS COMMENTS:

ANII REVIEW: CP Waller DATE: 5-4-92

1725

PAGE 2 OF 2
DATA SHEET NO. 1097-242
EXAM ITEM CPL 222-WS-6
ISO DWG. NO. CPL 222 REV. 0

SKETCH SHEET



LUGS STILL EXIST ON
PIPE. BUT SUPPORT CPL-222-6
HAS BEEN REMOVED AND
REPLACED WITH 2
STRUTS ONE VERTICAL
AND ONE ~~HORIZONTAL~~ ^{END} 4-30-92
HORIZONTAL

EXAMINER Charles R. Down
EXAMINER NA
REVIEWER John P. Pincus
REVIEWER Richard B. Helms
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE 5/2/92
DATE _____

DATE 4-30-92
DATE NA
DATE 5-1-92

DATA SHEET NO. 1095-11
THERMOMETER S/N JL9101
TEMPERATURE 85 ° F
NOMINAL THICKNESS .34 INCHES *
MATERIAL STAINLESS STEEL
SS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP-1095 ¹⁰⁹⁵ ₄₋₉₋₉₂
REVISION 0 F.C. NO. N/A
PAGE 1 OF 2

*(MEASURED ULTRASONICALLY)

SYSTEM EXAMINED SAFETY INJECTION ISO/DWG/SK. # CPL-222 REVISION 0

DATUM POINT REFERENCE BOTTOM RIGHT CORNER OF LUG (SEE PAGE #2)

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
CPL-222-WS-G (WELDED LUGS)	RIGHT LUG (LOOKING AT VALVE V863A) : (1) 1/64" Rounded indication at pipe side toe of weld, 3/8" from datum (see page #2)	N A	N/A
N/A			

EXAMINER Cliff Moss ^{CR}
EXAMINER N/A
REVIEWER Edmund R. Donovan
F. VER Richard B. Weber
REVIEWER

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE

DATE 4-8-92 ⁹ ₄₋₉₋₉₂ ^{CR}
DATE N/A
DATE 4-10-92

ANTI RP Valladene 4.15.92

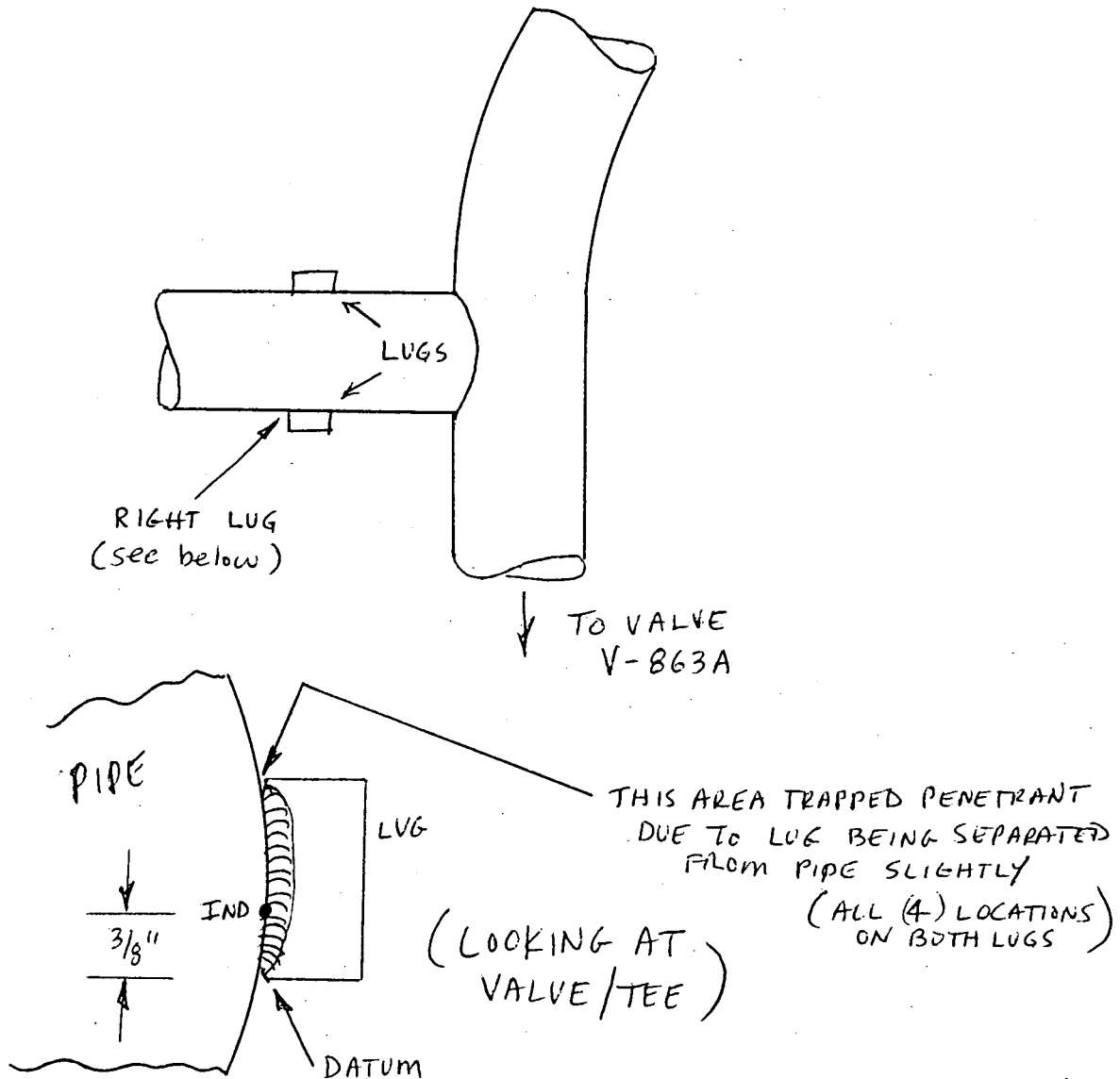
nes

NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 2 OF 2DATA SHEET NO. 1095-11EXAM ITEM CPL-222-WS-GISO DWG. NO. CPL-222 REV. 0

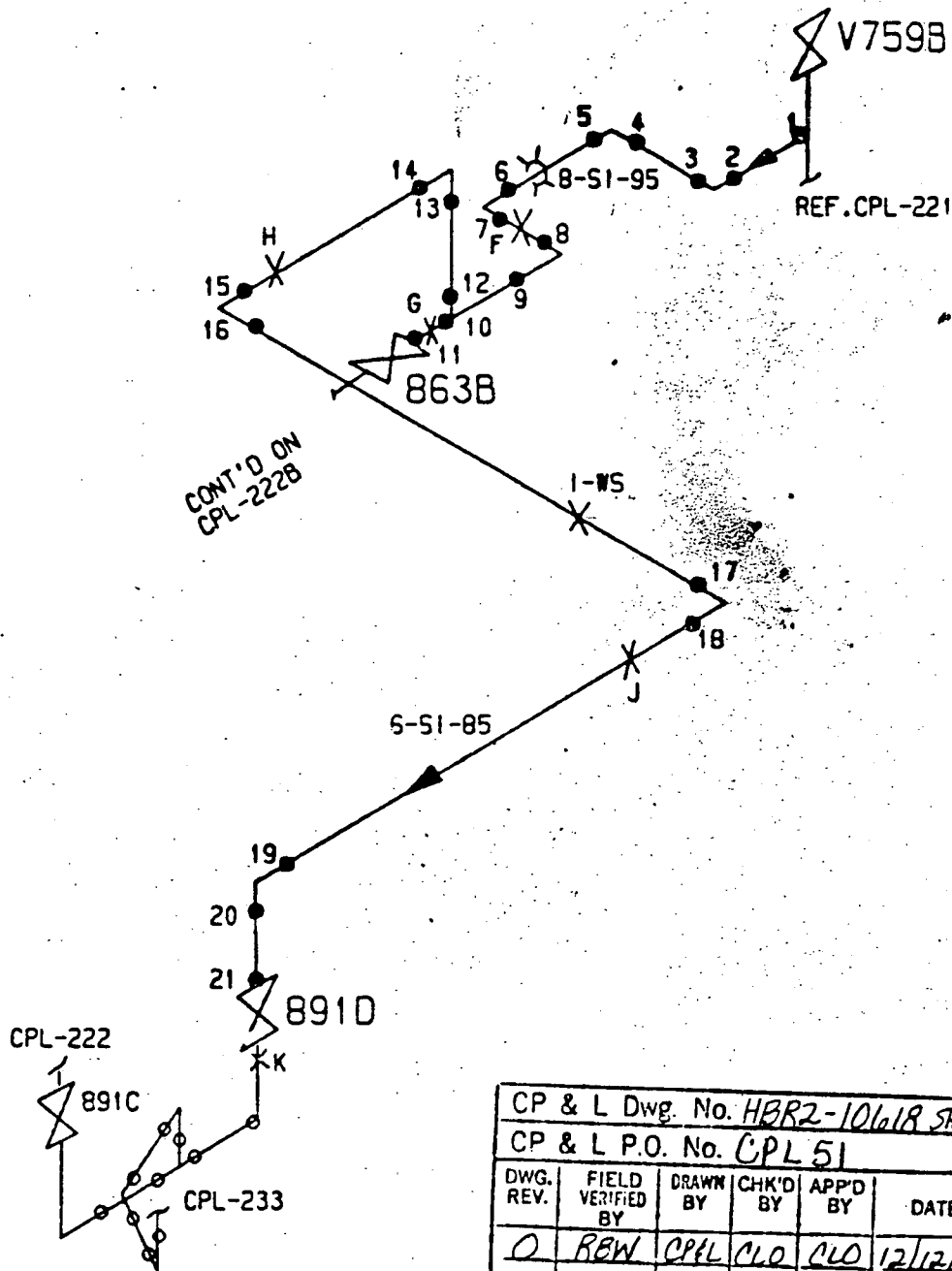
SKETCH SHEET



EXAMINER Cliff Moss
EXAMINER N/A
REVIEWER Edmund R. Donovan
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE _____

DATE 4-9-92
DATE N/A
DATE 4-10-92



CP & L Dwg. No. HBR2-10618 SH 86					
CP & L P.O. No. CPL 51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	REW	CPL	CLO	CLO	12/12/89

CONTROLLED
RCPT ID 296

CPL-222A REV.0

H.B. ROBINSON S.E. PLANT	C P & L
UNIT NO. 2	
DESCRIPTION:	
LINE NO. 6-SI-85	
CPL-222A REV.	L

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-32

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-222A-F

DWG./LOC.: CPL-222A, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 (CN 4-4-92) ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☐ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☐ FLASHLIGHT ☐ MIRROR ☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT

☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS			<input checked="" type="checkbox"/>	
CORROSION/EROSION			<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			This support is missing. A saddle is welded to the pipe and Hilti bolt holders are in the wall
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	N/A	ACTUAL: N/A	STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION - see page #2 for details

EXAMINER: Cliff Moss @ LEVEL: II DATE: 4-4-92

REVIEWER: Edmund L. Donora LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard A. Weber 4/9/92

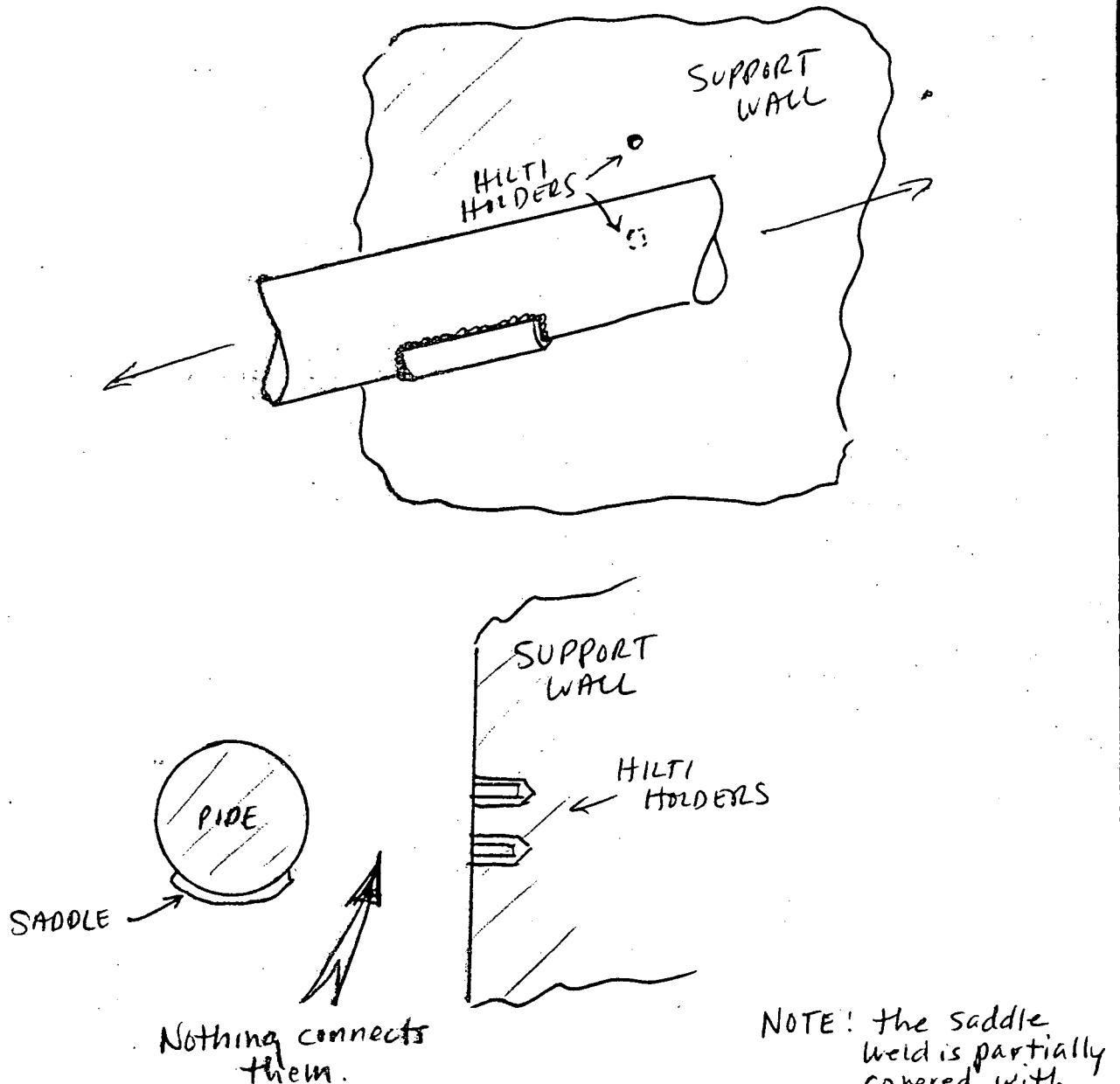
REVIEWERS COMMENTS:

ANII REVIEW: AP Valladares DATE: 4-9-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-32 ED 4-4-92EXAM ITEM CPL-222A-A-FISO DWG. NO. CPL-222A REV. 0

SKETCH SHEET



NOTE: the saddle weld is partially covered with a lead blanket. (It should be removed for proper inspection)

EXAMINER Chiff Mass

EXAMINER N/A

REVIEWER Edmund R. Dorey

REVIEWER Richard B. Weber

REVIEWER AW

LEVEL II

LEVEL N/A

LEVEL II

DATE 4/9/92

DATE _____

DATE 4-4-92

DATE N/A

DATE 4-6-92 BRO 4-8-92

CP&L

Carolina Power & Light Company
VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-88

WR&A # N/A

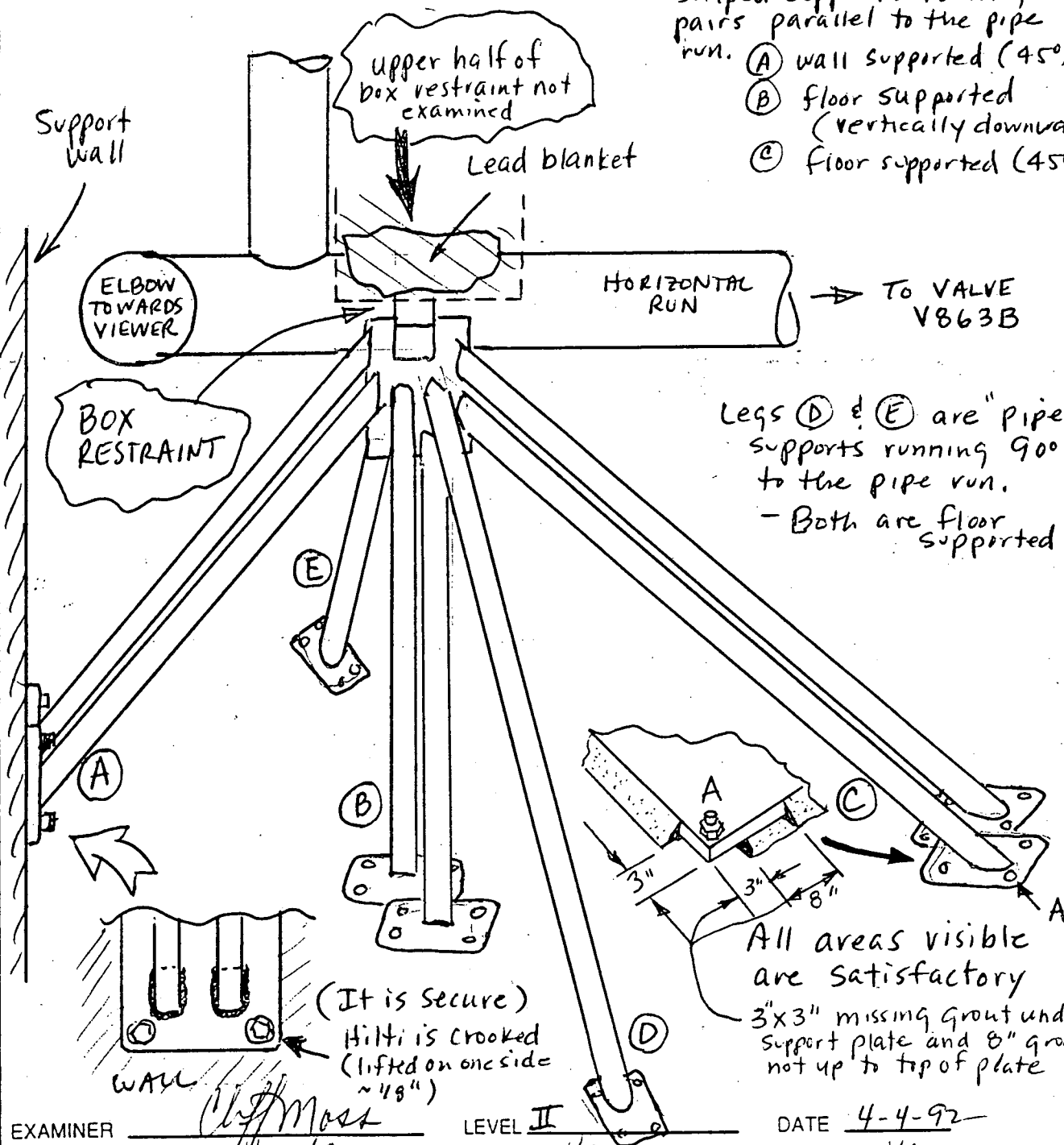
PAGE 1 OF 2

PLANT: <u>HB ROBINSON</u>		UNIT <u>11</u> <input checked="" type="checkbox"/> <u>2</u> <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-222A-G</u>	
DWG./LOC.: <u>CPL-222A Rev 0 / PIPE ALLEY</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097</u> <u>CD</u> <u>4-4-92</u> <u>NDEP-613</u> REV.: <u>0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614</u> REV.: <u></u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u></u>		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES		<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>	N/A
DEBRIS		<input checked="" type="checkbox"/>	
CORROSION/EROSION		<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>		See page #2; Hilti bolt, base plate
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATION - see page #2 for details</u> <u>This report is supplemented by 1097-89 for exam of blanketed area.</u>			
EXAMINER: <u>Chf Moss</u> <u>CD</u>	LEVEL: <u>II</u>	DATE: <u>4-4-92</u>	
REVIEWER: <u>Edmund L. Donovan</u> <u>CD</u>	LEVEL: <u>#</u>	DATE: <u>4-10-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: <u>Richard B. Deber</u> <u>4/14/92</u>			
REVIEWERS COMMENTS:			
ANII REVIEW: <u>RP Valladares</u> DATE: <u>4.15.92</u>			

SKETCH SHEET

Legs (A), (B) & (C) are "C" shaped supports running in pairs parallel to the pipe run.
 (A) wall supported (45°)
 (B) floor supported (vertically downward)
 (C) floor supported (45°)

Legs (D) & (E) are "pipe" supports running 90° to the pipe run.
 - Both are floor supported



EXAMINER Cliff Moss

EXAMINER N/A

REVIEWER Glenn R. Brown

REVIEWER Richard B. Weber

REVIEWER idw

LEVEL II

LEVEL N/A

LEVEL II

DATE 4/14/92

DATE

DATE 4-4-92

DATE N/A

DATE 4-10-92

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-89

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-222A-G

DWG./LOC.: CPL-222A Rev 0 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP-1097 CN 4-10-92 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR TYPE OF COMPONENT SUPPORT:
[X] OTHER 10th scale (6") [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>[X]</u>	<u>N/A</u>
MISALIGNMENT		<u>[X]</u>		
DEBRIS	<u>[X]</u>			<u>Top of box and both sides of pipe - see pg #2</u>
CORROSION/EROSION		<u>[X]</u>		<u>N/A</u>
STRUCTURAL INTEGRITY	<u>[X]</u>			<u>Bad welds and questionable clearances</u>
RESISTANCE TO MOVEMENT		<u>[X]</u>		
CLEARANCES OF MOVING PARTS			<u>[X]</u>	<u>N/A</u>
ARC STRIKES/GOUGES		<u>[X]</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N: <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.
This report supplements report # 1097-88 performed prior to blanket removal

EXAMINER: Cliff Moss @ CW LEVEL: II DATE: 4-10-92

REVIEWER: Art P... LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

ANII REVIEW: BP Valladares DATE: 4.15-92

1125

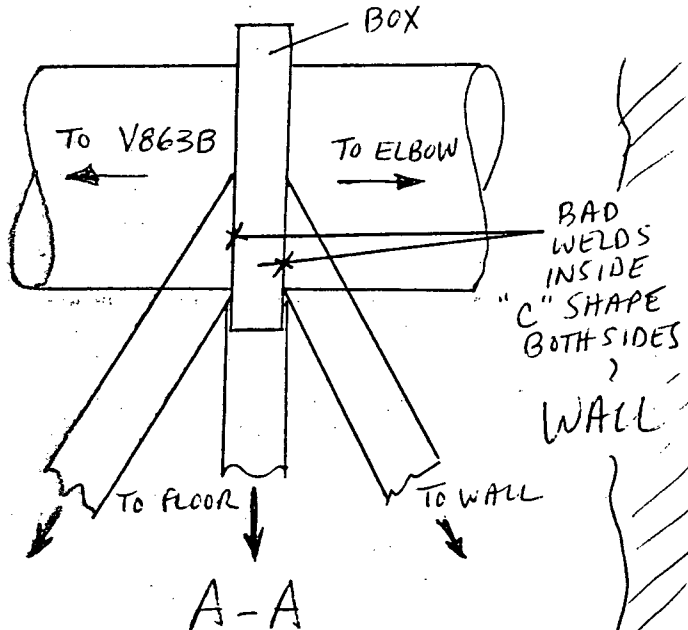
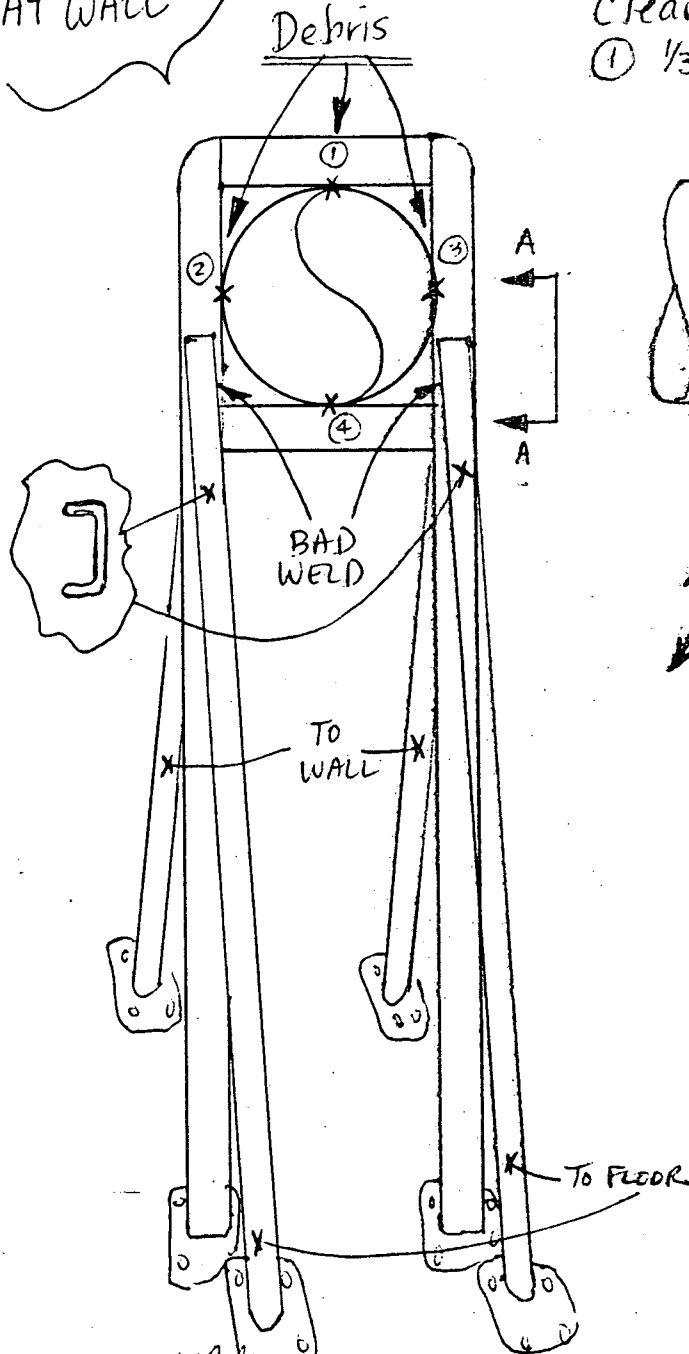
PAGE 2 OF 2
 DATA SHEET NO. 1097-89
 EXAM ITEM CPL-222A-G
 ISO DWG. NO. CPL-222A REV. 0

SKETCH SHEET

LOOKING
AT WALL

Clearances :

① $\frac{1}{32}$ ", ② 0, ③ $\frac{1}{16}$ ", ④ 0



Bad welds inside "C"
 Shape are root side
 lack of penetration, throughout
 weld. All (4) are affected.

EXAMINER Chiff Moss
 EXAMINER N/A
 REVIEWER Richard B. Weber
 REVIEWER

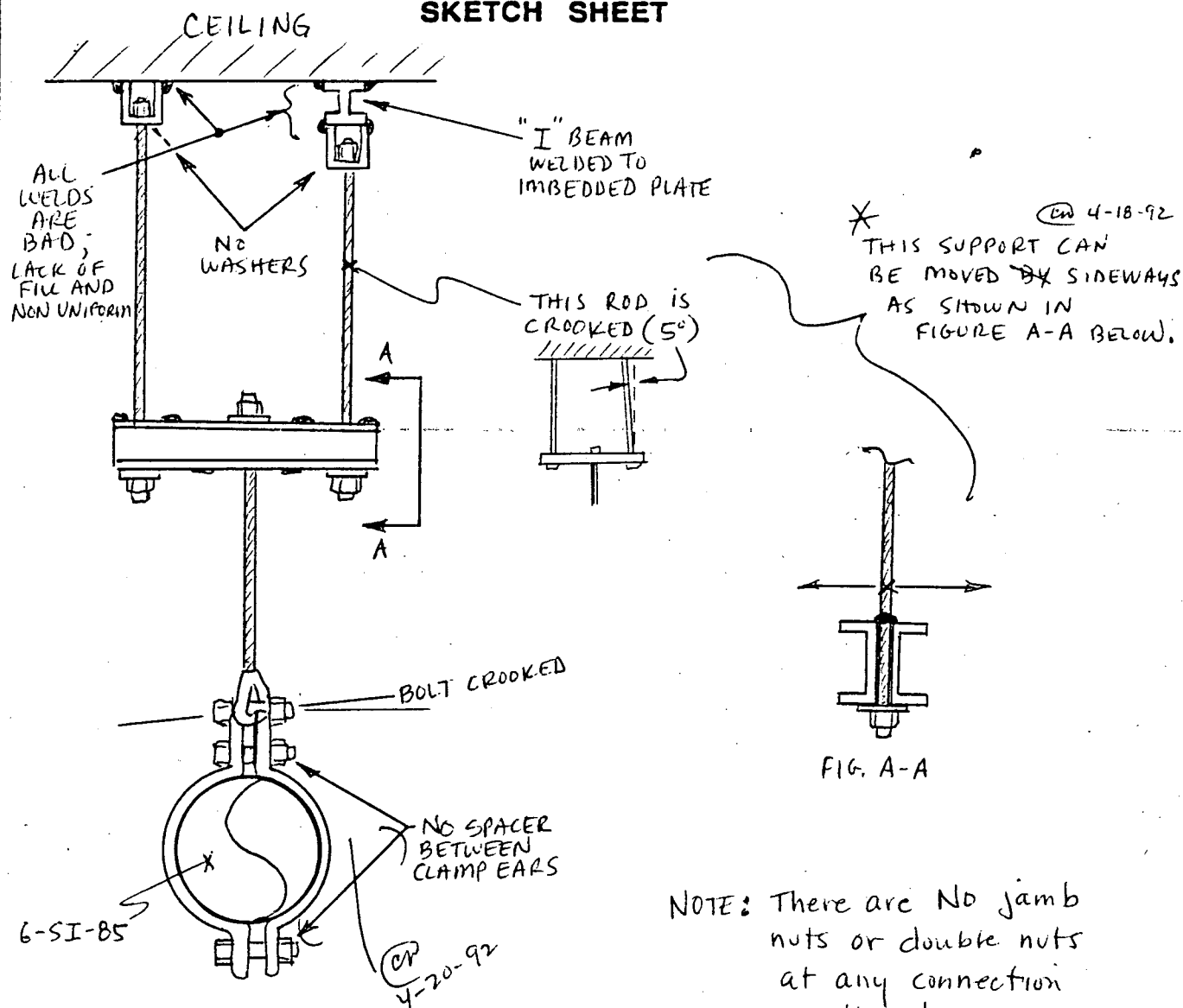
LEVEL II
 LEVEL N/A
 LEVEL II
 DATE 4/14/92
 DATE

DATE 4-10-92
 DATE N/A
 DATE 4-11-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-57EXAM ITEM CPL-222A-JISO DWG. NO. CPL-222A REV. 0

SKETCH SHEET

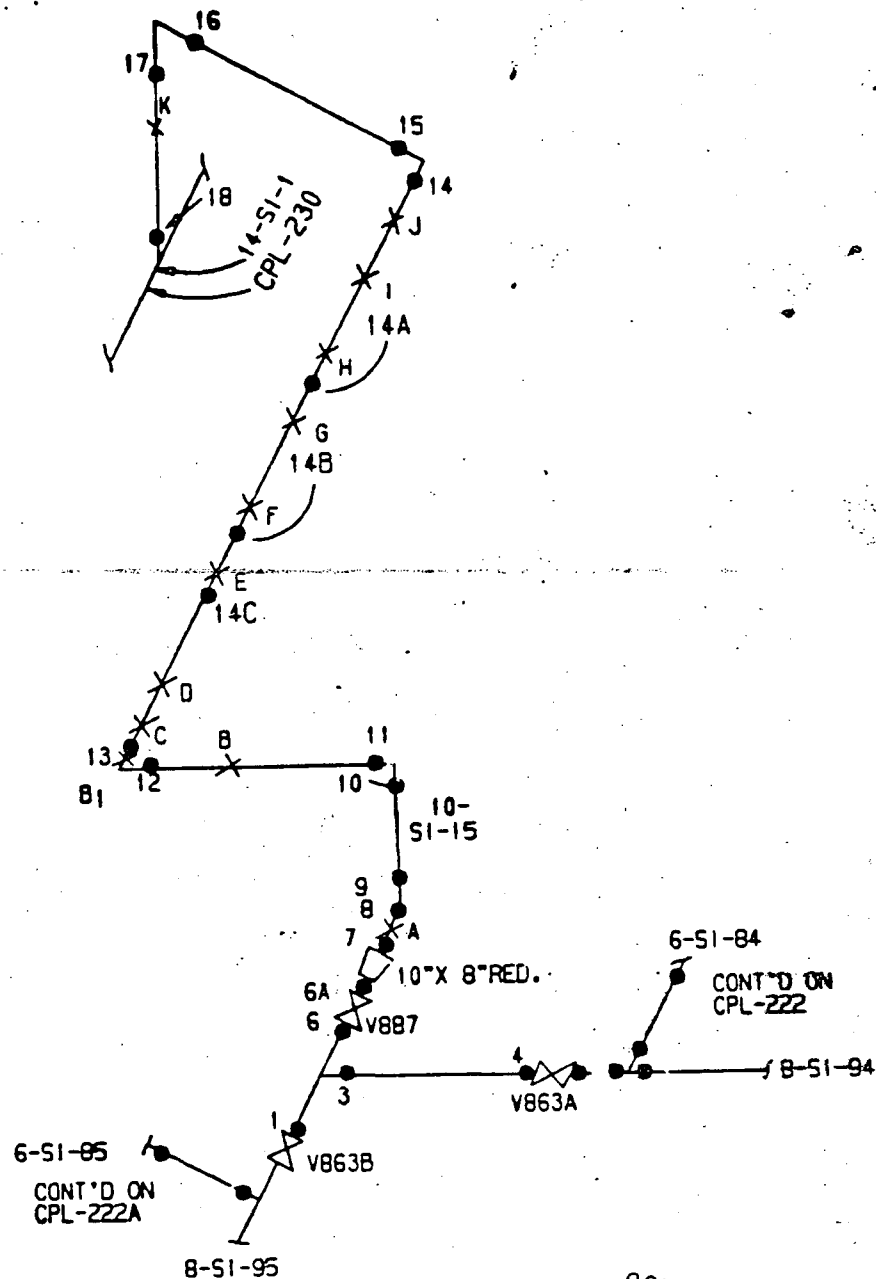


EXAMINER Cliff Most @
EXAMINER CO N/A
REVIEWER Carl Pung
REVIEWER Richard B. Wheeler
REVIEWER AM

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/22/92
DATE _____

DATE 4-18-92
DATE N/A
DATE 4-20-92

PIPE ALLEY



CP & L Dwg. No. HBR2-10618 SH.87					
CP & L P.O. No.					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
D	RBW	CPL	CLD	CLD	12/12/89

CPL-222B REV.0

H.B. ROBINSON S.E. PLANT	
UNIT NO. 2	
DESCRIPTION:	
LINE NO. 10-SI-15	CPL-222B REV.1

I certify that the image contained on this frame was made in the normal and regular course of business on the date stated below and that it is an accurate reproduction of the document submitted for microfilming.

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-36

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 222B - A</u>
-------------------	--------------------------------	---------------------------------------

DWG./LOC.: CPL 222B REVO / PIPE ALLEY

☒ VT-3 PROCEDURE: ^{SP 1097 4-10-92} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO CLAMP SPACER
RECORDABLE INDICATIONS

EXAMINER: Art P... LEVEL: II DATE: 4-4-92

REVIEWER: Edmund R. Donovan LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

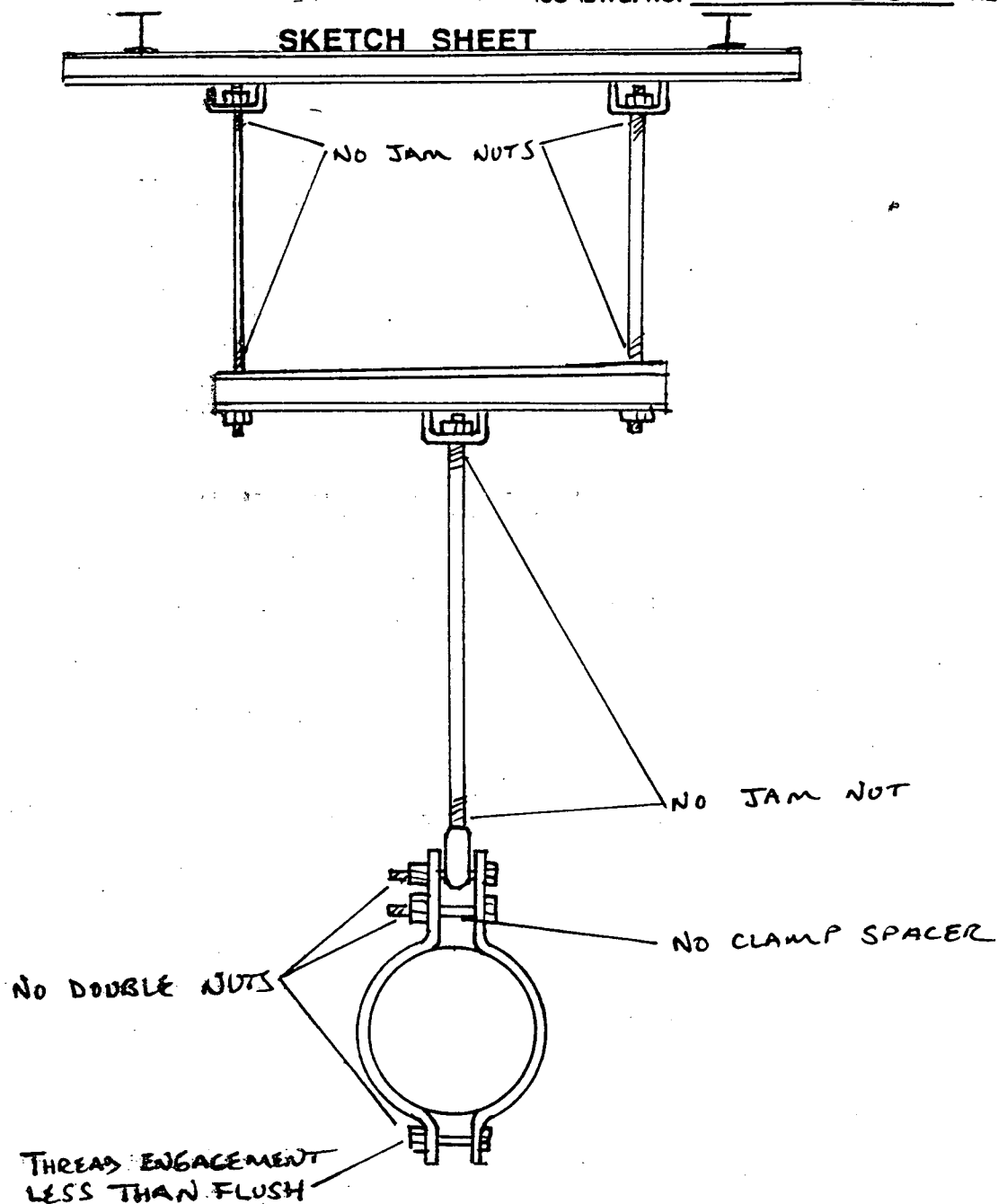
ANII REVIEW: AP Valladane

DATE: 4-15-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-36EXAM ITEM CPL 222 B - AISO IDWG. NO. CPL 222 B REV. 0

SKETCH SHEET

EXAMINER Art PinnerLEVEL IIDATE 4-4-92EXAMINER NALEVEL NADATE NAREVIEWER Glenn R. DonovanLEVEL IIDATE 4-6-92REVIEWER Richard B. WeberDATE 4/14/92REVIEWER NADATE NA

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-270

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON

UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM:
SI

COMPONENT
NAME: HANGER

COMPONENT
ID NO.: CPL-222B-A

DWG./LOC.: CPL-222B REV-0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP 1097 ERO 5-792
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☐ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		<div>N A</div>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS
RE-EXAM AFTER REPAIR

WR/JO 92-AEYM1

EXAMINER: Edward R. Donovan

LEVEL: II

DATE: 5-7-92

REVIEWER: Art Purnan

LEVEL: II

DATE: 5-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/9/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Chachares

DATE: 5-12-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-35

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 222B-B</u>
-------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL 222B REV 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: ^{SP 1097 AP 4-10-92} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <u>[X] N/A</u>
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		N/A
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	N/A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO CLAMP SPACER
RECORDABLE INDICATIONS

EXAMINER: Art P... LEVEL: II DATE: 4-4-92

REVIEWER: Edmund R. D... LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

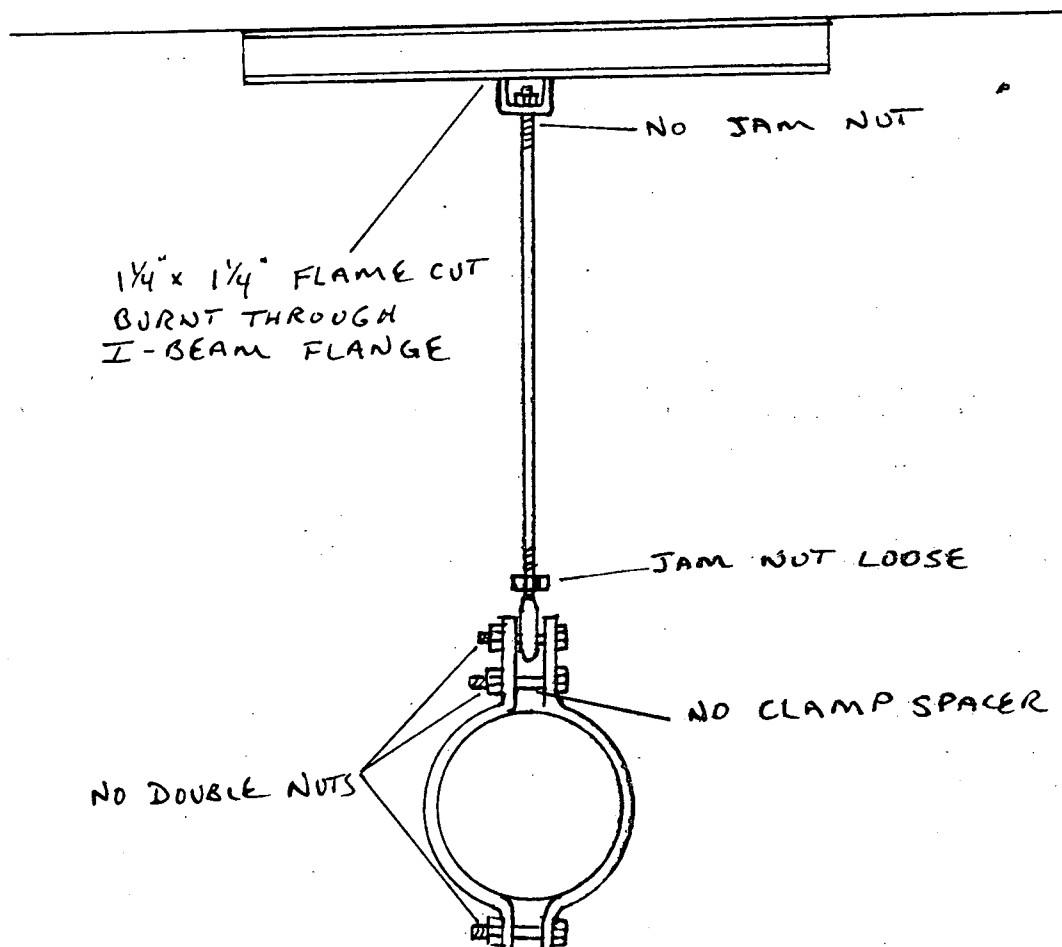
ANII REVIEW: R. Valladares

DATE: 4-15-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-35EXAM ITEM CPL 222B-BISO DWG. NO. CPL-222B REV. 0

SKETCH SHEET



EXAMINER Art Purman
EXAMINER NA
REVIEWER Edmund R. Donovan
REVIEWER Richard B. Weber
REVIEWER NA

LEVEL II
LEVEL NA
LEVEL II
DATE 4/14/92
DATE _____

DATE 4-4-92
DATE NA
DATE 4-6-92

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-34

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 222 B - B1</u>
-------------------	--------------------------------	---

DWG./LOC.: CPL 222 B REV 0 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP 1097 AP 9-10 52 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <u>[X] N/A</u>
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			SEE ATTACHMENT
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		N/A
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			SEE ATTACHMENT
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: CABLE TRAY RESTING ON END OF PIPE CLAMP ROD, TRAPEZE SUPPORTED BY ANGLE WELDED TO THE WALL AND RODS DO NOT SUPPORT THE LOAD OF THE PIPE.
RECORDABLE INDICATIONS

EXAMINER: Cat Puma LEVEL: II DATE: 4-4-92

REVIEWER: Edmund R. Danner LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

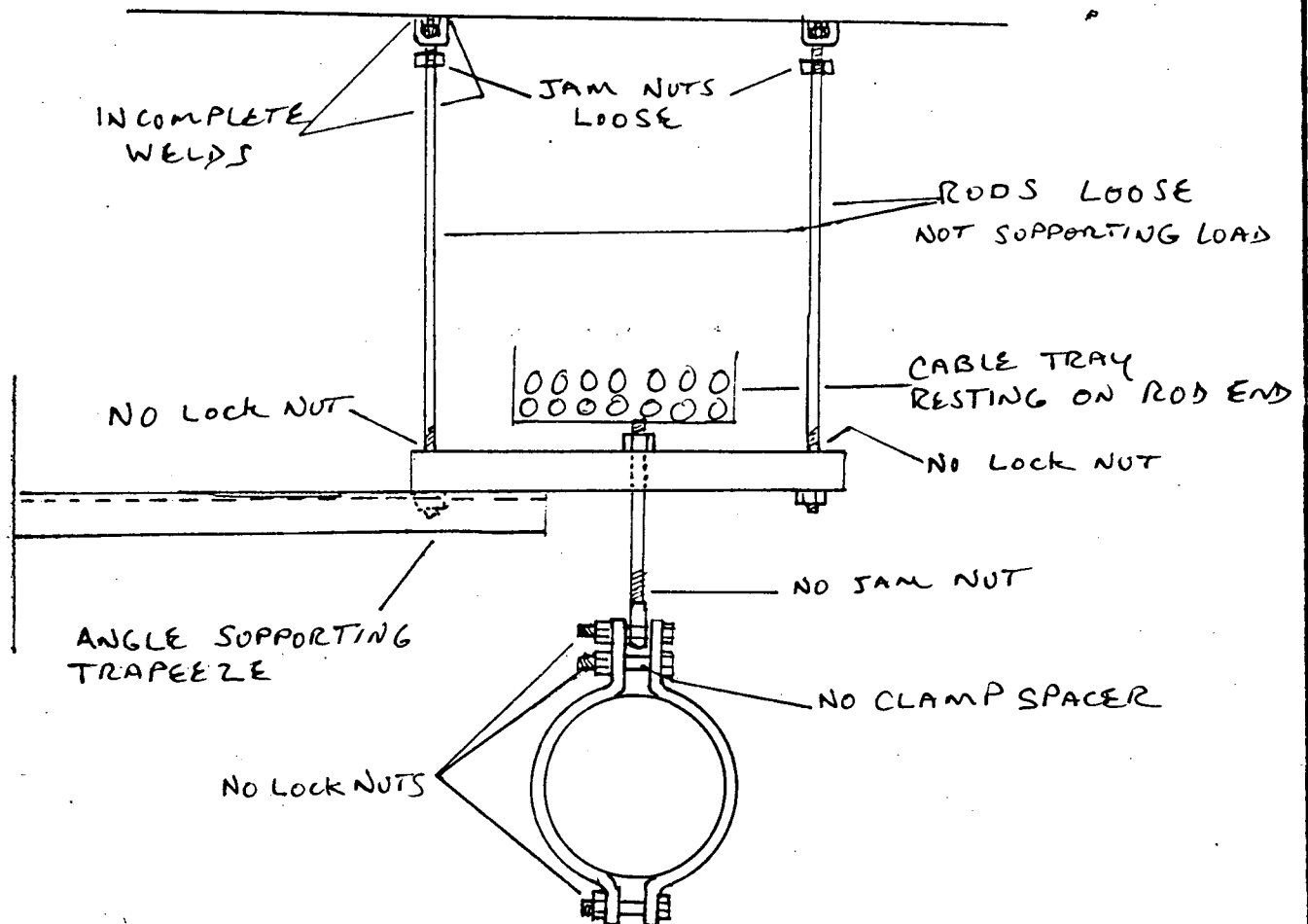
ANII REVIEW: AP Walladave

DATE: 4-15-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-34EXAM ITEM CPL 222B -B1ISO DWG. NO. CPL 222B REV. 0

SKETCH SHEET



EXAMINER

Art Purnan

LEVEL

II

DATE

4-4-92

EXAMINER

NA

LEVEL

NA

DATE

NA

REVIEWER

Edward R. Donovan

LEVEL

II

DATE

4-6-92

REVIEWER

Richard B. Weber

DATE

4/14/92

REVIEWER

DATE

AW

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-33

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SI

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL 222B-C

DWG./LOC.: CPL 222B REV 0 / PIPE ALLEY

SP 1097 AM 4-5-92

[X] VT-3 PROCEDURE: NDEP-613-REV.: 0

[] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR

[] OTHER

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] CONSTANT SUPPORT

[] MECHANICAL SNUBBER

[] VARIABLE SUPPORT

[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			TOP RIGHT BOLT LOOSE
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER: *Art R...*

LEVEL: II

DATE: 4-4-92

REVIEWER: *Edmund R. D...*

LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY

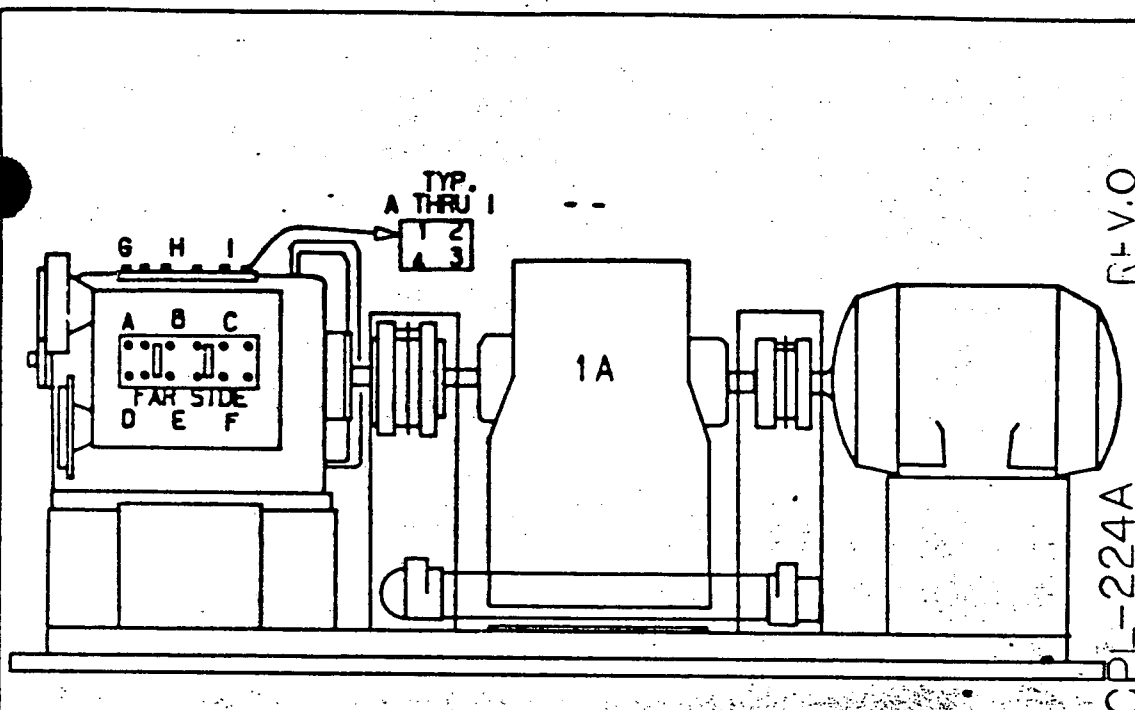
[] UNSATISFACTORY

REVIEWED BY: *Richard B. Weber 4/9/92*

REVIEWERS COMMENTS:

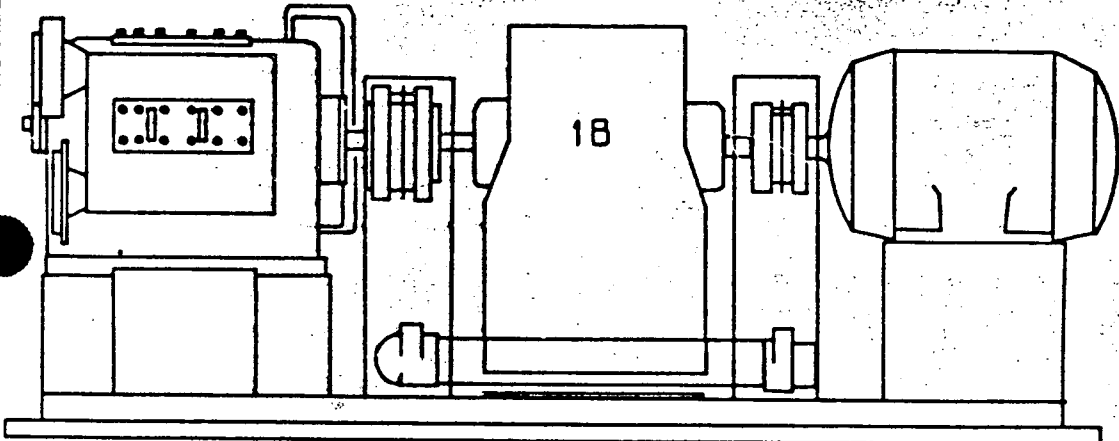
ANII REVIEW: *AP Valladares*

DATE: 4-9-92



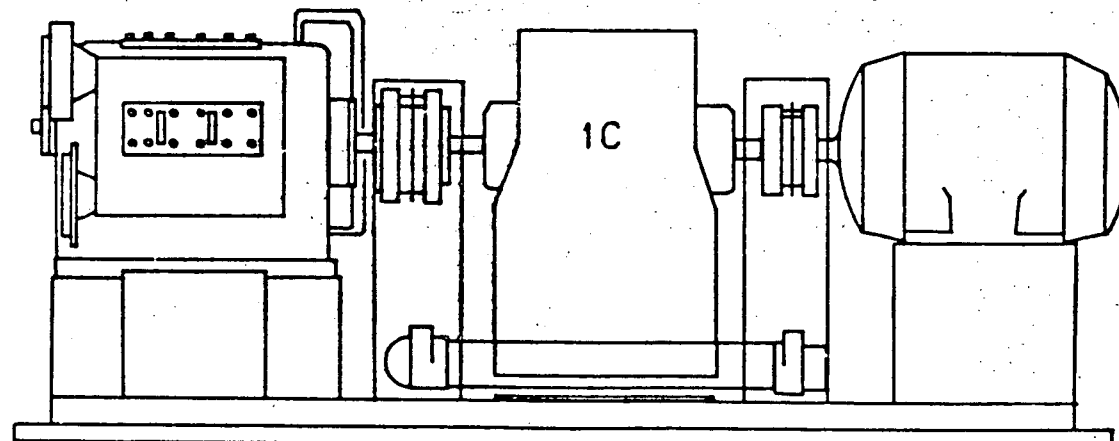
CP-224A REV.0

CP & L
H. B. ROBINSON S. E. PLANT
UNIT NO. 2
DESCRIPTION: CHARGING PUMPS (3)



CONTROLLED
RCPT ID 296

CP & L DWG. No. H882-10618 SH. 90			
CP & L P.O. No. 6251			
DWG. REV.	FIELD VERIFIED BY	DRAWN CHK'D APP'D BY	DATE
0	RBW	APL CLO	CLO 12/13/89



VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-185

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>CHARGING Pump</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-224A - Pump A</u>
---------------------------------	-----------------------------------	--

DWG./LOC.: CPL-224A Rev 0 / CHARGING Pump Rm.

☒ VT-3 PROCEDURE: ^{SP-7097} ~~NOEP-613~~ REV.: 0 ^{7/24/92} [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		Light oil & water on some surfaces
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		N/A
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: NO RECORDABLE INDICATIONS

Water and Oil do not interfere with inspection or operation of supports

EXAMINER: Chf Moss CW LEVEL: II DATE: 4-20-92

REVIEWER: Edmund R. Danovon DW LEVEL: II DATE: 4-22-92

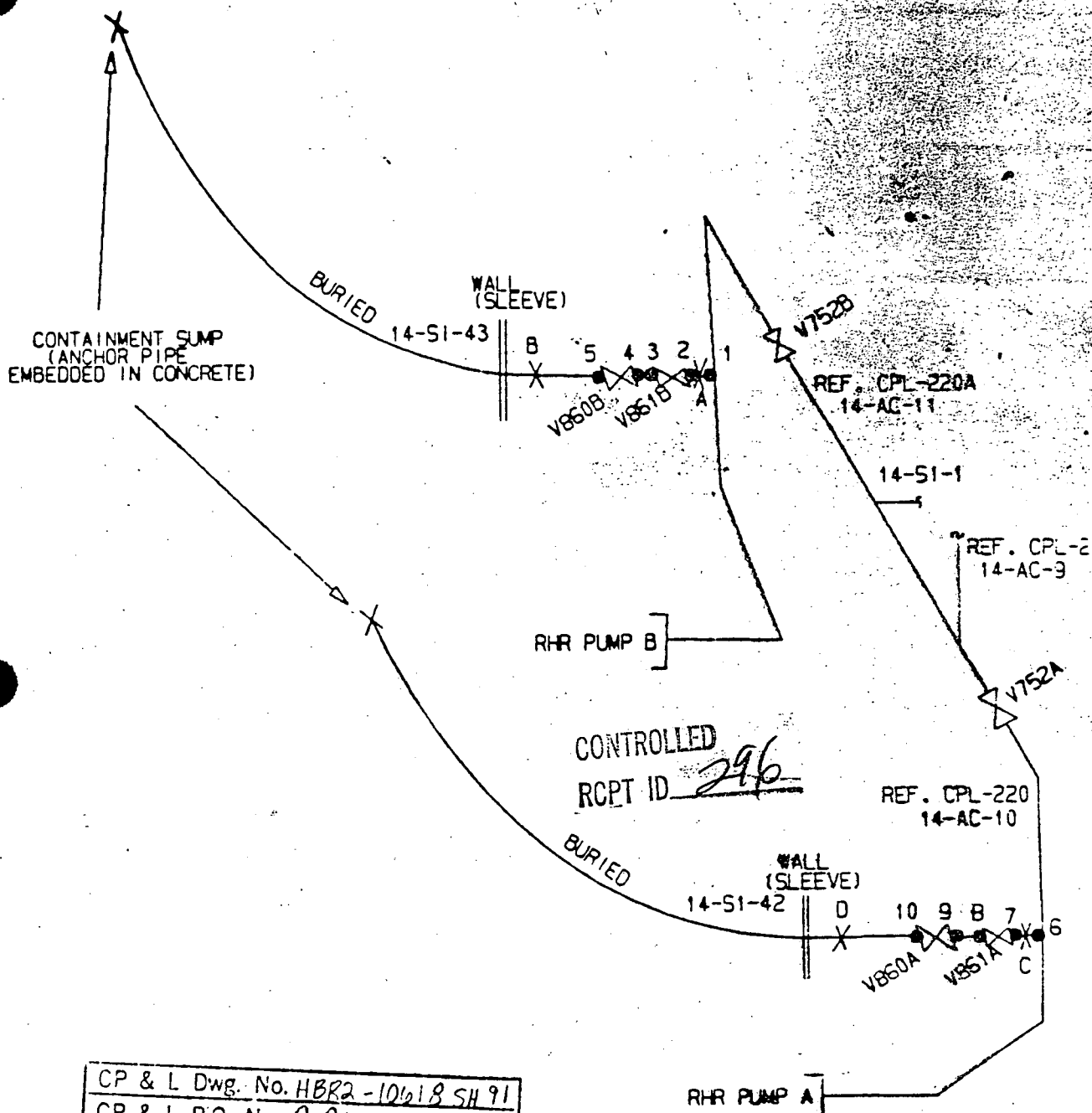
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares

DATE: 4-28-92



CP & L Dwg. No. HBR2-10618 SH 91					
CP & L P.O. No. CPL 51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	RBW	CPL	CLO	CLO	12/12/69

CPL-229 REV.0

H.B. ROBINSON S.E. PLANT	
UNIT NO. 2	
DESCRIPTION: 14"-CV SUMP TO RHR PUMP	
LINE NO. 14-SI-42	CPL-229 -REV.

I certify that the image contained on this frame was made in the normal and regular course of business on the date stated below and that it is an accurate representation of the original.

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-45

WR&A # N/A

PAGE 1 OF 2

PLANT: H.B. ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SI

COMPONENT

NAME:

SUPPORT

COMPONENT

ID NO.:

CPL 229-A

DWG./LOC.: CPL 229 REVD / RHR Pump Rm.

SP 1097 AP 4-8-92

[X] VT-3 PROCEDURE: NDEP-613 REV.: 0

[] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE []

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [] MIRROR

[] OTHER

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] CONSTANT SUPPORT

[] MECHANICAL SNUBBER

[] VARIABLE SUPPORT

[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		X		N/A
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		
STRUCTURAL INTEGRITY		X		
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A			STROKE: N/A S/N N/A

COMMENTS: N/A 4-8-92 NO RECORDABLE INDICATIONS

EXAMINER:

C. P. Pinner

LEVEL: II

DATE: 4-7-92

REVIEWER:

Elmwood K. Donovan

LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION:

[X] SATISFACTORY

[] UNSATISFACTORY

REVIEWED BY:

Richard B. Weber 4/10/92

REVIEWERS COMMENTS:

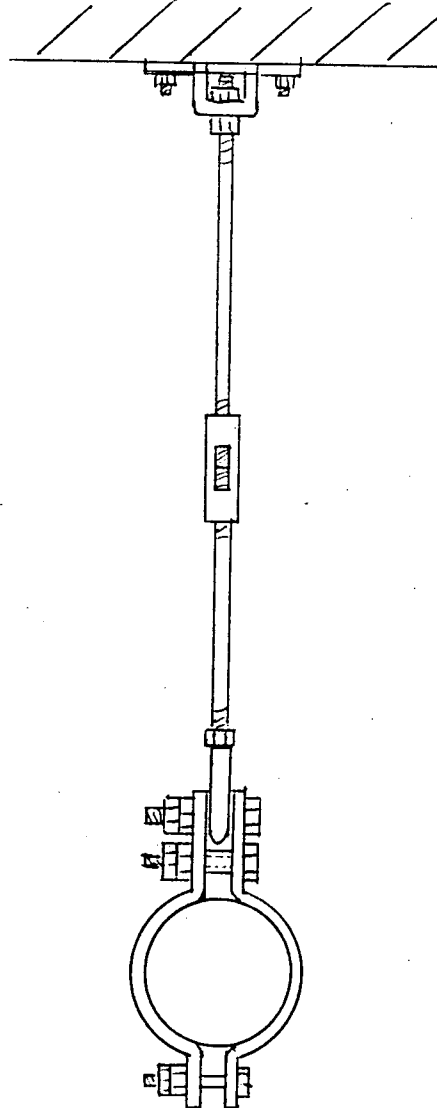
ANII REVIEW: R. Walladarez

DATE: 4-10-92

nes

PAGE 2 OF 2DATA SHEET NO. 1097-45EXAM ITEM CPL 229-AISO DWG. NO. CPL 229 REV. 0

SKETCH SHEET

EXAMINER *Q. P. Pinner*EXAMINER N/AREVIEWER *Edward R. Dawson*REVIEWER *Richard B. Weber*

REVIEWER _____

LEVEL IILEVEL N/ALEVEL IIDATE 4/10/92

DATE _____

DATE 4-7-92DATE N/ADATE 4-8-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-86

WR&A # NA

PAGE 1 OF 4

PLANT: H. B. ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SI

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL 230 - A

DWG./LOC.: CPL 230 REV 0 / RHR PUMP RM.

[X] VT-3 PROCEDURE: ^{SP 1097 AP 4-7-92} ~~NOEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR

[X] OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

[X] HYDRAULIC SNUBBER

[] MECHANICAL SNUBBER

[] SUPPORT/HANGER

[] CONSTANT SUPPORT

[] VARIABLE SUPPORT

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓	AP ✓		SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT		✓		
CLEARANCES OF MOVING PARTS		✓		N/A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: * 8 1/2 " 4 1/8 "		STROKE: 5"	S/N 30080

COMMENTS: * PIN TO SNUBBER

SNUBBER 21 (E-W)

RECORDABLE INDICATIONS

EXAMINER:

Art P...

LEVEL: II

DATE: 4-7-92

REVIEWER:

Edmund R. D...

LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION:

[] SATISFACTORY

[] UNSATISFACTORY

REVIEWED BY:

Richard B. Weber 4/22/92

REVIEWERS COMMENTS:

ANII REVIEW:

B. Valladares

DATE: 4.23.92

VISUAL EXAMINATION DATA SHEET

 REPORT NO. 1097-46

 WR&A # N/A

 PAGE 2 OF 4

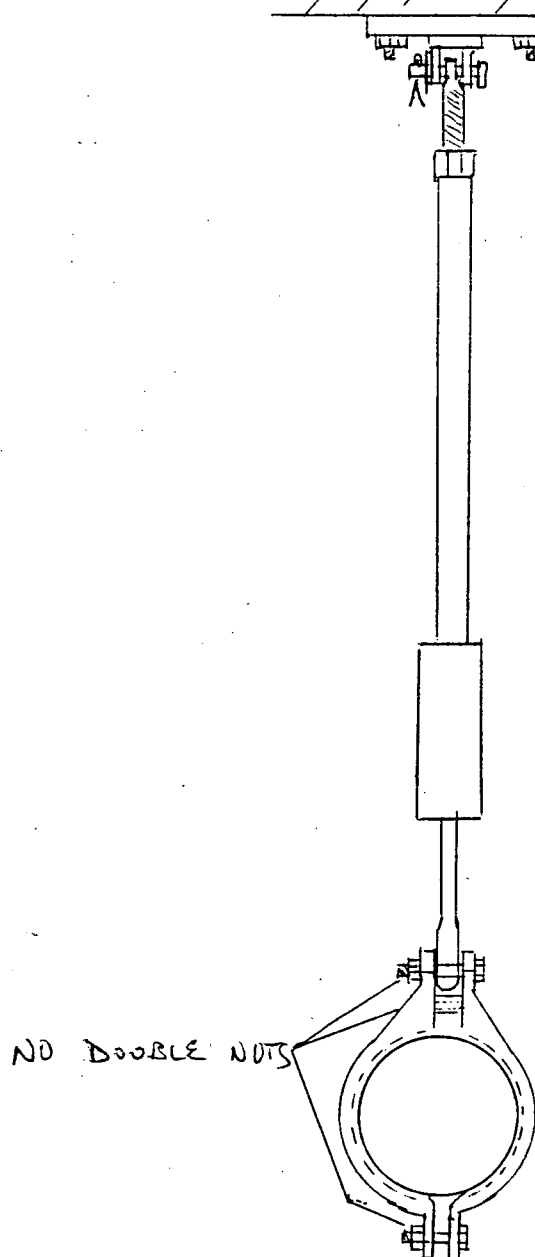
PLANT: <u>H B ROBINSON</u>		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 230 - A</u>	
DWG./LOC.: <u>CPL 230 REV 0 / R42 PUMP RM</u>			
[X] VT-3 PROCEDURE: <u>SP 1097 AP4-B-F2</u> <u>NDEP-613 REV.: 0</u>		[] VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <u>[X] N/A</u>	
EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
[X] FLASHLIGHT [X] MIRROR		[X] HYDRAULIC SNUBBER [] CONSTANT SUPPORT	
[X] OTHER <u>6" SCALE</u>		[] MECHANICAL SNUBBER [] VARIABLE SUPPORT	
[] SUPPORT/HANGER			

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT		✓		
CLEARANCES OF MOVING PARTS	✓			SEE ATTACHMENT
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>2 3/8" 3 7/8"</u>		STROKE: <u>5"</u>	S/N <u>30077</u>
COMMENTS: <u>* PIN TO SNUBBER</u> RECORDABLE INDICATIONS <u>SNUBBER 22 (N-S)</u>				
EXAMINER: <u>Art Purnum</u>		LEVEL: <u>II</u>		DATE: <u>4-7-92</u>
REVIEWER: <u>Edmund R. Donovan</u>		LEVEL: <u>II</u>		DATE: <u>4-8-92</u>
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY				
REVIEWED BY: <u>Richard B. Weber</u> <u>4/22/92</u>				
REVIEWERS COMMENTS:				
ANII REVIEW: <u>R. Valladane</u> DATE: <u>4.23.92</u>				

1125

PAGE 3 OF 4DATA SHEET NO. 1097-46EXAM ITEM CPL 230-A (SNUBBER 21)ISO DWG. NO. CPL 230 REV. 0

SKETCH SHEET

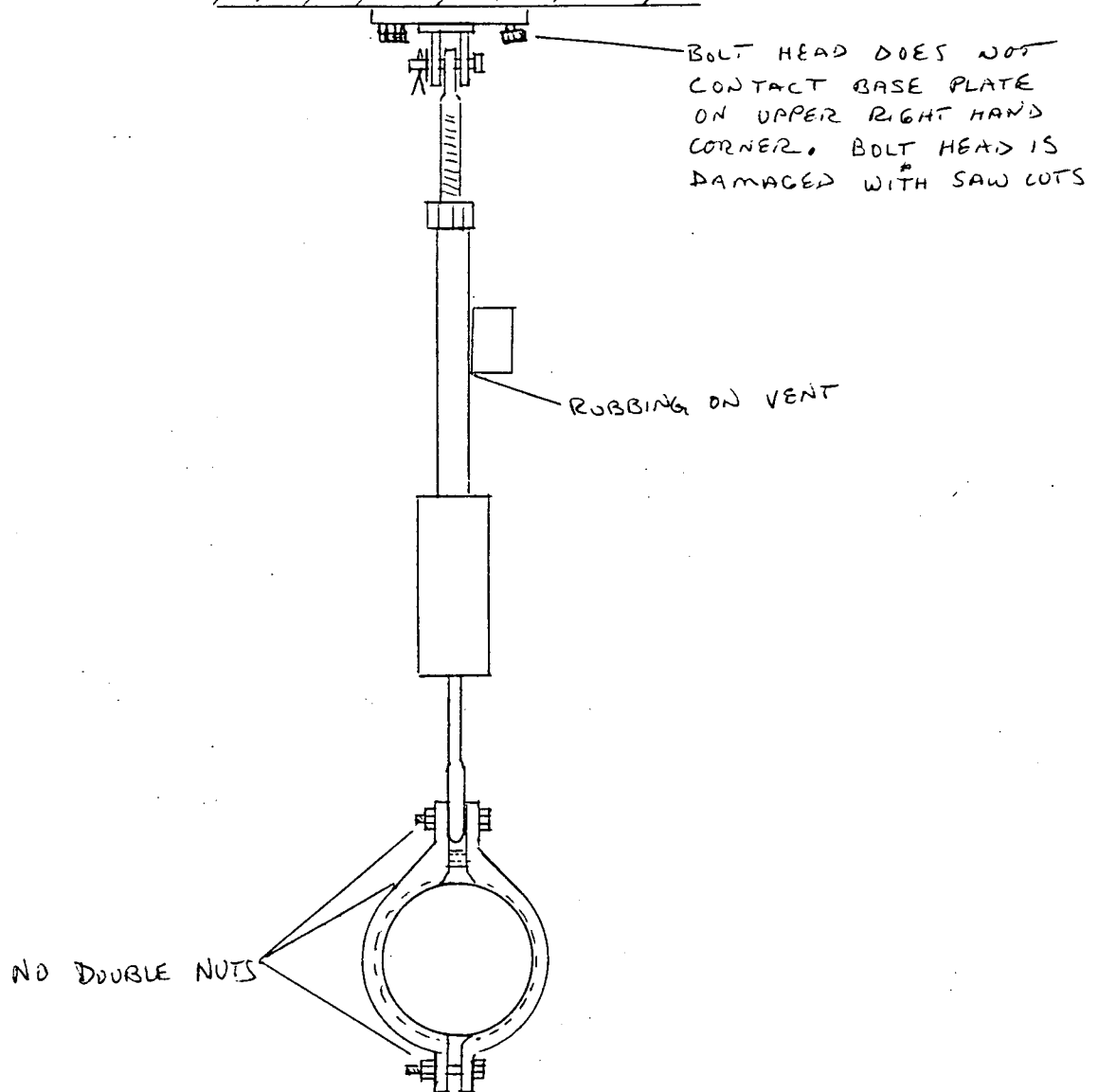
EXAMINER Art P...LEVEL IIDATE 4-7-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Edward R. DawsonLEVEL IIDATE 4-8-92REVIEWER Richard B. WeberDATE 4/22/92REVIEWER DN

DATE _____

1125

PAGE 4 OF 4DATA SHEET NO. 1097-46EXAM ITEM CPL 230-A (SNUBBER 22)ISO DWG. NO. CPL 230 REV. D

SKETCH SHEET



EXAMINER

Carl Purman

LEVEL

II

DATE

4-7-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Edmund R. Donovan

LEVEL

II

DATE

4-8-92

REVIEWER

Richard B. Weber

DATE

4/22/92

REVIEWER

RM

DATE

VISUAL EXAMINATION DATA SHEET

REPORT NO. 109747

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 230-B</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 230 REV 0 / RHR PUMP RM.

☒ VT-3 PROCEDURE: SP 1097 RA 4-8-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		

VARIABLE/CONSTANT SUPPORT	ACTUAL: ON COLD SET MARK, 1870#, 1" DEFLECTION		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: DOUBLE SPRING CAN HANGER RECORDABLE INDICATIONS.
THERE IS A HOLE IN THE CONCRETE LOCATED WITHIN 5 DIAMETERS OF AN ANCHOR BOLT. (SEE ATTACHMENT)

EXAMINER: <u>Pat P...</u>	LEVEL: <u>II</u>	DATE: <u>4-7-92</u>
REVIEWER: <u>Edward L. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-8-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/1/92

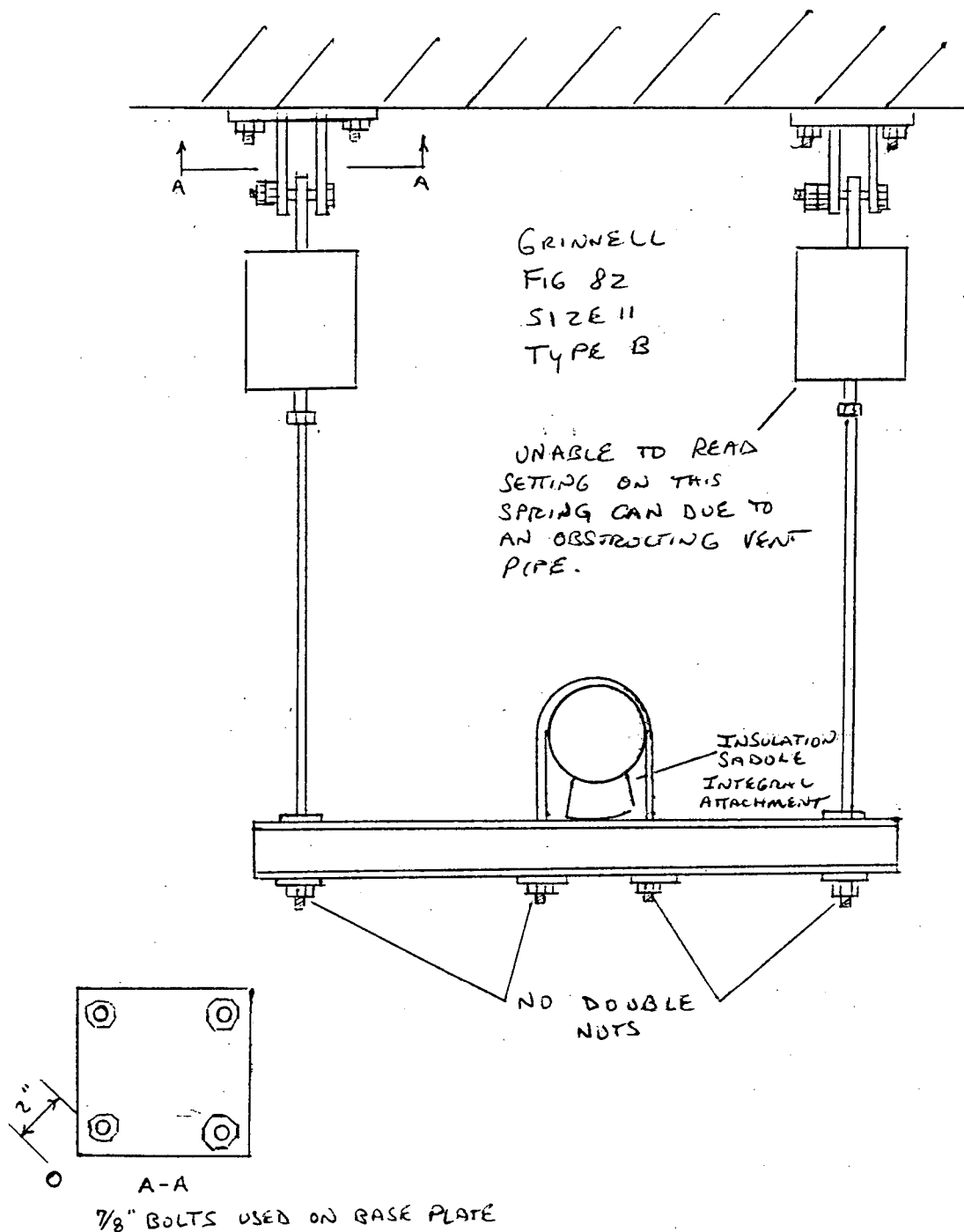
REVIEWERS COMMENTS:

ANII REVIEW: AP Calladanes DATE: 5-4-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-77EXAM ITEM CPL 230 - BISO DWG. NO. CPL-230 REV. 0

SKETCH SHEET

EXAMINER Carl P. [Signature]EXAMINER N/AREVIEWER Edmund R. DavisREVIEWER Richard B. Weber

REVIEWER _____

LEVEL IILEVEL N/ALEVEL IIDATE 5/1/92

DATE _____

DATE 4-7-92DATE N/ADATE 4-8-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-238

WR&A # N/A

PAGE 1 OF 1

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 230 - B</u>
--------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 230 REV 0 / RHR PUMP ROOM (RHR PIT)

[X] VT-3 PROCEDURE: SP 1097 AP 5-1-92 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
[X] FLASHLIGHT [X] MIRROR	[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[X] OTHER <u>6" SCALE</u>	[X] MECHANICAL SNUBBER [X] VARIABLE SUPPORT
	SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			✓	N/A
MISALIGNMENT			✓	
DEBRIS			✓	
CORROSION/EROSION			✓	
STRUCTURAL INTEGRITY			✓	
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/EDGES			✓	

VARIABLE/CONSTANT SUPPORT ACTUAL: NORTH SPRING CAN - 1 1/16" DEF, 1915#, 1/16" BELOW GOLD SETTING
SOUTH SPRING CAN - 1 1/8" DEF, 1955#, 1/4" BELOW GOLD SETTING

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: SEE PREVIOUS DATA SHEET FOR RECORDED CONDITIONS.

EXAMINER: Art Purnan LEVEL: II DATE: 5-1-92

REVIEWER: Edward R. Dawson LEVEL: II DATE: 5-1-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/1/92

REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares

DATE: 5-4-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-284

WR&A # N/A

PAGE 1 OF 1

PLANT: <u>HB ROBINSON</u>		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>RNR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-230-B</u>	
DWG./LOC.: <u>CPL 230 REV-0 / RNR PIT</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1097 ERO 54592</u> <u>NDEP-613 REV.: 0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		<div style="font-size: 2em; transform: rotate(-45deg); display: inline-block;">N A</div>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>NO RECORDABLE INDICATIONS</u>				
<u>RE-EXAM AFTER REPAIR</u>				
EXAMINER: <u>Edmund R. Dorem</u>	LEVEL: <u>II</u>		DATE: <u>5-15-92</u>	
REVIEWER: <u>QA Purnan</u>	LEVEL: <u>II</u>		DATE: <u>5-16-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY				
REVIEWED BY: <u>Richard B. Weber 5/18/92</u>				
REVIEWERS COMMENTS:				
ANII REVIEW: <u>RPalladas</u> DATE: <u>5-18-92</u>				

VISUAL EXAMINATION DATA SHEET

 REPORT NO. 1097-11

 WR&A # N/A

 PAGE 1 OF 2

 PLANT: H B ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>RHIL</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 230-C</u>
---------------------	--------------------------------	------------------------------------

 DWG./LOC.: CPL-230 REV 0 / PIPE ALLEY

<input checked="" type="checkbox"/> VT-3 PROCEDURE: ^{SP 1097 AP 4-9-91} NDEP-613 REV.: <u>0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>
---	---

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHED SHEET
MISALIGNMENT		✓		
DEBRIS	✓			SEE ATTACHED SHEET
CORROSION/EROSION	✓			MODERATE RUST ON STANCHION AND NUTS. METAL LOSS < 10%.
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

 COMMENTS: RECORDABLE INDICATIONS

EXAMINER: <u>Curt Purnan</u>	LEVEL: <u>II</u>	DATE: <u>4-1-92</u>
------------------------------	------------------	---------------------

REVIEWER: <u>Edmund R. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-8-92</u>
------------------------------------	------------------	---------------------

 COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

 REVIEWED BY: Richard B. Weber 4/9/92

REVIEWERS COMMENTS:

 ANII REVIEW: R. P. Valladares

 DATE: 4-9-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-12

WR&A # N/A

PAGE 1 OF 1

PLANT: H B ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: RHR	COMPONENT NAME: SUPPORT	COMPONENT ID NO.: CPL-230-C-WS
-------------	-------------------------	--------------------------------

DWG./LOC.: CPL 230 REV 0 / PIPE ALLEY

[x] VT-3 PROCEDURE: ^{SP1097 AP44-92} ~~NOEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x]	VIDEO RECORDING NO: [x] N/A
EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
[x] FLASHLIGHT [x] MIRROR	[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] OTHER	[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
	[x] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			✓	
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION	✓			MODERATE RUST ON STANCHION METAL LOSS < 10%
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER: *Art Pinner* LEVEL: II DATE: 4-1-92

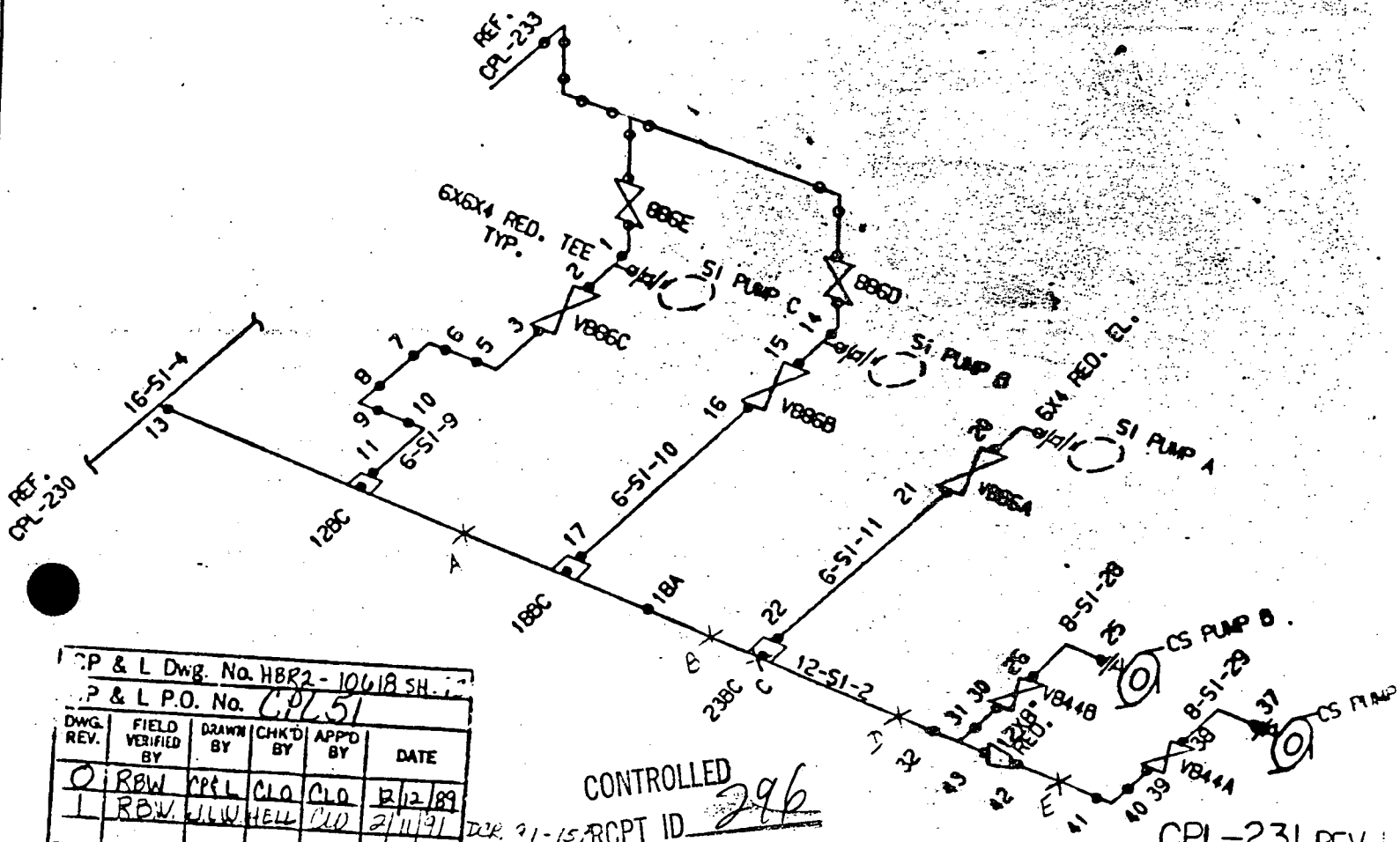
REVIEWER: *Edmund R Donovon* LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: *Richard B. Welter* 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: *A Valladares* DATE: 4.9.92



CP & L DWG. No. HBR2-10618 SH. 1

CP & L P.O. No. CPL 51

DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APPD BY	DATE
0	RBW	CPL	CLO	CLO	12/12/89
1	RBW	JLW	HELL	CLO	2/11/91

CONTROLLED 296

DER 91-15 RCPT ID

CPL-231 REV.

H. B. ROBINSON S. E. PLANT
UNIT NO. 2
DESCRIPTION: SI&CS PUMP SUCTION

16X

The image contained on this frame was made in the normal and regular course of business by CP&L on the date stated below. It is an accurate reproduction of the document submitted for microfilming.

Date: 2/13/91

Operator: Pandea Traseu

PLANT: H B ROBINSON UNIT 1 1 ~~2~~ 1 PSI ~~ISI~~

SYSTEM: SI 4CS	COMPONENT NAME: SUPPORT	COMPONENT ID NO.: CPL-231-B
-------------------	----------------------------	--------------------------------

DWG./LOC.: CPL-231 REV.-1 / SI PUMP ROOM

<input checked="" type="checkbox"/> VT-3 PROCEDURE:	SP 1097 ERO 5-192 NOEP-613 REV.: 0	<input type="checkbox"/> VT-4 PROCEDURE: 614 REV.:
---	---------------------------------------	--

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input checked="" type="checkbox"/> OTHER <u>6" Scale</u>		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		X		
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION	X			SEE ATTACHED SKETCH
STRUCTURAL INTEGRITY		X		
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: $\frac{N}{A}$			
SNUBBER	ACTUAL: $\frac{N}{A}$		STROKE: $\frac{N}{A}$	S/N $\frac{N}{A}$
COMMENTS:	RECORDABLE INDICATION			

EXAMINER: Edward R. Donovan LEVEL: II DATE: 5-19-92

REVIEWER: Pat Herman LEVEL: II DATE: 5-2-97

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/2/92

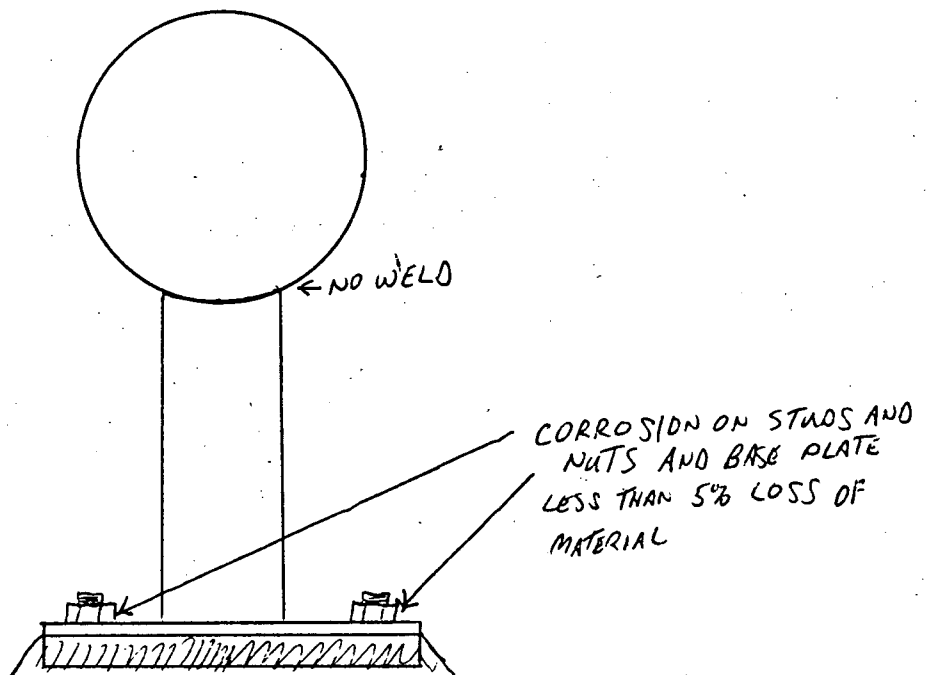
REVIEWERS COMMENTS:

ANII REVIEW: *R. Valladares* DATE: 5-4-92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-245
EXAM ITEM CPL-231-B
ISO DWG. NO. CPL-231 REV. 1

SKETCH SHEET



EXAMINER Charles D. Doreon
EXAMINER NA
REVIEWER Carl R. Runcie
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE 5/2/92
DATE _____

DATE 5-1-92
DATE NA
DATE 5-2-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097486

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: pump SI & CS Suction COMPONENT INTEGRAL WELD COMPONENT
NAME: SUPPORT ID NO.: CPL-231-B-WS

DWG./LOC.: CPL-231 Rev 1 / SI Pump Rm.

X VT-3 PROCEDURE: SP-W97 CP 4-20-92 NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV. 4

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR TYPE OF COMPONENT SUPPORT:
1 HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	
MISALIGNMENT		<u>X</u>		<u>N/A</u>
DEBRIS		<u>X</u>		
CORROSION/EROSION		<u>X</u>		
STRUCTURAL INTEGRITY	<u>X</u>			<u>See page #2 - weld missing</u>
RESISTANCE TO MOVEMENT			<u>X</u>	<u>N/A</u>
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES	<u>X</u>			<u>See page #2 - gouges</u>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Cliff Most CP LEVEL: II DATE: 4-20-92

REVIEWER: Edmund R. Dancova CP LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY: Richard B. Velez 4/25/92

REVIEWERS COMMENTS:

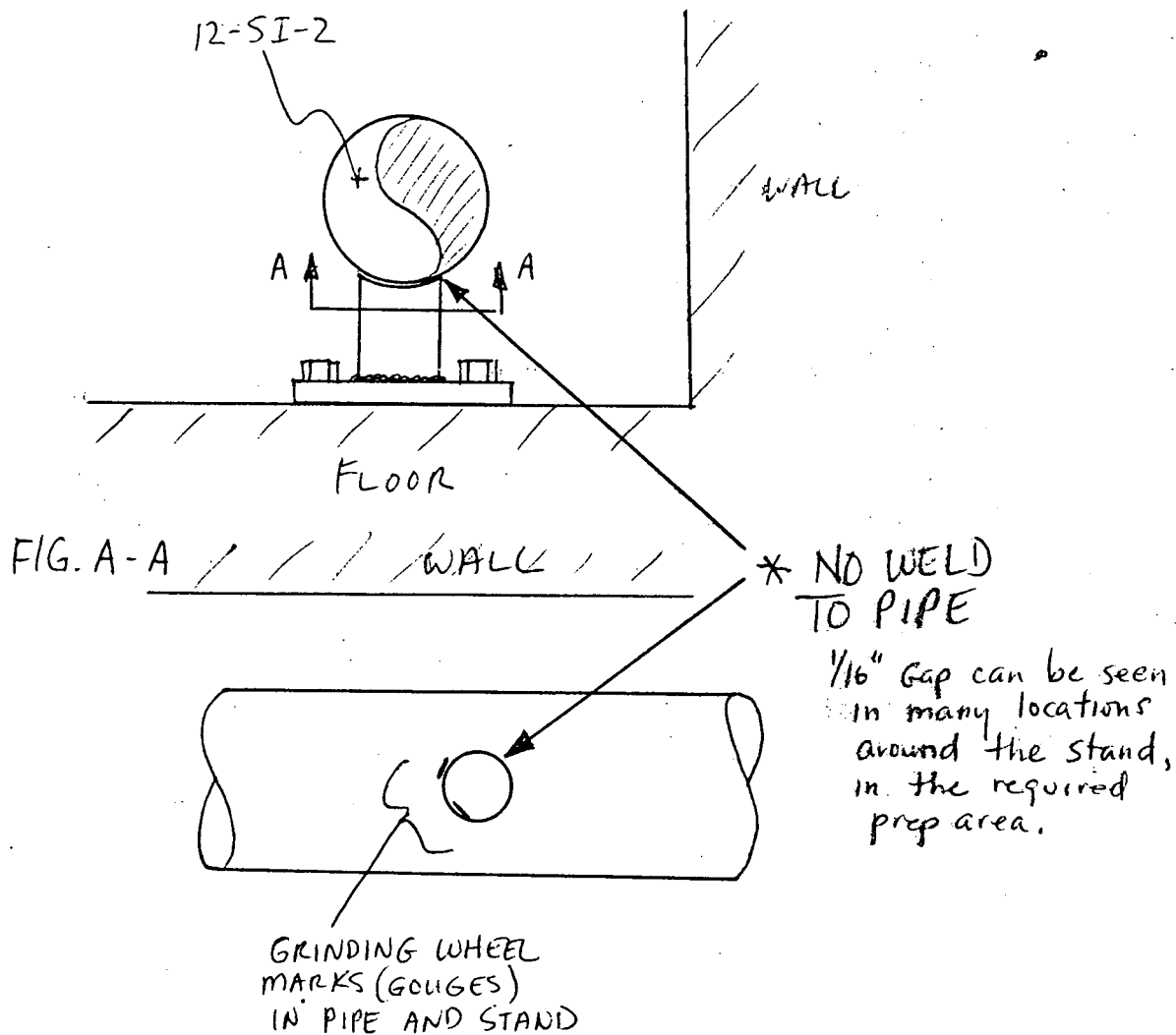
ANII REVIEW: CP Valladares

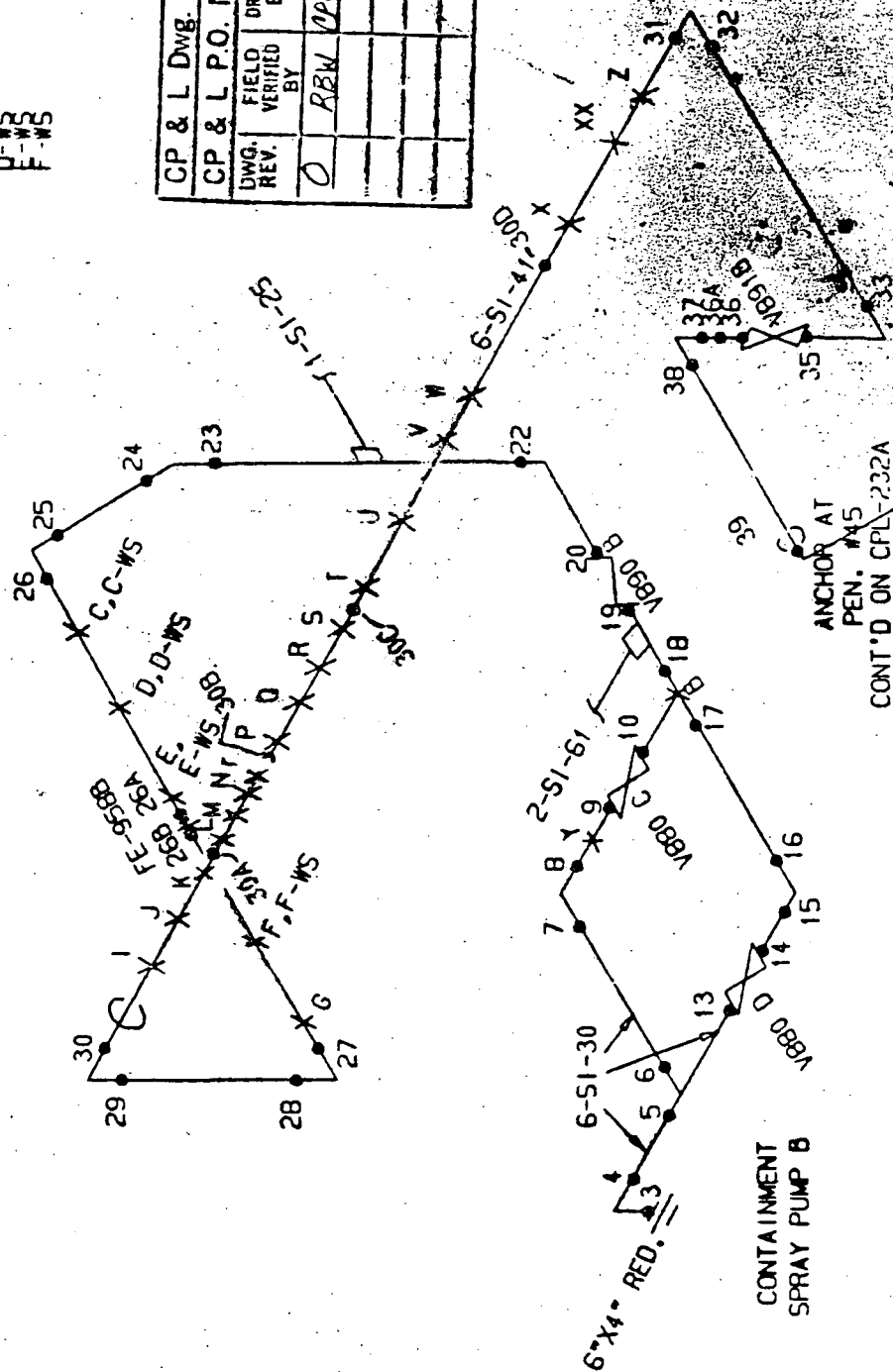
DATE: 4-28-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097786EXAM ITEM CPL-231-B-WSISO DWG. NO. CPL-231 REV. 1

SKETCH SHEET

EXAMINER Cliff MossEXAMINER N/AREVIEWER Edward R. DormanREVIEWER Richard B. WeberREVIEWER AMLEVEL IILEVEL N/ALEVEL IIDATE 4/25/92DATE DATE 4-20-92DATE N/ADATE 4-22-92

[illegible]

CPL-232 REV. 0

H. B. ROBINSON S. E. PLANT

UNIT NO. 2

DESCRIPTION: CS PUMP 8 TO HEADERS

CONTROLLED
RCPT ID 296

VISUAL EXAMINATION DATA SHEET

REPORT NO. 109779

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

SI

COMPONENT

NAME:

SUPPORT

COMPONENT

ID NO.:

CPL 232 - B

DWG./LOC.: CPL 232 REV 0 / SI Pump Room.

☒ VT-3 PROCEDURE: ^{SP-1097 rev 4-8-92} NDEP-613 REV.: 0

☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT

☒ MIRROR

☐ OTHER

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER:

[Signature]

LEVEL: II

DATE: 4-3-92

REVIEWER:

[Signature]

LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B Weber 4/8/92

REVIEWERS COMMENTS:

ANII REVIEW:

[Signature]

DATE: 4-8-92

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1087-18

WR&A # N/A

PAGE 1 OF 1

PLANT: H.B. Robinson

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>Support</u>	COMPONENT ID NO.: <u>CPL-232-C</u>
----------------------	-----------------------------------	---------------------------------------

DWG./LOC.: CPL 232 Rev.0 / SI Pump Room

☒ VT-3 PROCEDURE: SP 1097 AC 4892 NDEP-613- REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	VIDEO RECORDING NO.: <u>N/A</u> TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			<div style="transform: rotate(45deg); font-size: 2em; opacity: 0.5;">Nuts on one side of U-Bolt Loose</div>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: <u>Art Purnum</u>	LEVEL: <u>II</u>	DATE: <u>4-3-92</u>
REVIEWER: <u>Edmund L. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-8-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/8/92

REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares DATE: 4-8-92

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-256

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [1] [X] 2 [] PSI [X] ISI

SYSTEM:
CS PUMPCOMPONENT
NAME: HANGERCOMPONENT
ID NO.: CPL-232-C

DWG./LOC.: CPL-232 REV-0 / ST PUMP ROOM

VT-3 PROCEDURE: SP 1097 ERO 5-792
NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR
[] OTHER

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] CONSTANT SUPPORT

[] MECHANICAL SNUBBER

[] VARIABLE SUPPORT

[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		X		N/A
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		
STRUCTURAL INTEGRITY		X		
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS		X		
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A			
	STROKE: N/A			
	S/N N/A			

COMMENTS: NO RECORDABLE INDICATIONS

RE-EXAM AFTER REPAIR

WR/JD 92 AEFQ1

EXAMINER: Edmund R. Donovan

LEVEL: II

DATE: 5-6-92

REVIEWER: Art Purnan

LEVEL: II

DATE: 5-7-92

COMPONENT CONDITION: [] SATISFACTORY

[] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/8/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares

DATE: 5-13-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-17

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☐ ISI

SYSTEM:

SI

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL 232-C-WS

DWG./LOC.: CPL 232 Rev. 0 / SI Pump Room

☒ VT-3 PROCEDURE: ^{SP-1097 AP4-B-12}~~NOEP 613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			✓	N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS:

NO RECORDABLE INDICATIONS

EXAMINER: Art Purnan

LEVEL: II

DATE: 4-3-92

REVIEWER: Edmund R. Donovan

LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/8/92

REVIEWERS COMMENTS:

ANII REVIEW: JP Valladares

DATE: 4-8-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-158

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 232 - E</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 232 REV 0 / SI PUMP ROOM

[X] VT-3 PROCEDURE: ^{SP 1097 AP 4-16-92} NDEP 613 REV.: 0 [] VT-4 PROCEDURE: 614 REV. 2

DIRECT [X] REMOTE [X]	VIDEO RECORDING NO: [X] N/A
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	N/A
ARC STRIKES/GOUGES		✓		N/A
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art P... LEVEL: II DATE: 4-16-92

REVIEWER: Chf Moss AM LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

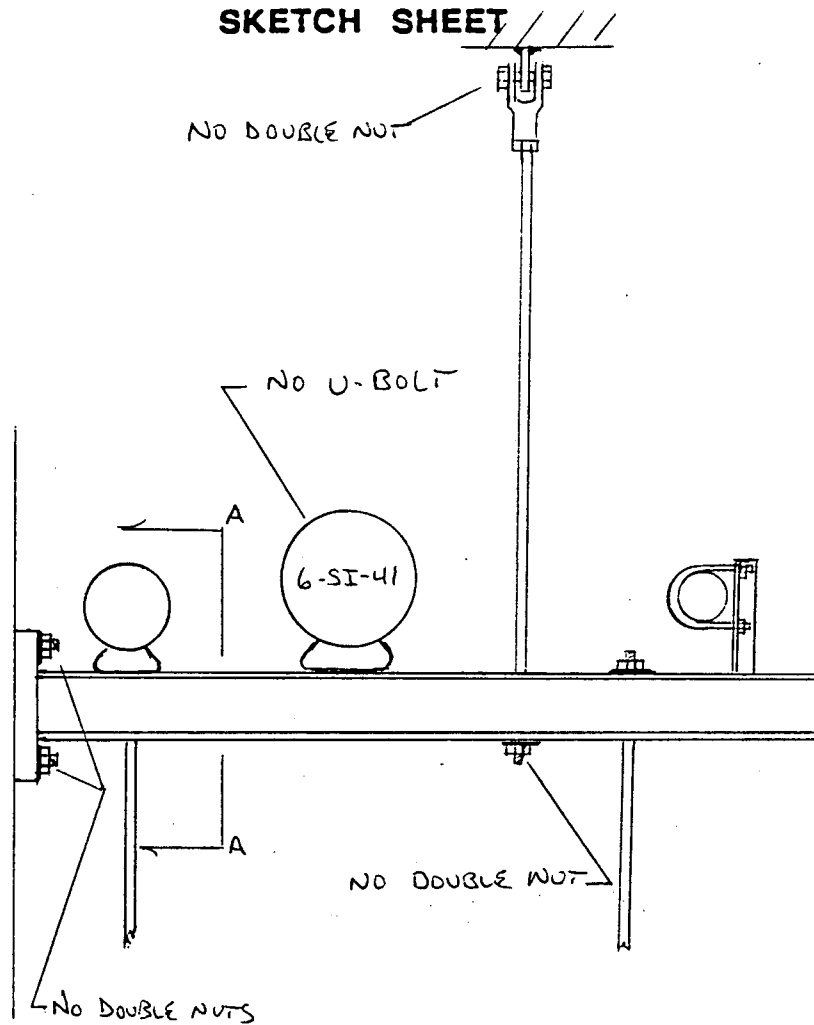
REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares DATE: 4.23-92

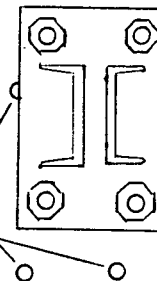
1125

PAGE 2 OF 2DATA SHEET NO. 1097-158EXAM ITEM CPL 232 - EISO DWG. NO. CPL 232 REV. 0

SKETCH SHEET



HOLES IN CONCRETE
< 5 DIAMETERS
FROM BASE PLATE
STUDS.

EXAMINER Art P...LEVEL IIDATE 4-16-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Chf MassLEVEL IIDATE 4-18-92REVIEWER Richard B. WeberDATE 4/22/92REVIEWER DATE



Caroline Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-157

WR&A # N/A

PAGE 1 OF 1

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>INTEGRAL ATTACHMENT</u>	COMPONENT ID NO.: <u>CPL 232-E-45</u>
----------------------	---	--

DWG./LOC.: CPL 232 REV 0 / SI PUMP ROOM

<u>[X]</u> VT-3 PROCEDURE: <u>SP.1097 APR 16 92</u> <u>NDEP-613</u> REV.: <u>0</u>	<u>[]</u> VT-4 PROCEDURE: <u>614</u> REV.:
---	---

DIRECT <u>[X]</u> REMOTE <u>[X]</u>	VIDEO RECORDING NO: <u>[X] N/A</u>
-------------------------------------	------------------------------------

EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[X]</u> MIRROR <u>[]</u> OTHER _____	TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[X]</u> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>
---------------------------	--------------------

SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
---------	--------------------	--------------------	----------------

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: <u>Cert Pinner</u>	LEVEL: <u>II</u>	DATE: <u>4-16-92</u>
------------------------------	------------------	----------------------

REVIEWER: <u>Chf Moss</u>	LEVEL: <u>II</u>	DATE: <u>4-18-92</u>
---------------------------	------------------	----------------------

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B Weber 4/21/92

REVIEWERS COMMENTS:

ANII REVIEW: <u>RPalladav</u>	DATE: <u>4-21-92</u>
-------------------------------	----------------------

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-285

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 11 K12 1 PSI X ISI
 SYSTEM: CS COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-232-E

DWG./LOC.: CPL 232 REVO / SI PUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 5-1592 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☐ MIRROR ☐ OTHER
 TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: NO RECORDABLE

RE-EXAM AFTER REPAIR

WR/JO 92-AFJW-1

EXAMINER: Edward D. Deaton LEVEL: II DATE: 5-15-92

REVIEWER: Art Puma LEVEL: II DATE: 5-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/18/92

REVIEWERS COMMENTS:

ANII REVIEW: Bozelladanes

DATE: 5-18-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-160

WR&A # N/A

PAGE 1 OF 2

PLANT: H.B. ROBINSON UNIT 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 232 - F</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CAL 232 REV 0 / SI Pump Room

☒ VT-3 PROCEDURE: SC 1097 AP 4-16-92 NDP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
<input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> OTHER	<input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT
	<input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS	
FASTENING DEVICES	✓			SEE ATTACHMENT N / A	
MISALIGNMENT		✓			
DEBRIS		✓			
CORROSION/EROSION		✓			
STRUCTURAL INTEGRITY		✓		SEE ATTACHMENT N / A	
RESISTANCE TO MOVEMENT	✓				
CLEARANCES OF MOVING PARTS			✓		
ARC STRIKES/GOUGES		✓		N / A	
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A				
SNUBBER	ACTUAL: N/A		STROKE: N/A		S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: At P... LEVEL: II DATE: 4-16-92

REVIEWER: Chiff Moss LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares

DATE: 4-23-92

1125

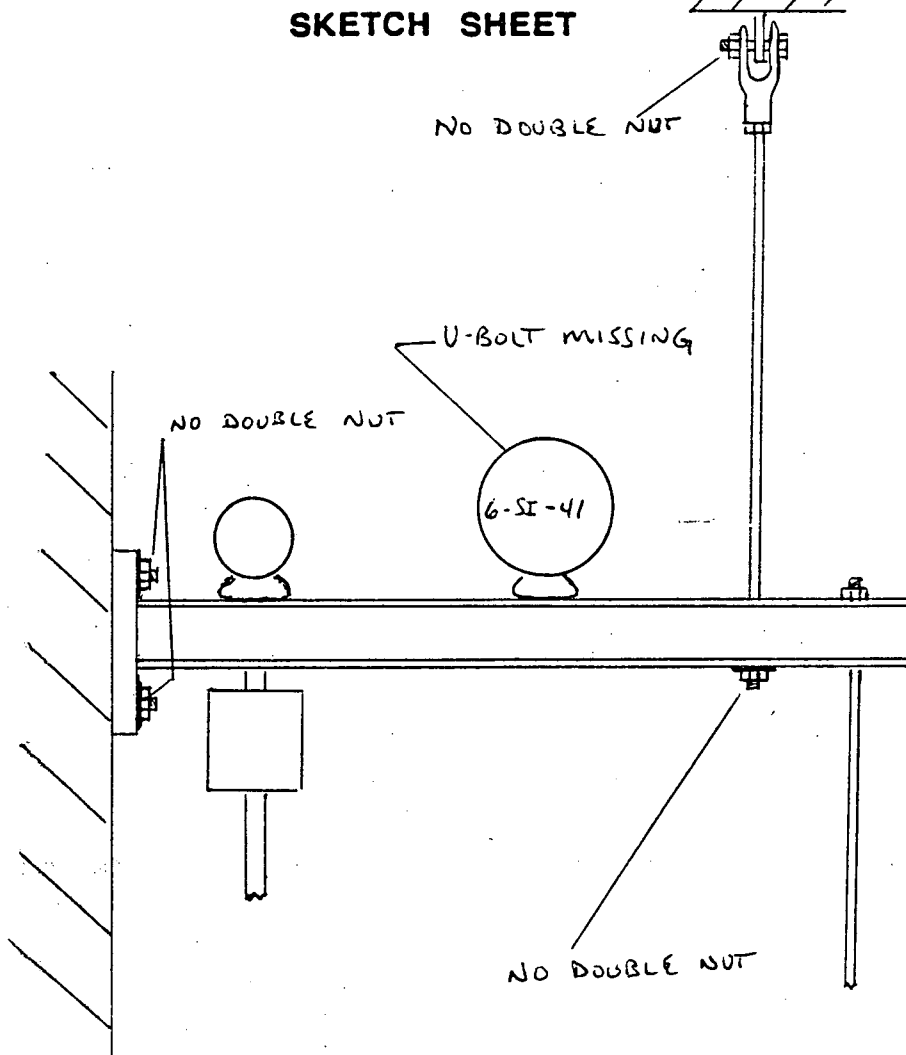
PAGE 2 OF 2

DATA SHEET NO. 1097460

EXAM ITEM CPL 232-F

ISO DWG. NO. CPL 232 REV. 0

SKETCH SHEET



EXAMINER Oct Purnan

LEVEL II

DATE 4-16-92

EXAMINER N/A

LEVEL N/A

DATE N/A

REVIEWER C. W. Miller

LEVEL II

DATE 4-18-92

REVIEWER Richard B. Weber

DATE 4/21/92

REVIEWER _____

DATE _____

82



Canadian Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-286

WR&A # N/A

PAGE 1 OF 1

PLANT: NB ROBINSON UNIT 1 1 2 1 PSI ISI

SYSTEM: CS COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-232-F

DWG./LOC.: CPL-232 REV-0 / SI PUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 5-15-92 NDP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☐ MIRROR ☐ OTHER TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT ☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT ☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		<div>N</div> <div>A</div>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONS

RE-EXAM AFTER REPAIR

WR&A 92-AFJN1

EXAMINER: Edward R. Donovan LEVEL: II DATE: 5-15-92

REVIEWER: Art Purnum LEVEL: II DATE: 5-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/18/92

REVIEWERS COMMENTS:

ANII REVIEW: R. P. Valladares

DATE: 5-18-92



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097/65

WR&A # N/A

PAGE 1 OF 1

PLANT: H. B. ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>INTEGRAL ATTACHMENT</u>	COMPONENT ID NO.: <u>CPL 232-F-W5</u>
-------------------	--	---------------------------------------

DWG./LOC.: CPL 232 REV 0 / SI PUMP ROOM

[X] VT-3 PROCEDURE: ^{SP 1097 AP 44642} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV. #

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
<input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> OTHER _____	<input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT
	<input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		
STRUCTURAL INTEGRITY		X		
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>NA</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-16-92

REVIEWER: Chet Moss LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Walladave DATE: 4-21-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-16

WR&A # N/A

PAGE 1 OF 1

PLANT: HR ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

SI

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL 232 - G

DWG./LOC.: EPL 232 REV 0 / SI PUMP RM.

☒ VT-3 PROCEDURE: SP 1097 AP 4-82
NDEP-613 REV.: 0

☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/A NO RECORDABLE INDICATIONS
AT 4-8-92

EXAMINER: Art Pinner

LEVEL: II

DATE: 4-3-92

REVIEWER: Edmund L. Donovan

LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard S. Zeller 4/8/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Halladave

DATE: 4-8-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-306

WR&A # 92 AFAP1

PAGE 1 OF 1

PLANT: HBR

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

SI

COMPONENT

NAME: Support

COMPONENT

ID NO.: CPL-232-I

DWG./LOC.: CPL-232 R1 Pipe Alley

☒ VT-3 PROCEDURE: SP-1097 NDEP-613 REV.: 0

☐ VT-4 PROCEDURE: N/A 614 REV.:

DIRECT ☒ REMOTE ☐

VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☐ MIRROR
☒ OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION
Present

YES NO N/A

COMMENTS

FASTENING DEVICES

☒

MISALIGNMENT

☒

DEBRIS

☒

CORROSION/EROSION

☒

STRUCTURAL INTEGRITY

☒

RESISTANCE TO MOVEMENT

☒

CLEARANCES OF MOVING PARTS

☒

ARC STRIKES/GOUGES

☒

VARIABLE/CONSTANT SUPPORT

ACTUAL: N/A

SNUBBER

N/A

ACTUAL: N/A

STROKE: N/A

S/N N/A

COMMENTS: REEXAM AFTER Repair WR/JO AFAP1
NO Recordable Indications

Clearance Between Small Line Noted
AFTER Removal of SPACER 1/6 Ref
Report 1097-119 Date: 4-11-92

EXAMINER:

LEVEL: II

DATE: 5-22-92 AF 5-22-92

REVIEWER:

LEVEL: II

DATE: 5-22-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/22/92

VIEWS COMMENTS:

ANII REVIEW: R. Valladares

DATE: 6-2-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-49

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-232-I</u>
---------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-232, Rev 1 / PIPE ALLEY

☒ VT-3 PROCEDURE: SR-1097 @N 4-11-92 ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV. 4

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> OTHER <u>6" scale</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	<u>N/A</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			<u>Light debris on all horizontal surfaces.</u>
CORROSION/EROSION		<input checked="" type="checkbox"/>		<u>N/A</u>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>See page #2 for details</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	<u>N/A</u>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		<u>See page #2 for weld debris (remnant)</u>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Chiff Moss @N LEVEL: II DATE: 4-11-92

REVIEWER: Edmund R. Dawson @N LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares

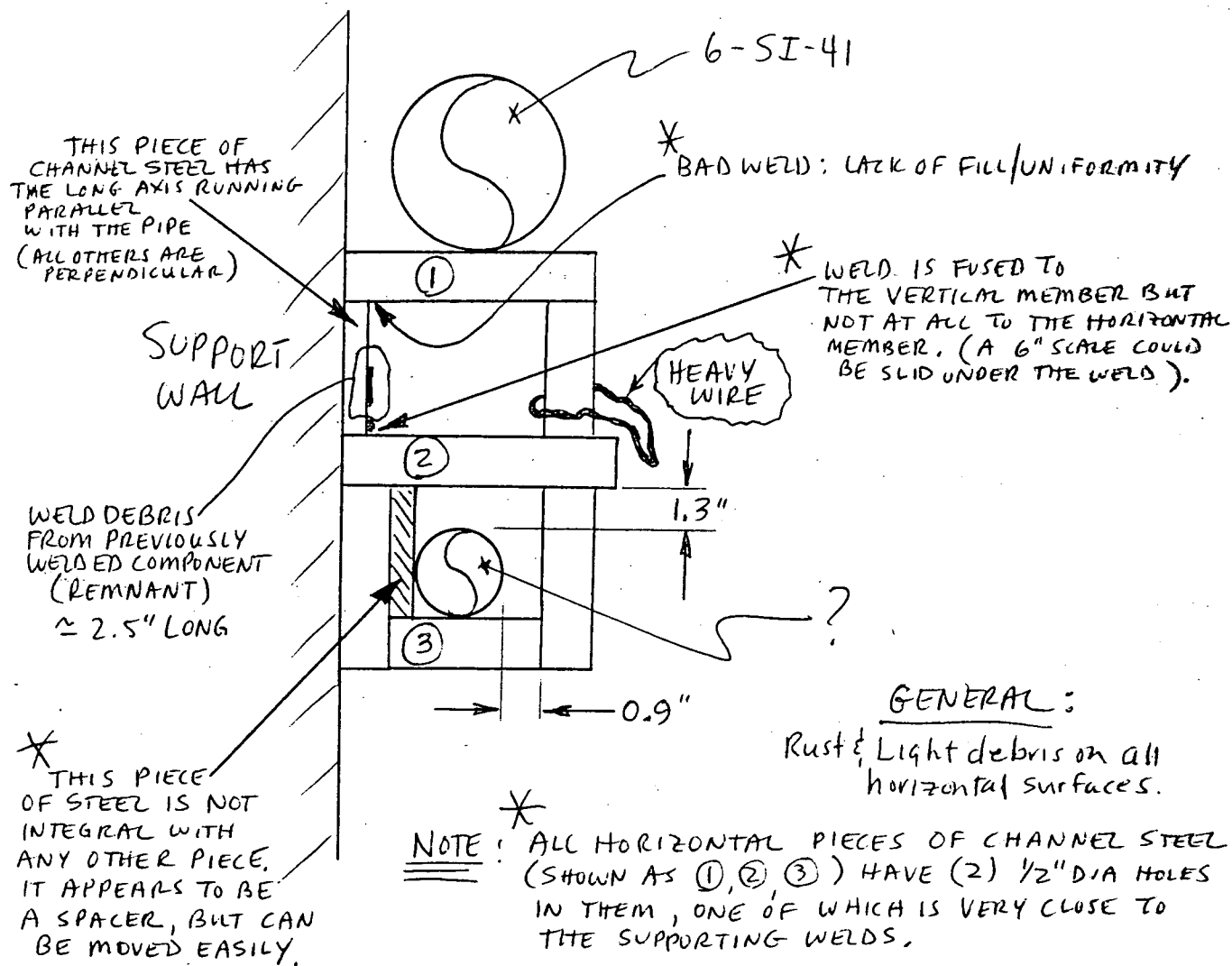
DATE: 4-17-92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-469
EXAM ITEM CPL-232-I
ISO DWG. NO. CPL-232 REV. 1

SKETCH SHEET

LOOKING AT
S.I. PUMP ROOM



EXAMINER Chiff Moss
EXAMINER N/A
REVIEWER Edmund R. Darrow
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/15/92
DATE _____

DATE 4-11-92
DATE N/A
DATE 4-14-92

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-120

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-232-J</u>
---------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-232 Rev 1 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CN 4-11-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.?

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> MIRROR	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER	<input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
---	--	---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			Light debris on all horizontal surfaces
CORROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			See page #2 for details
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Cliff Moss CN LEVEL: II DATE: 4-11-92

REVIEWER: Edmund R. Donora MD LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

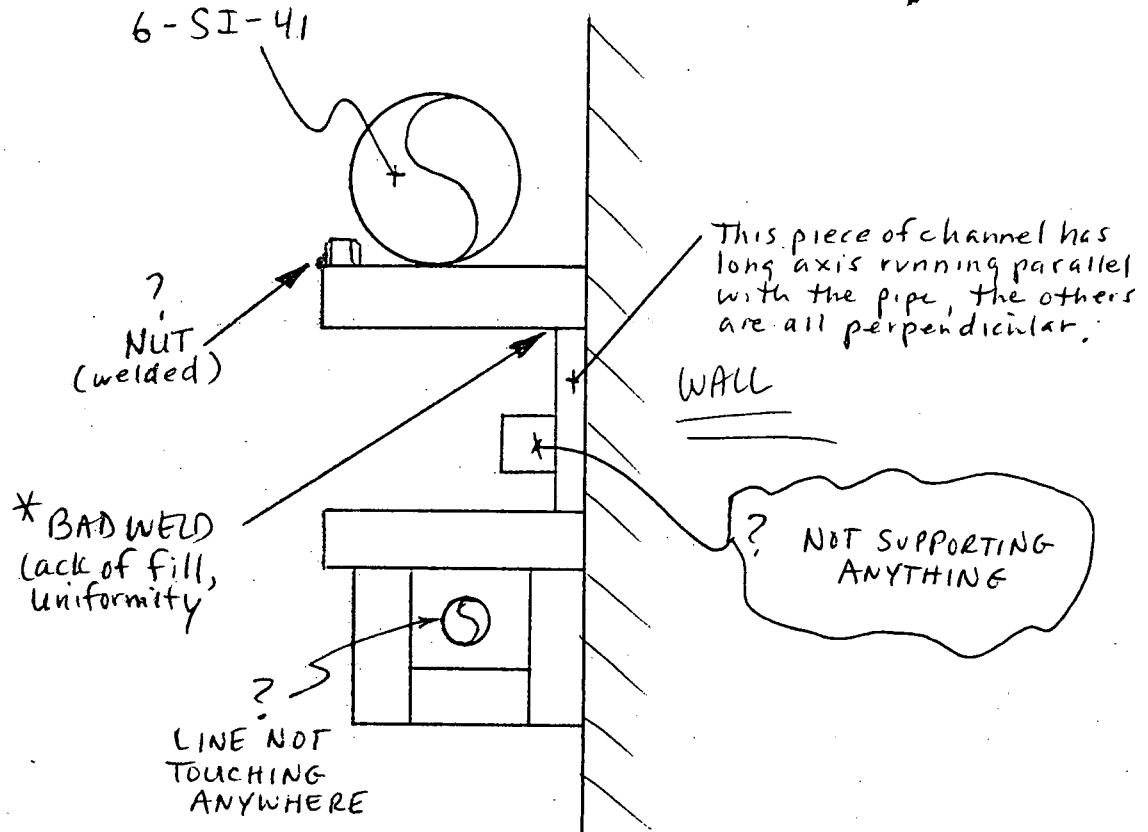
REVIEWERS COMMENTS:

ANII REVIEW: CP Malladones DATE: 4-17-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-120EXAM ITEM CPL-232-JISO DWG. NO. CPL-232 REV. 1

SKETCH SHEET

LOOKING IN DIRECTION OF
CONTAINMENTEXAMINER Chff MossEXAMINER N/AREVIEWER Edmund R. DonovanREVIEWER Richard B. WikerREVIEWER RMLEVEL IILEVEL N/ALEVEL IIDATE 4/15/92

DATE _____

DATE 4-11-92DATE N/ADATE 4-14-92



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEETREPORT NO. 1097-312WR&A # 92-AHLE1PAGE 1 OF 1PLANT: HB2UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

SI

COMPONENT

NAME:

Support

COMPONENT

ID NO.:

CPL-232YDWG./LOC.: CPL-232 Y/O SI Pump Room☒ VT-3 PROCEDURE: NDP-613 REV.: 0 SP1097 5-26-92 ☐ VT-4 PROCEDURE: 614 REV.: N/ADIRECT ☒ REMOTE ☐

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☐ MIRROR☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER☐ CONSTANT SUPPORT☐ MECHANICAL SNUBBER☐ VARIABLE SUPPORT☒ SUPPORT/HANGERCONDITION
Present

YES

NO

N/A

COMMENTS

FASTENING DEVICES

☒

MISALIGNMENT

☒

DEBRIS

☒

CORROSION/EROSION

☒

STRUCTURAL INTEGRITY

☒

RESISTANCE TO MOVEMENT

☒

CLEARANCES OF MOVING PARTS

☒

ARC STRIKES/GOUGES

☒

VARIABLE/CONSTANT SUPPORT

ACTUAL:

N/A

SNUBBER

N/A

ACTUAL:

N/A

STROKE:

N/A

S/N

N/ACOMMENTS: Reinspected AFTER u Bolt Removed 92-AHLE1

EXAMINER:

LEVEL:

IIDATE: 5-26-92

REVIEWER:

LEVEL:

N/ADATE: 5-26-92COMPONENT CONDITION: ☐ SATISFACTORY☐ UNSATISFACTORY

REVIEWED BY:

Richard B. Weber 5/26/92

REVIEWERS COMMENTS:

ANII REVIEW:

QD VelledaresDATE: 6-2-92



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-307

WR&A # _____

PAGE 1 OF 1

PLANT: HBR

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

SI

COMPONENT

NAME: Support

COMPONENT

ID NO.: CPH-232-Y

DWG./LOC.: CPH 232 REV 0 / SI Pump Rm

☒ VT-3 PROCEDURE: ^{SP1097}NDEP-613 REV.: 0

☐ VT-4 PROCEDURE: ^{N/A}614 REV.: _____

DIRECT ☒ REMOTE ☐

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☐ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION
Present

YES NO N/A

COMMENTS

FASTENING DEVICES

☒

MISALIGNMENT

☒

DEBRIS

☒

CORROSION/EROSION

☒

STRUCTURAL INTEGRITY

☒

RESISTANCE TO MOVEMENT

☒

1/2 Bolt around weld clearance 0 top and bottom of pipe

CLEARANCES OF MOVING PARTS

☒

ARC STRIKES/GOUGES

☒

VARIABLE/CONSTANT SUPPORT

ACTUAL:

N/A

SNUBBER

N/A

ACTUAL:

N/A

STROKE:

N/A

S/N

N/A

COMMENTS: Reinspection PER NED Request - Grant repair around Base of support (new)
Reconstrable Indication

EXAMINER:

LEVEL:

II

DATE:

5-21-92 (Inspected)
5-22-92

REVIEWER:

LEVEL:

II

DATE:

5-22-92

COMPONENT CONDITION:

☐

SATISFACTORY

☐

UNSATISFACTORY

REVIEWED BY:

Richard B. Weber 5/22/92

VIEWS COMMENTS:

ANII REVIEW:

R. Valladares

DATE:

6-2-92

92-055-01 - 05000-01

CP&L

Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-13

WR&A # N/A

PAGE 1 OF 1

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-232-Y</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 232 REVO / SI PUMP RM

SP1097 AP4-492
☒ VT-3 PROCEDURE: NDP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	VIDEO RECORDING NO: <u>[X] N/A</u> TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: GROUT MISSING FROM CORNER OF BASE PLATE.
NO RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-3-92

REVIEWER: Edmund R. Doreen LEVEL: II DATE: 4-8-92

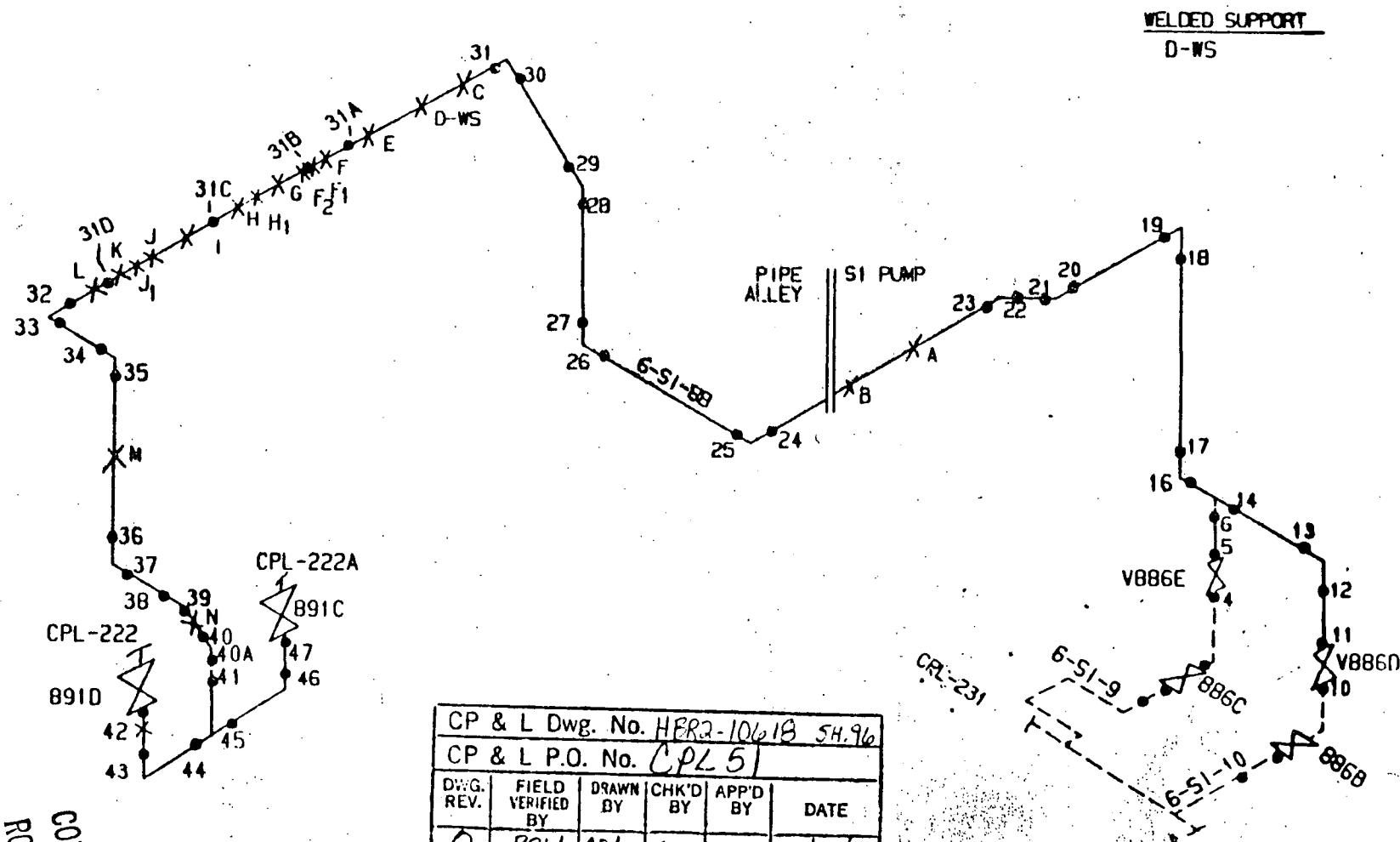
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/8/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares

DATE: 4-8-92



CP & L Dwg. No. <i>HER2-10618 5H.96</i>					
CP & L P.O. No. <i>CPL 51</i>					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
<i>0</i>	<i>RBW</i>	<i>CPL</i>	<i>CLO</i>	<i>CLO</i>	<i>12/12/89</i>

CPL-233		REV. 0
H. B. ROBINSON S. E. PLANT		
UNIT NO. 2		
DESCRIPTION: SAFETY INJECTION SYSTEM		

CONTROLLED
RCPT ID *296*

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-15

WR&A # N/A

PAGE 1 OF 1

PLANT: H B ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 233-A</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 233 REV 0 / SI PUMP RM

[X] VT-3 PROCEDURE: ^{SP 1097 AP 4-4-92} NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u> </u>	VIDEO RECORDING NO: <u> </u> <input checked="" type="checkbox"/> N/A TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			INADEQUATE THREAD ENGAGEMENT AT TURNBUCKLE AND BOTTOM WELDLESS EYE NOT.
MISALIGNMENT	✓			ROD BENT
DEBRIS		✓		N/A
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO CLAMP SPACER
HANGER NOT SUPPORTING LOAD
RECORDABLE INDICATIONS

EXAMINER: <u>Art P...</u>	LEVEL: <u>II</u>	DATE: <u>4-3-92</u>
REVIEWER: <u>Edward R. Down...</u>	LEVEL: <u>II</u>	DATE: <u>4-8-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/8/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Villalobos DATE: 4-8-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-279

WR&A # NA

PAGE 1 OF 1

PLANT: H B ROBINSON

UNIT ☐ 11 ☒ 12 ☐ PSI ☒ ISI

SYSTEM: SI

COMPONENT

NAME: HANGER

COMPONENT

ID NO.: CPL 233 A

DWG./LOC.: CPL 233 REV-0 / SI PUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 5-9-92
NOEP 613 REV.: 0

☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT

☒ MIRROR

☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>			
	STROKE: <u>N/A</u>			
	S/N <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONS

RE-EXAM AFTER REPAIR

WR&A 92-AEFR1

EXAMINER: Edward R. Donovan

LEVEL: II

DATE: 5-9-92

REVIEWER: Art P...

LEVEL: III

DATE: 5-15-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/18/92

REVIEWERS COMMENTS:

ANII REVIEW: AMallada

DATE: 5-18-92

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-14

WR&A # N/A

PAGE 1 OF 1

PLANT: H B ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 233-B</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 233 REV 0 / SI PUMP RM.

[X] VT-3 PROCEDURE: ^{SP 1097 AP 4-4-92} NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u> </u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/A NO RECORDABLE INDICATIONS
AP 4-8-92

EXAMINER: Cert Purnum LEVEL: II DATE: 4-3-92

REVIEWER: Edmund R Donovin LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/8/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Palladone DATE: 4-8-92

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-30

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: S. I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-233-C

DWG./LOC.: CPL-233, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 @ 4/4/92 ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER _____
TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		Washer plate on front U-Bolt leg is rotated slightly - see page # 2.
DEBRIS		<input checked="" type="checkbox"/>		Flammastic sprayed on support (light)
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: See page #2 for misalignment conditions.

RECORDABLE INDICATIONS

EXAMINER: Cliff Moss LEVEL: II DATE: 4/4/92

REVIEWER: Edmund R. Down LEVEL: II DATE: 4.8.92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard P. Weber 4/9/92

REVIEWERS COMMENTS:

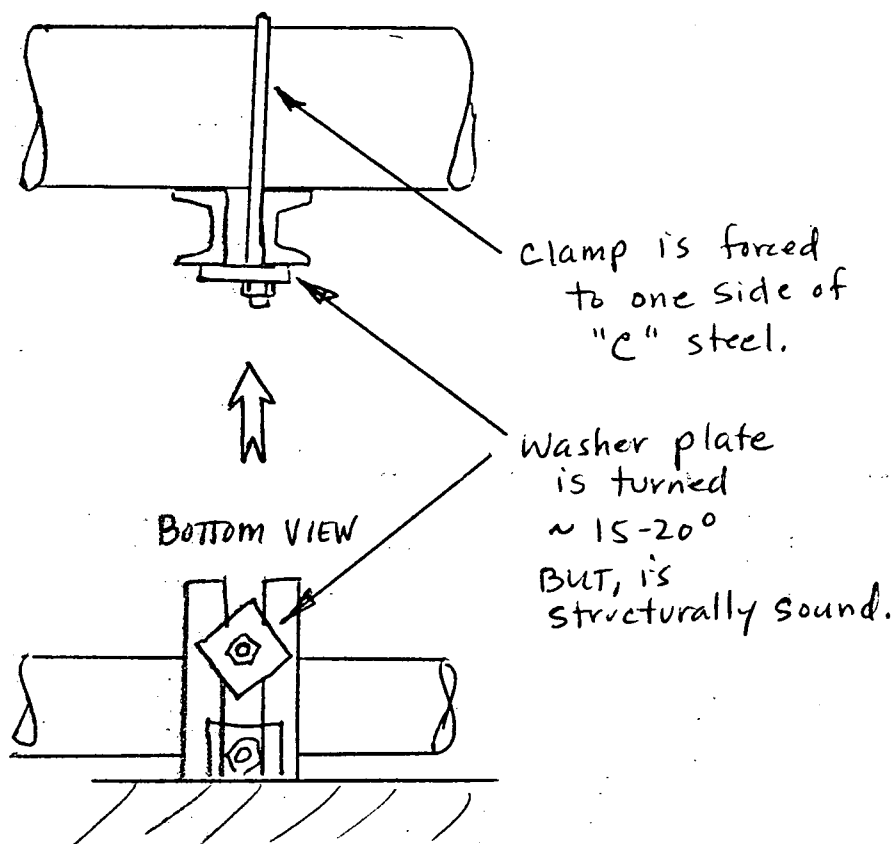
ANII REVIEW: AP Valladares

DATE: 4.9.92

1105

PAGE 2 OF 2DATA SHEET NO. 1097-30EXAM ITEM CPL-233-CISO DWG. NO. CPL-233 REV. 0

SKETCH SHEET



Neither condition appears to be detrimental to the structural integrity of the support.

EXAMINER Cliff Mass

EXAMINER N/A

REVIEWER Edward R. Dawson

REVIEWER Richard B. Weller

REVIEWER _____

LEVEL II

LEVEL N/A

LEVEL II

DATE 4/9/92

DATE _____

DATE 4-4-92

DATE N/A

DATE 4-6-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-31

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: S. I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-233-D

DWG./LOC.: CPL-233, Rev 0 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP-1097 CN 4/4/92 WDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [] MIRROR [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>[X]</u>	N/A
MISALIGNMENT		<u>[X]</u>		
DEBRIS		<u>[X]</u>		
CORROSION/EROSION		<u>[X]</u>		
STRUCTURAL INTEGRITY		<u>[X]</u>		
RESISTANCE TO MOVEMENT		<u>[X]</u>		
CLEARANCES OF MOVING PARTS			<u>[X]</u>	
ARC STRIKES/GOUGES		<u>[X]</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: NONE NO RECORDABLE INDICATIONS

EXAMINER: Cliff Moss CN LEVEL: II DATE: 4-4-92

REVIEWER: Edmund R. Donovan LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares

DATE: 4.9.92

LIQUID PENETRANT EXAMINATION

* measured ultrasonically

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5 MINUTES</u>
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90J 90H03K</u>	<u>15 MINUTES</u>
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5 MINUTES</u>
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7 MINUTES</u>

EXAMINER Cory Mass ON
EXAMINER NIA
REVIEWER Dale Myrdock
REVIEWER Richard T. Silver
REVIEWER Walladones ADII

DATE 4-13-92
DATE N/A
DATE 4/16/92

1125

PAGE 2 OF 2DATA SHEET NO. 1095-20EXAM ITEM CPL-233-D-WSISO DWG. NO. CPL-233 REV. 1

SKETCH SHEET

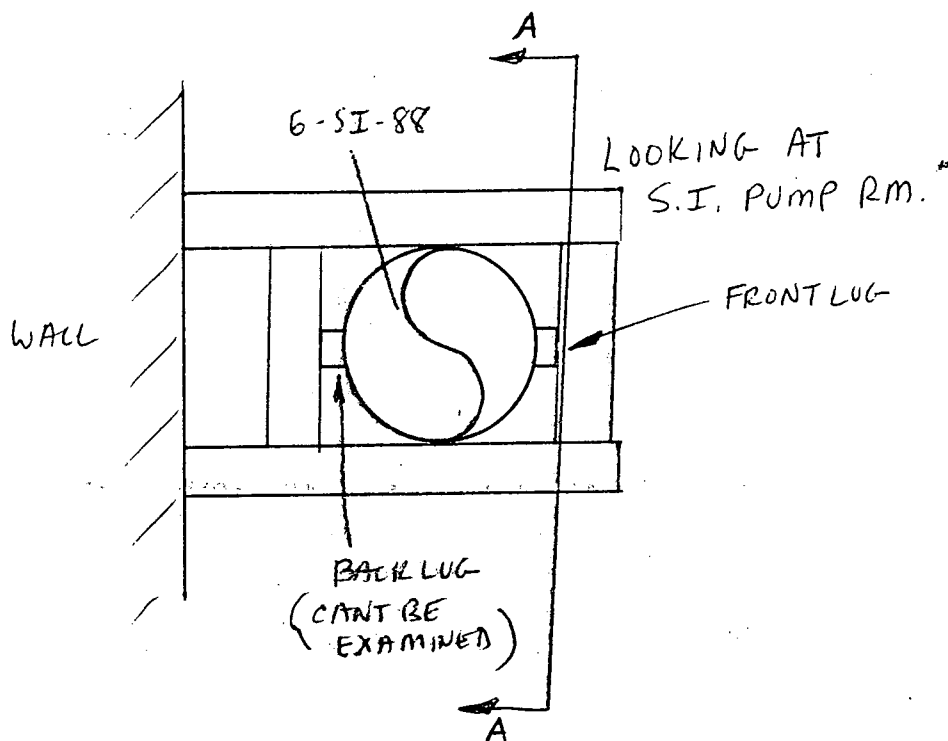
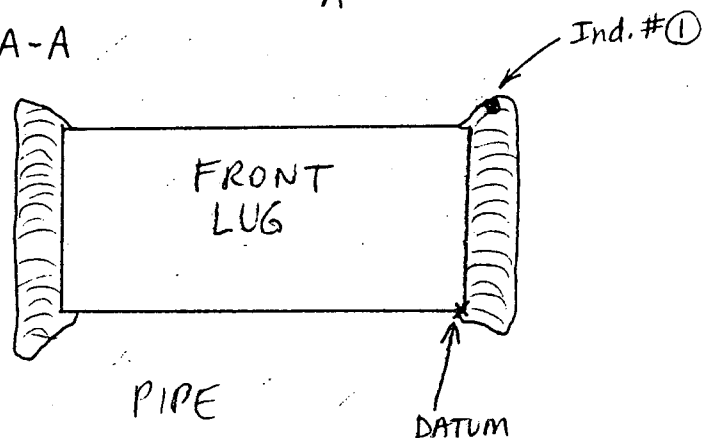


FIG. A-A

EXAMINER Cliff MassLEVEL IIDATE 4-13-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Dale MurdochLEVEL IIIDATE 4/16/92REVIEWER Richard B. WeberDATE 5/22/92REVIEWER R. Wallace AN IIDATE 6/2/92

CP&L

Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-34 ⁸⁵ _{4/92}

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-233-D-WS

DWG./LOC.: CPL-233, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CW 4/4/92 NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☐ MIRROR ☐ OTHER TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT ☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT ☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Backside lug has insufficient throat and is incomplete on both sides.
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: See page #2 for details of structural integrity.

RECORDABLE INDICATIONS

EXAMINER: Cliff Mass CW LEVEL: II DATE: 4/4/92

REVIEWER: Edmund L. Davis CW LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

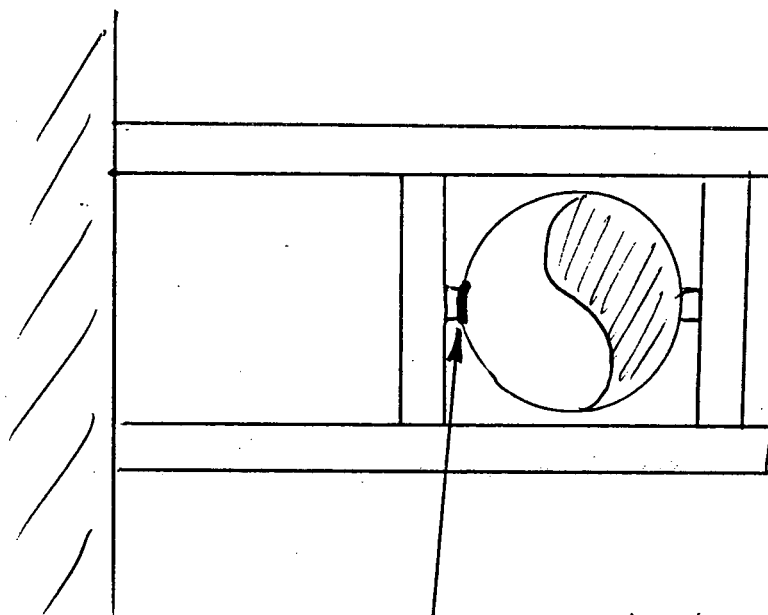
REVIEWED BY: Richard B. Wilson

REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares

DATE: 4/14/92

SKETCH SHEET



Back side lug has insufficient throat and is incomplete (both sides)

Recommend this Welded Support (WS) is not examined with surface NDE exam until this weld is repaired/evaluated.

EXAMINER Chiff Moss
 EXAMINER NA
 REVIEWER Edmund R. Dawson
 REVIEWER Richard B. Weber
 REVIEWER AW

LEVEL II
 LEVEL NA
 LEVEL II
 DATE 4/13/92
 DATE _____

DATE 4-4-92
 DATE NA
 DATE 4-6-92



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-121

WR&A # N/APAGE 1 OF 1PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISISYSTEM: SI COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-233-EDWG./LOC.: CPL 233 REVO / PIPE ALLEYSP 1097 ERO 4 1092
☒ VT-3 PROCEDURE: NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: ?DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/AEQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____
TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N: <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONSEXAMINER: Edward R. Downer LEVEL: II DATE: 4-10-92REVIEWER: Wt. Purnum AW LEVEL: II DATE: 4-14-92COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORYREVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

ANII REVIEW: R. ValladaresDATE: 4-17-92



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-322

WR&A # 92-AFAR1

PAGE 1 OF 1

PLANT: H.B. ROBINSON

UNIT 11 ☒ 12 ☐ 1 PSI ☒ ISI

SYSTEM:

SI

COMPONENT

NAME:

SUPPORT

COMPONENT

ID NO.:

CPL - 233-F

DWG./LOC.: CPL 233 REV. 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: NDEP-613 REV.: 0 ^{SP1097 QC 5/29/92} ☐ VT-4 PROCEDURE: 614 REV.: N/A

DIRECT ☒

REMOTE ☐

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT

☐ MIRROR

☐ OTHER

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION
Present

YES

NO

N/A

COMMENTS

FASTENING DEVICES

☒

MISALIGNMENT

☒

DEBRIS

☒

CORROSION/EROSION

☒

STRUCTURAL INTEGRITY

☒

RESISTANCE TO MOVEMENT

☒

CLEARANCES OF MOVING PARTS

☒

ARC STRIKES/GOUGES

☒

VARIABLE/CONSTANT SUPPORT

ACTUAL:

N/A

SNUBBER

ACTUAL:

N/A

STROKE:

N/A

S/N

N/A

COMMENTS: SUPPORT TAGGED WITH STAINLESS STEEL TAG AND WIRE.

NORECORDABLE INDICATIONS NOTED
TAG STATES "ABANDONED IN PLACE" PER RFO 14 ISI EXAM EVALUATION

EXAMINER:

John Crutcher

LEVEL:

II

DATE:

5-29-92

REVIEWER:

[Signature]

LEVEL:

II

DATE:

6-5-92

COMPONENT CONDITION:

☐

SATISFACTORY

☐

UNSATISFACTORY

VIEWED BY:

Richard B. Weber 6/1/92

REVIEWERS COMMENTS:

ANII REVIEW:

[Signature]

DATE:

6-5-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-122

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>ST</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-233-F</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 233 REV-0 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP 1097 ERD 4-14-92
NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER _____ <input checked="" type="checkbox"/> MIRROR	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			<u>SEE ATTACHED</u>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edmund P. Donovan LEVEL: II DATE: 4-10-92

REVIEWER: Art Ruman RD LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

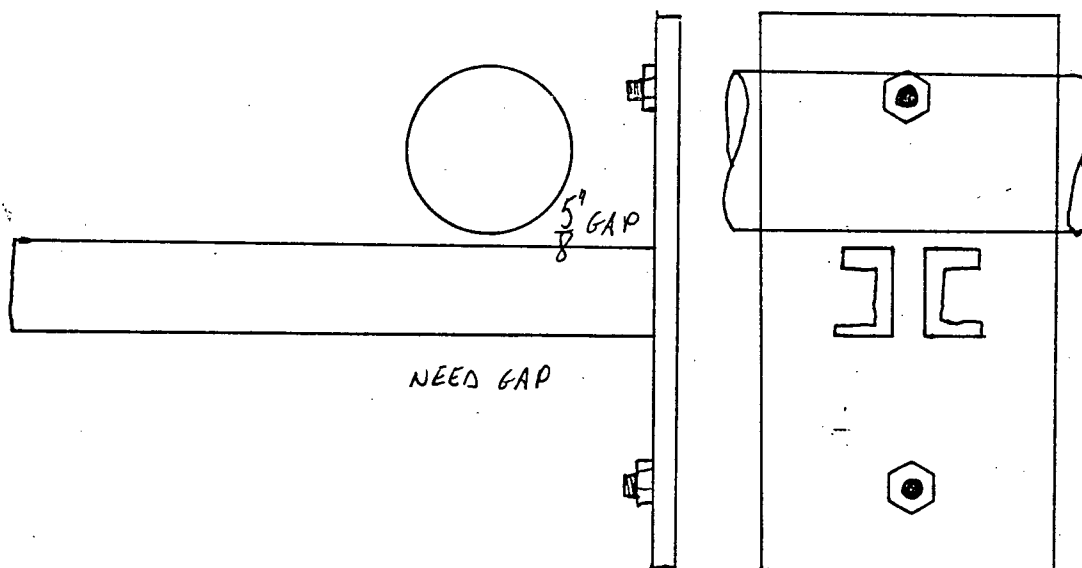
REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4-17-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-122EXAM ITEM CPL-233-FISO DWG. NO. CPL 233 REV. 0

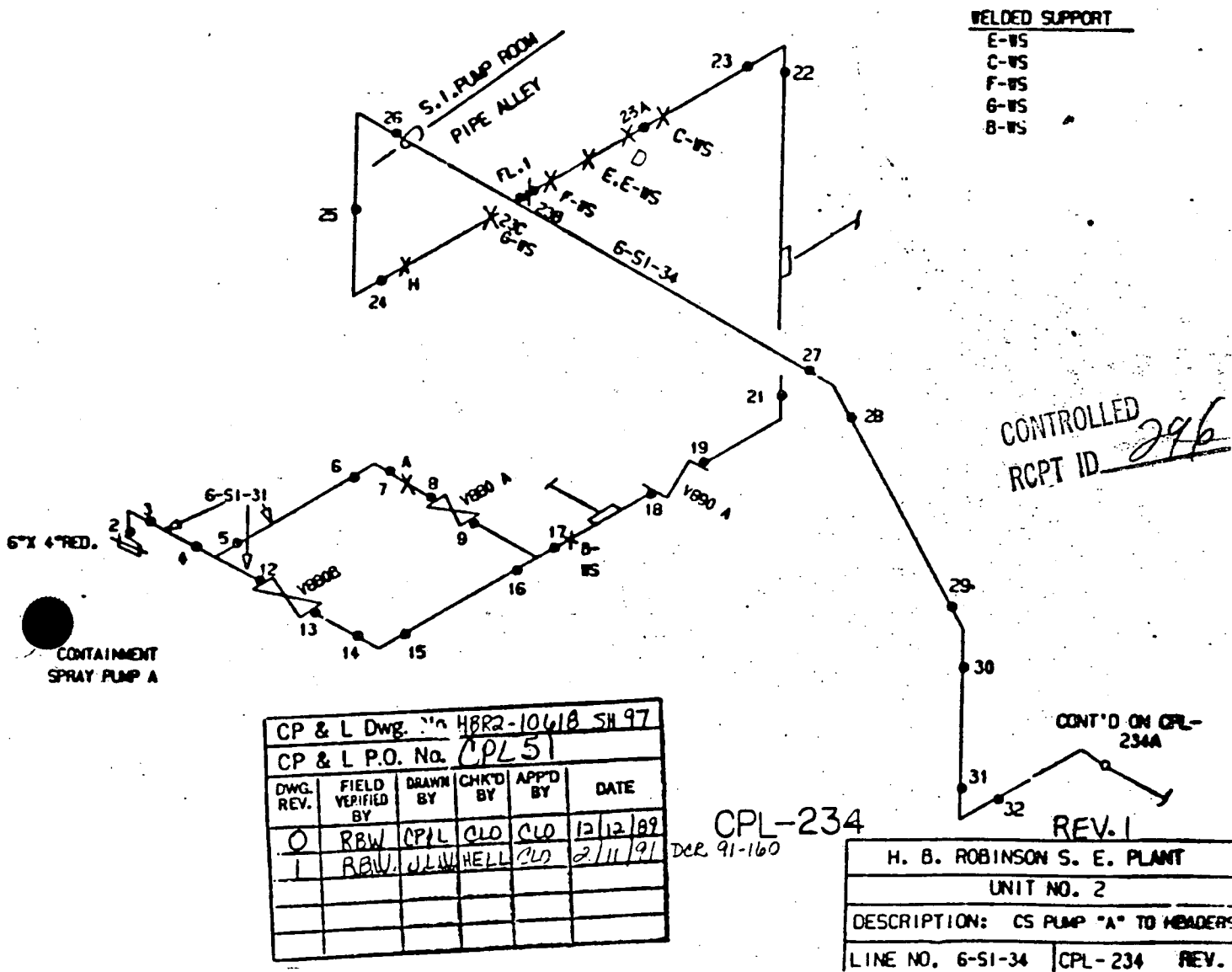
SKETCH SHEET

EXAMINER Edmund L. DawsonLEVEL IIDATE 4-10-92EXAMINER NALEVEL NADATE NAREVIEWER Art PurnanLEVEL IIDATE 4-14-92REVIEWER Richard B. WeberDATE 4/15/92

REVIEWER _____

DATE _____

AWD



16 X

The image contained on this frame was made in the normal and regular course of business by CP&L on the date stated below. It is an accurate reproduction of the document submitted for microfilming.

Date: 2/13/91

Operator: Randee Lease

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-90

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-234-A</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 234 REV 1 / SI PUMP RM.

[X] VT-3 PROCEDURE: SP 1097 AP 4-9-92 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
[X] FLASHLIGHT [X] MIRROR	[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[X] OTHER <u>6" SCALE</u>	[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
	[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER: Art Purnan LEVEL: II DATE: 4-9-92

REVIEWER: Edmund R. Darrow LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Wiker 4/14/92

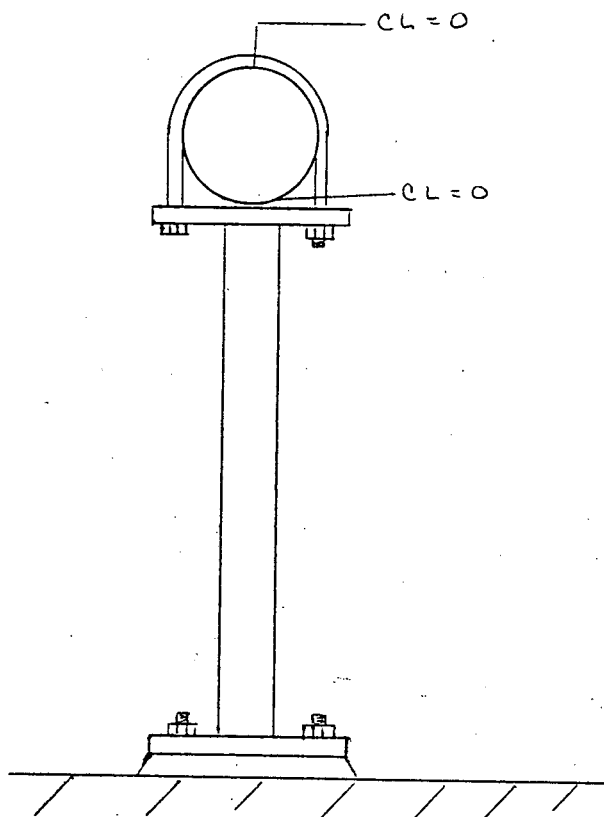
REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares DATE: 4.15.92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-90EXAM ITEM CPL - 234 - AISO DWG. NO. CPL - 234 REV. 1

SKETCH SHEET

EXAMINER Art PinnerEXAMINER N/AREVIEWER Edmund R. DawsonREVIEWER Richard D. WeberREVIEWER DNLEVEL IILEVEL N/ALEVEL IIDATE 4/14/92

DATE _____

DATE 4-9-92DATE N/ADATE 4-10-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-287

WR&A # N/A

PAGE 1 OF 1

LANT: HB ROBINSON UNIT 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: CS COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-234-A

DWG./LOC.: CPL-234 REV.-1 / SIPUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 545-92 NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☐ MIRROR ☐ OTHER _____
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N: <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONS "U" BOLT HAS BEEN REMOVED

RE-EXAM AFTER REPAIR WR/JO 92-AEYP1

EXAMINER: Charles R. Danner LEVEL: II DATE: 5-15-92

REVIEWER: Art Pinner LEVEL: II DATE: 5-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/18/92

REVIEWERS COMMENTS:

ANII REVIEW: CPalladas

DATE: 5-18-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-91

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 234-B</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 234 REV 1 / SI PUMP RM

[X] VT-3 PROCEDURE: ^{SP 10 92 AP 4-9-92} ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Art Pinner LEVEL: II DATE: 4-9-92

REVIEWER: Edmund L. Donovan AD LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

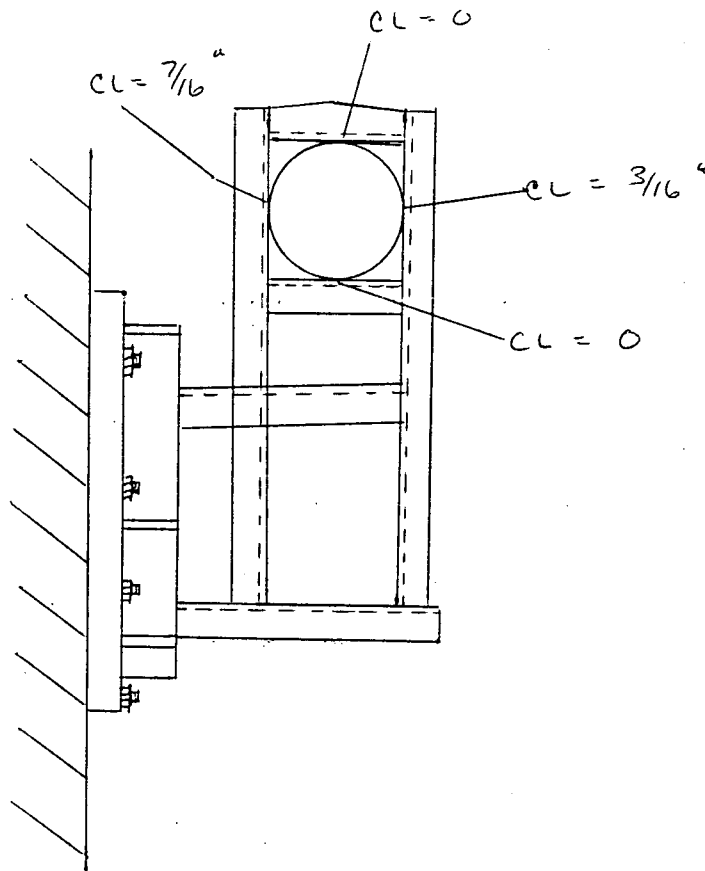
REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4.15.92

1125

PAGE 2 OF 7
DATA SHEET NO. 1097-SC 91 (Rev) 4/4/92
EXAM ITEM CPL - 234 - B
ISO DWG. NO. CPL - 234 REV. 1

SKETCH SHEET



EXAMINER Carl Pinner
EXAMINER N/A
REVIEWER Chf Moss for ERD
REVIEWER Arthur B. Weber
REVIEWER AW

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE _____

DATE 4-9-92
DATE N/A
DATE 4-11-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-250

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: CS + SI COMPONENT NAME: SUPPORT LUGS COMPONENT ID NO.: CPL-234-WS-B

DWG./LOC.: CPL-234 REV-1 / SI PUMP ROOM

SP1097 ERD 5-4-92
☒ VT-3 PROCEDURE: NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____
TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N: <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Philip R. Donovan LEVEL: II DATE: 5-4-92

REVIEWER: Art Purnen LEVEL: II DATE: 5-6-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/9/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares

DATE: 5-13-92

DATA SHEET NO. 1095-7
THERMOMETER S/N JL9101
TEMPERATURE 63 ° F
NOMINAL THICKNESS 0.32 INCHES *
MATERIAL STAINLESS STEEL
CLASS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 2

*(MEASURED ULTRASONICALLY)

SYSTEM EXAMINED SAFETY INJECTION ISO/DWG/SK. # CPL-234 REVISION 1
DATUM POINT REFERENCE SEE PAGE # 2

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
<u>CPL-234-WS-B</u> ①	<u>(1) 1/64" ROUNDED 1/2" FROM DATUM IN CENTER</u>	<u>N/A</u>	<u>N/A</u>
<u>N/A</u>	<u>OF LUG. (SEE PAGE #2 FOR DRAWING)</u>	<u>X</u>	<u>N/A</u>
↓	② <u>(1) 1/16" ROUNDED ON PIPE AT END OF WELD</u>	<u>N/A</u>	<u>N/A</u>
	<u>JOINING PIPE TO LUG AT CENTER OF LUG</u>	<u>N/A</u>	<u>N/A</u>
	<u>THICKNESS. (SEE PAGE #2 FOR DRAWING)</u>	<u>X</u>	<u>N/A</u>
<u>N/A</u>			

EXAMINER Chiff Moss CN
EXAMINER 4/4/92 N/A
REVIEWER Dale Mendenhall
REVIEWER Richard D. Wilson

LEVEL II
LEVEL N/A
LEVEL IV
DATE 4/14/92
DATE

DATE 4-3-92
DATE N/A
DATE 4/4/92

AN II RP Valladares 4-15-92

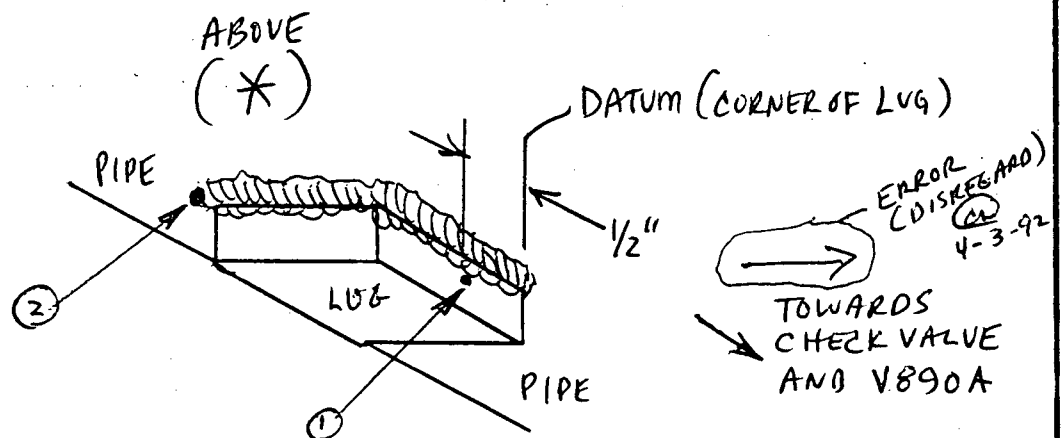
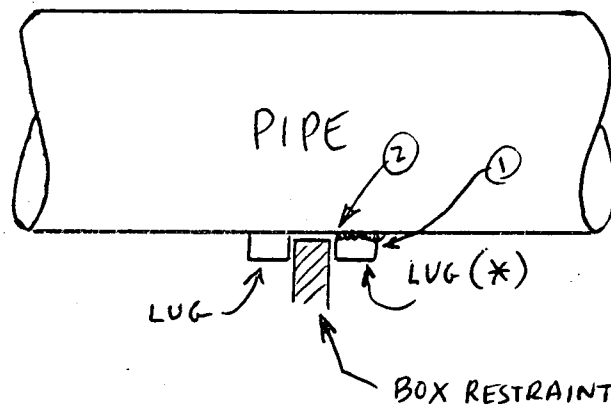
nes

NUCLEAR ENERGY SERVICES, INC.

1105

PAGE 2 OF 2DATA SHEET NO. 1095-7EXAM ITEM CPL-234-WS-BISO DWG. NO. CPL-234 REV. 1

SKETCH SHEET



EXAMINER

Cliff Moss CW

LEVEL

II

DATE

4-3-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Dale Myerbach

LEVEL

IV

DATE

4/4/92

REVIEWER

Richard B. Weber

DATE

4/14/92

REVIEWER

DATE

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-311

WR&A # 92-AFJPL

PAGE 1 OF 1

PLANT: <u>HBR</u>		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>SI</u>	COMPONENT NAME: <u>Support</u>	COMPONENT ID NO.: <u>CPL-234-C</u>	
DWG./LOC.: <u>CPL-234 R1</u> / <u>SI Pump Room</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: ^{SP-1097} <u>NDEP-613</u> REV.: <u>0</u>		<input type="checkbox"/> VT-4 PROCEDURE: ^{N/A} <u>614</u> REV.: <u></u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input type="checkbox"/>		VIDEO RECORDING NO: <u>N/A</u>	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u></u>		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES		<input checked="" type="checkbox"/>	<u>Lock nuts added AT TurnBuckle</u>
MISALIGNMENT			<input checked="" type="checkbox"/>
DEBRIS			<input checked="" type="checkbox"/>
CORROSION/EROSION			<input checked="" type="checkbox"/>
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>Reinspection AFTER Repair 92-AFJPL</u>			
EXAMINER: <u>[Signature]</u>	LEVEL: <u>II</u>	DATE: <u>5-26-92</u>	
REVIEWER: <u>[Signature]</u>	LEVEL: <u>N/A</u>	DATE: <u>5-26-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: <u>Richard B. Weber 5/26/92</u>			
REVIEWERS COMMENTS:			
ANII REVIEW: <u>R.P. Valladares</u> DATE: <u>6-2-92</u>			

VISUAL EXAMINATION DATA SHEET

REPORT NO. 107762

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 234-C</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 234 REV 1 / SI PUMP ROOM

[X] VT-3 PROCEDURE: SP 1097 4-16-92 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[X]</u> MIRROR <u>[X]</u> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[X]</u> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	N A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Cat Ruman LEVEL: II DATE: 4-16-92

REVIEWER: Cliff Moss AM LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

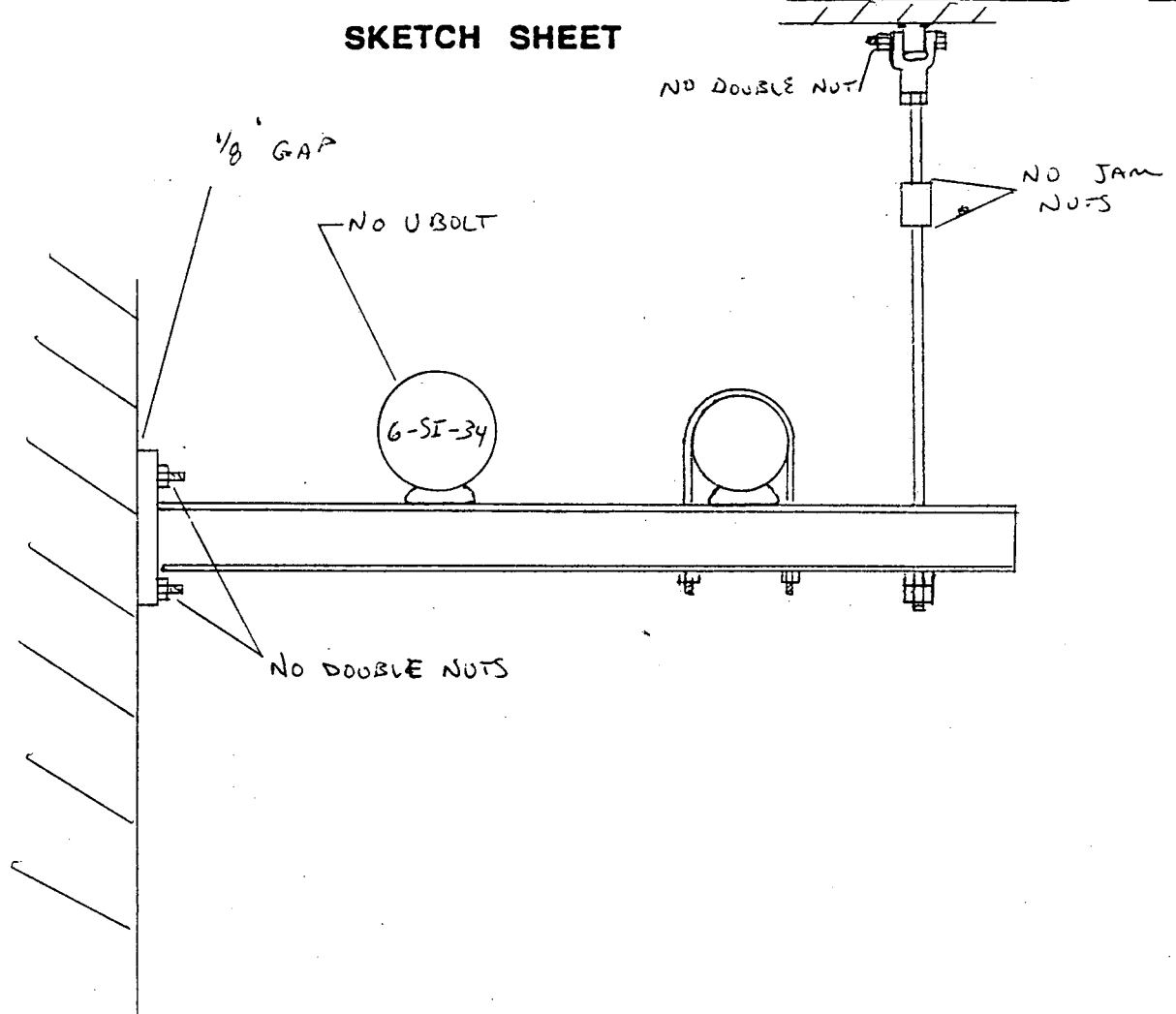
REVIEWERS COMMENTS:

ANII REVIEW: RP Valladare DATE: RP Valladare

1125

PAGE 2 OF 2DATA SHEET NO. 1077 Y62EXAM ITEM CPL 234 - CISO DWG. NO. CPL 234 REV. 1

SKETCH SHEET

EXAMINER Art P...EXAMINER N/AREVIEWER Chris MostREVIEWER Richard B. WeberREVIEWER ...LEVEL IILEVEL N/ALEVEL IIDATE 4/22/92DATE ...DATE 4-16-92DATE N/ADATE 4-18-92

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-163

WR&A # N/A

PAGE 1 OF 2

PLANT: H.B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 234 - C - WS</u>
-------------------	--------------------------------	---

DWG./LOC.: CPL 234 REV1 / SI PUMP ROOM

[X] VT-3 PROCEDURE: SP1097 AP4-16-92 ~~NOEP 613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			✓	N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Art Ruman LEVEL: II DATE: 4-16-92

REVIEWER: Chiff Moss AW LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

ANII REVIEW: R Valladares DATE: 4.21.92

CONT'D ON
CPL-234

31 REF.
32 REF.

WELDED SUPPORT

CONTROLLED
RCPT ID 296

CP & L Dwg. No. HBR2-10618 SH. 98					
CP & L P.O. No. CPL 51					
DWG. REV.	FIELD VERIFIED	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	R	CPSL	CLO	CLO	12/12/89
1	R	WV	HELL	LO	2/11/91

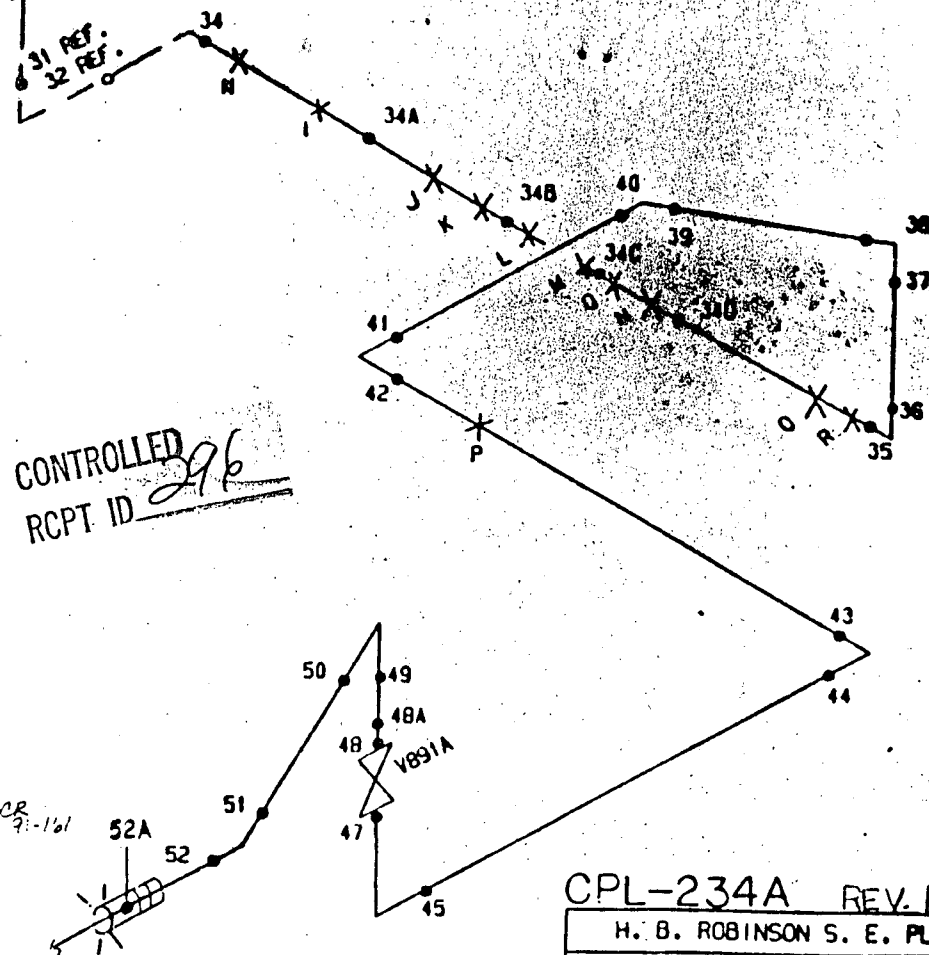
DCR
9-1-91

ANCHOR AT
PEN #44
CONT'D ON CPL-234B

52A = 12" S/40-NA

CPL-234A REV. 1

H. B. ROBINSON S. E. PLANT
UNIT NO. 2
DESCRIPTION: CS PUMP "A" TO HEADERS
LINE NO. 6-SI-34 CPL-234A REV. 1



VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-123

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-234A-I</u>
---------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL-234A, Rev 2 / PIPE ALLEY

<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097</u> <u>CD</u> <u>4-11-92</u> NDEP-613 REV.: <u>0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614</u> REV.: <u>0</u>
---	--

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
---	---

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" RULE</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input checked="" type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			Horizontal surfaces covered with light debris
CORROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			See page #2 for details ; missing weld, weld pit.
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Chff Moss CD LEVEL: II DATE: 4-11-92

REVIEWER: Edmund L. Donovan AM LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

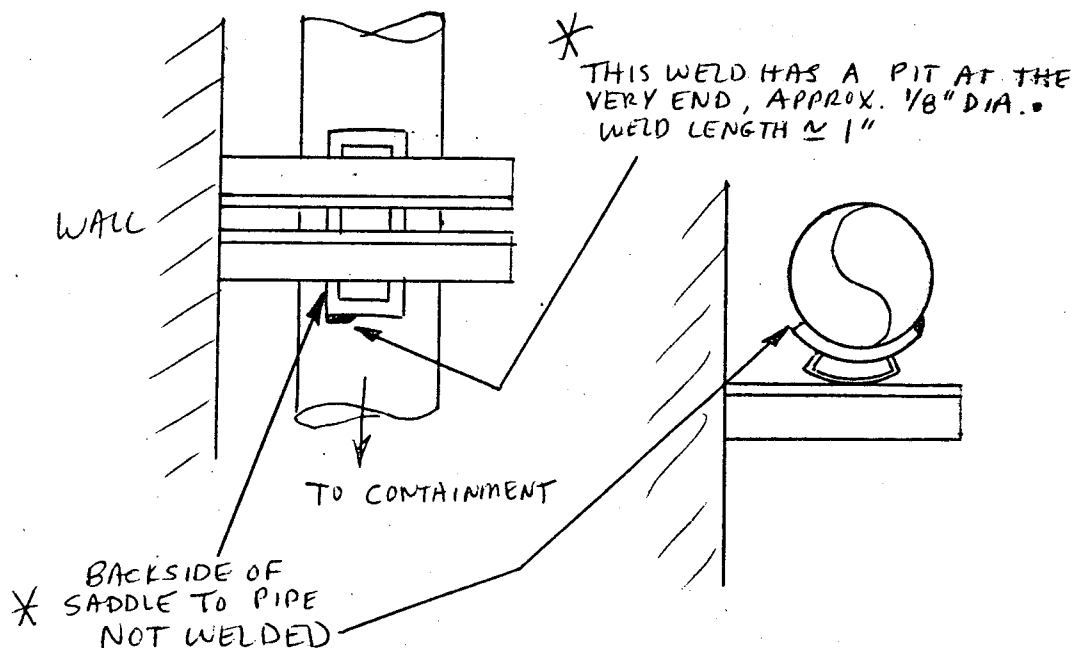
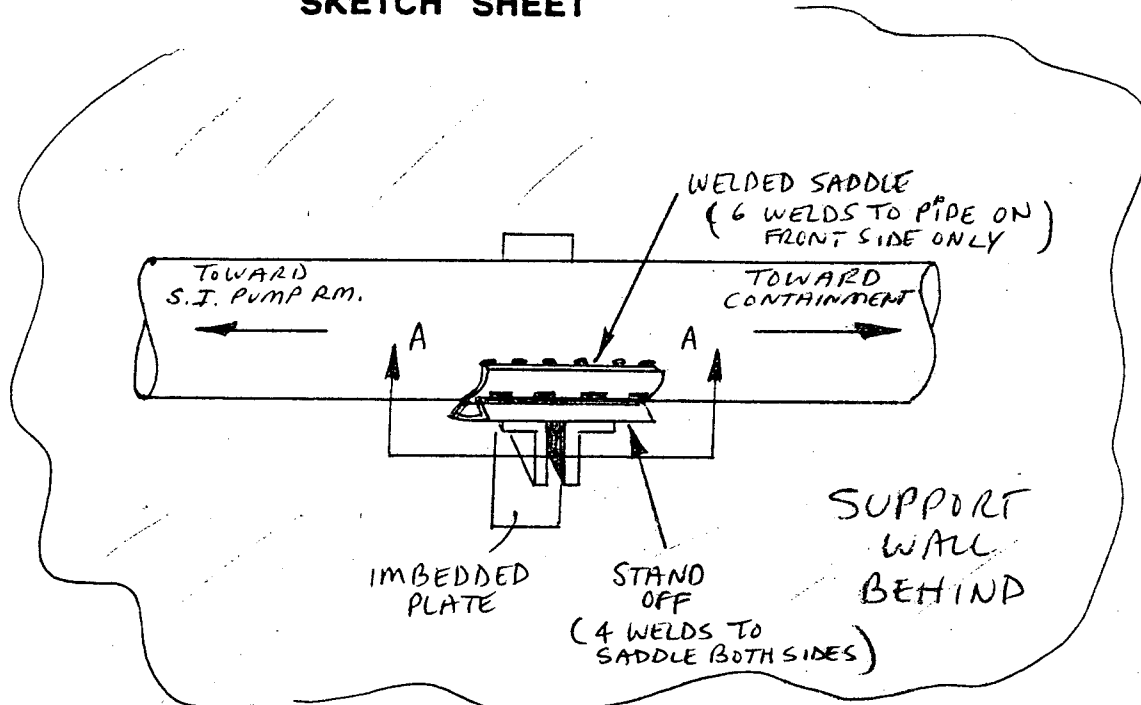
REVIEWERS COMMENTS:

ANII REVIEW: CP Valadares DATE: 4-17-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-123EXAM ITEM CPL-234A-IISO DWG. NO. CPL-234A REV. 2

SKETCH SHEET

EXAMINER Cliff MossLEVEL IIDATE 4-11-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Edward R. DownerLEVEL IIDATE 4-14-92REVIEWER Richard S. WeberDATE 4/15/92

REVIEWER _____

DATE _____

X

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-24

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-234A-J

DWG./LOC.: CPL-234, Rev 2 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CN 4-10-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
☒ OTHER 6" Rule

TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT	<input checked="" type="checkbox"/>			Side plates bent/crooked - see pg. 2
DEBRIS		<input checked="" type="checkbox"/>		N/A
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Bad welds; under lower "C" shape and behind pipe - box to side plate. (see pg. 2)
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input checked="" type="checkbox"/>			Gouge under lower "C" shape - see pg. 2.
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details
See page # 2 (for clearances not proper.)

EXAMINER: Chiff Moss CN LEVEL: II DATE: 4-10-92

REVIEWER: Edmund R. Donovan DN LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

REVIEWERS COMMENTS:

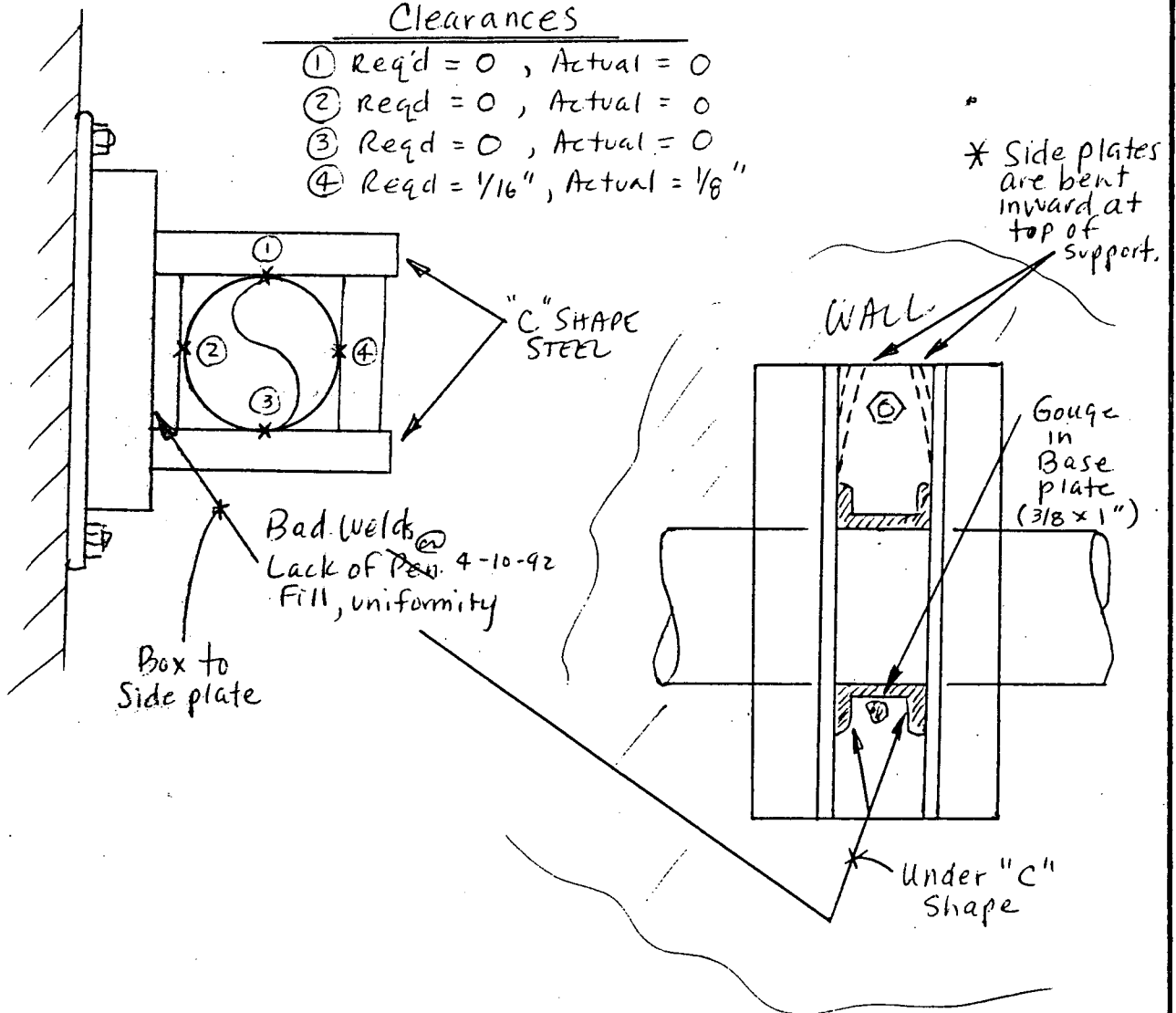
ANII REVIEW: Q. P. Wallace

DATE: 4-17-92

SKETCH SHEET

Clearances

- ① Req'd = 0 , Actual = 0
- ② Req'd = 0 , Actual = 0
- ③ Req'd = 0 , Actual = 0
- ④ Req'd = $\frac{1}{16}$ " , Actual = $\frac{1}{8}$ "



EXAMINER Chiff Moss
 EXAMINER N/A
 REVIEWER Edmund R. Donovan
 REVIEWER Richard B. Weber
 REVIEWER _____

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE 4/15/92
 DATE _____

DATE 4-10-92
 DATE N/A
 DATE 4-14-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097712

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-234A-N</u>
---------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL-234A Rev 2 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 (CN 4-10-92) ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			Light debris on top of "C" shapes.
CORROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Questionable missing weld - see pg. #2
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details.

EXAMINER: Cliff Moss (CN) LEVEL: II DATE: 4-10-92

REVIEWER: Art Pinner (AN) LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

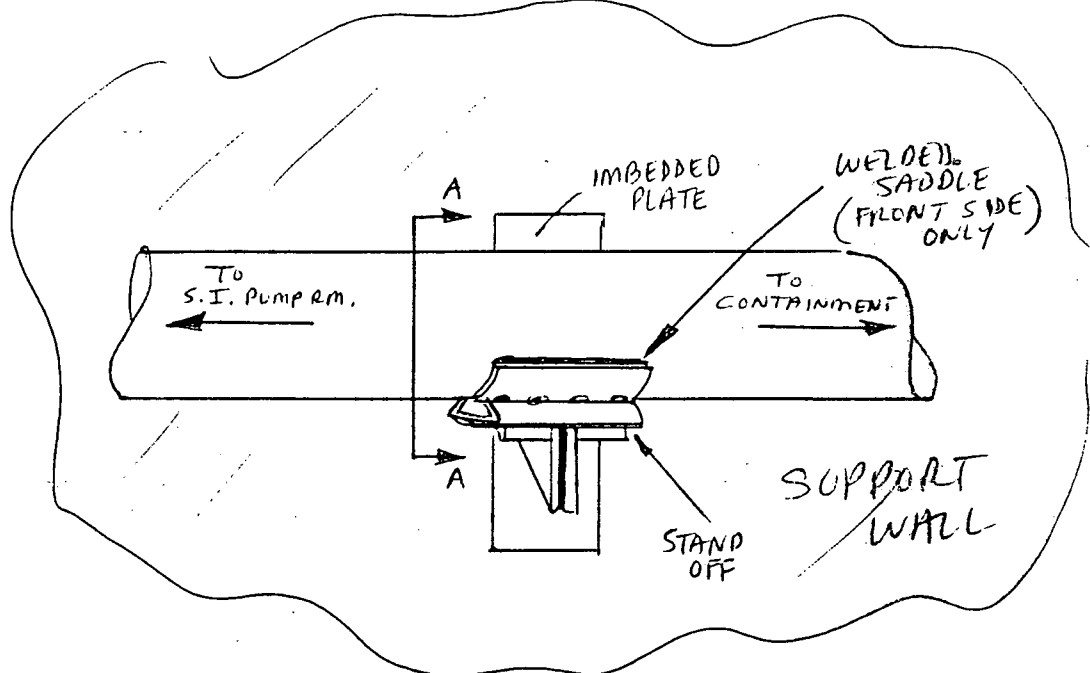
ANII REVIEW: AMalladares

DATE: 4-15-92

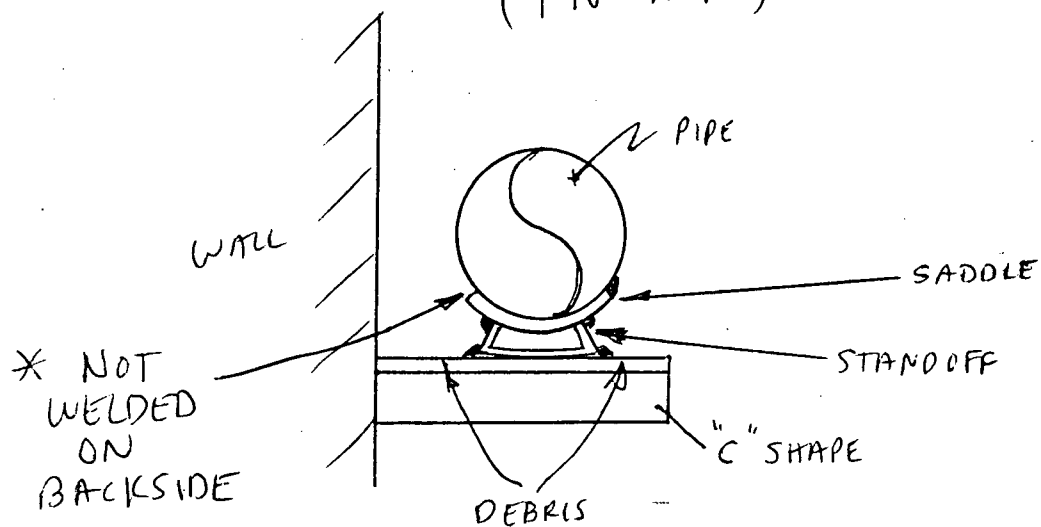
1125

PAGE 2 OF 2DATA SHEET NO. 1097-112EXAM ITEM CPL-234A-NISO DWG. NO. CPL-234A REV. 2

SKETCH SHEET



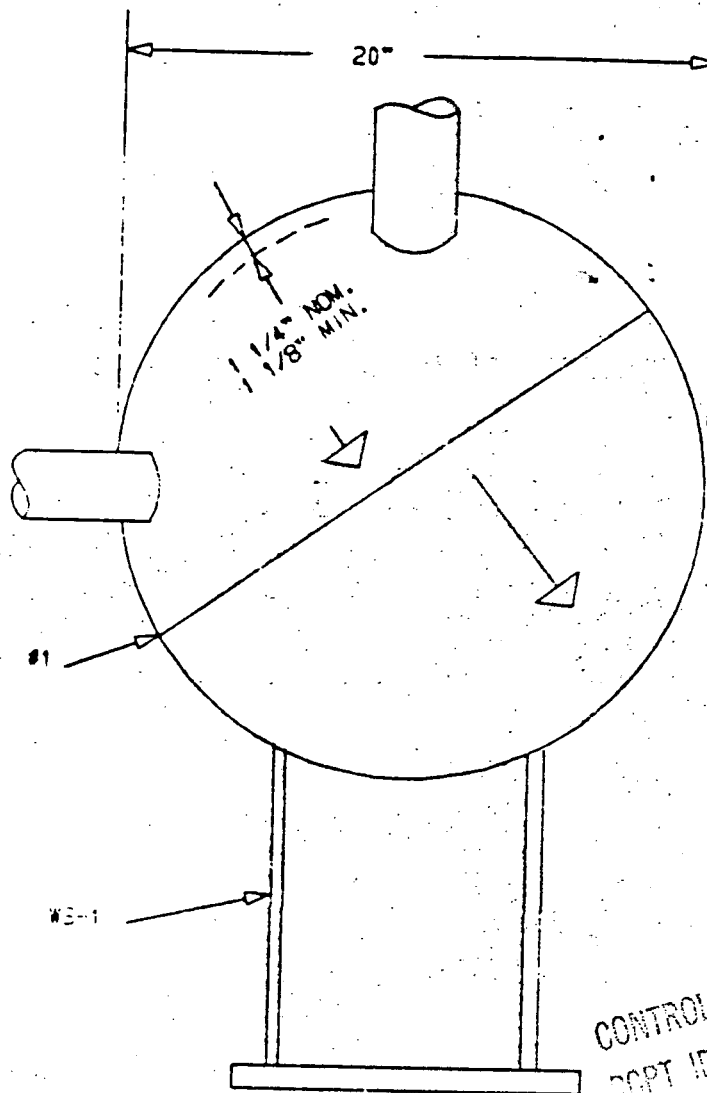
(FIG A-A)



EXAMINER Chff Moss
EXAMINER N/A
REVIEWER Pat Rensen
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE _____

DATE 4-10-92
DATE N/A
DATE 4-12-92



CP & L Dwg. No. HBR2-10618 SH.104					
CP & L P.O. No. CPL 51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	REW	CPL	CLO	CLO	12/12/89

CPL-238

REV.0

H.B. ROBINSON S.E. PLANT		C P & L
UNIT NO. 2		
DESCRIPTION: PULSATION DAMP		
LINE NO.	CPL- 238 REV.	

DATA SHEET NO. 1090-2
 PAGE 1 OF 2

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1090 ¹⁰⁹⁰ ₄₋₈₋₉₂
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model KBT-USK-7
 Serial No. 27276-3409
 Sweep Length 8.25 Delay 7.97
 Range 5"
 Gain (coarse) RESL. 0 dB
 Gain (fine) 24 dB
 Reference Sensitivity 24 dB
 Remarks: N/A

SEARCH UNIT

Serial No. J01523
 Size 0.5" Round
 Frequency 2.25 MHz
 Mode LONGITUDINAL
 Nom. Angle 0°
 Measured Angle N/A°
 Cable Type BNC-MICRODOT
 Cable Length 6'
 Remarks: N/A

CALIBRATION BLOCK

No. CPL-36
 T 1.25" Dia. 14
 Temperature 62°F
 Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒
 Each Major Screen Div. = 0.2"
 Remarks 2" Screen Set from 1st & 2nd B.R. off rampas block.

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	19
3	80	40	8	30	14
4	70	35	9	20	8
5	60	30	10	N/A	

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
80	-12	20
40	+6	79
20	+12	78

CAL. CHECKS

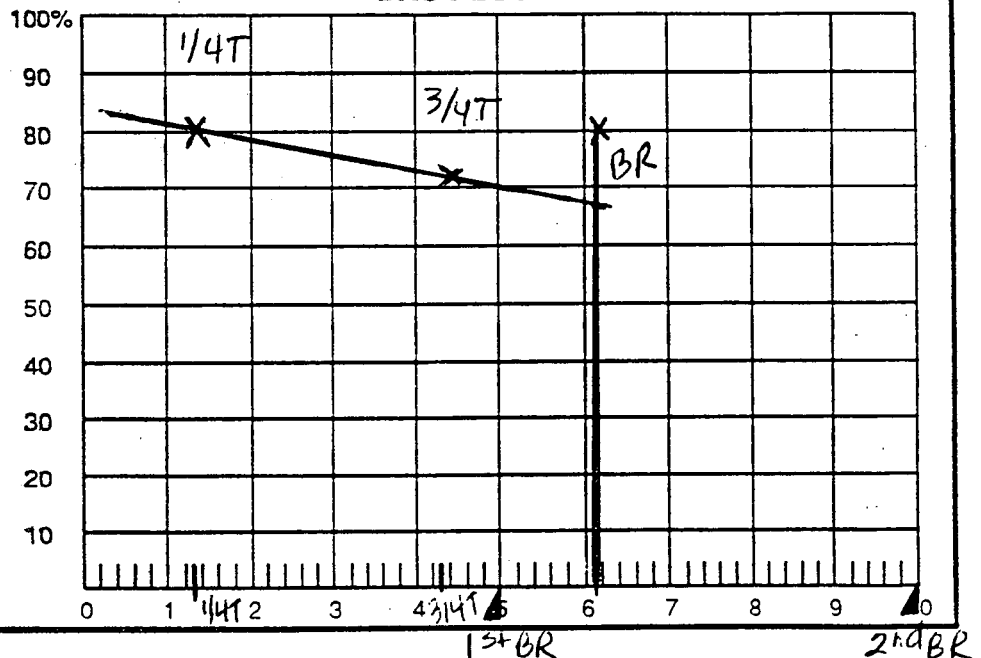
TIME

INITIAL CAL.	2030
INTERMEDIATE	
INTERMEDIATE	N/A
INTERMEDIATE	
FINAL CAL.	2345

COUPLANT

Brand ULTRAGEL II
 Batch No. 092041

DAC PLOT



REMARKS: #
SEE PAGE 2 FOR SCAN INFO.
N/A

EXAMINERS 1 Ch. Moss LEVEL II DATE 4-6-92
 2 N/A LEVEL N/A DATE N/A
 REVIEWERS 1 J. DeMuelor LEVEL III DATE 4/9/92
 2 Richard B. Weber LEVEL N/A DATE 5/1/92
 3 Ch. Palladino LEVEL ANII DATE 5/1/92

PLANT/UNIT HB ROBINSON, UNIT 2
DATA SHEET NO. 1090-2
PAGE 2 OF 2

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1090-4-F-12
REVISION/CHANGE NO. 0/N/A
COMPONENT/SYSTEM PULS. DAMP
ISO/DWG. NO. CPL-238 REV. 1
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 70 ° F

EXAMINATION WELD/AREA

LS. DAMP "A" WELD #1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION
☐ YES ☒ NO

AREA SCANNED

USING "O" MARK AS DATUM; SCANNED 0" → 23" CCW AS VIEWED
FROM ABOVE. SCANNED BOTH SIDES OF WELD & ON WELD CROWN

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

N A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Chy Moss LEVEL II DATE 4-6-92
2 N/A LEVEL N/A DATE N/A

1 Salv. Muroch LEVEL III DATE 4/9/92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1090-3
PAGE 1 OF 4

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1097 ^{1090 4-8-92} CA
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model KBI-USK 7
Serial No. 27276-3789
Sweep Length 4.70 Delay 7.25
Range 2.5
Gain (coarse) RESL. 20 dB
Gain (fine) 12 dB
Reference Sensitivity 32 dB
Remarks: N/A

SEARCH UNIT

Serial No. F26118
Size 0.5" Round
Frequency 2.25 MHz
Mode SHEAR
Nom. Angle 45°
Measured Angle 44°
Cable Type BNC-MICRODOT
Cable Length 6'
Remarks: N/A

CALIBRATION BLOCK

No. CPL-36
"T" 1.25 Dia. 14
Temperature 62 °F
Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ N/A Axial ☒ Circ. ☒ N/A
Metal Path ☒ Depth ☒ N/A
Each Major Screen Div. = .25"
Remarks: N/A

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	24
2	90	45	7	40	19
3	80	40	8	30	14
4	70	35	9	20	9
5	60	30	10	N/A	

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	81
20	+12	83

CAL. CHECKS

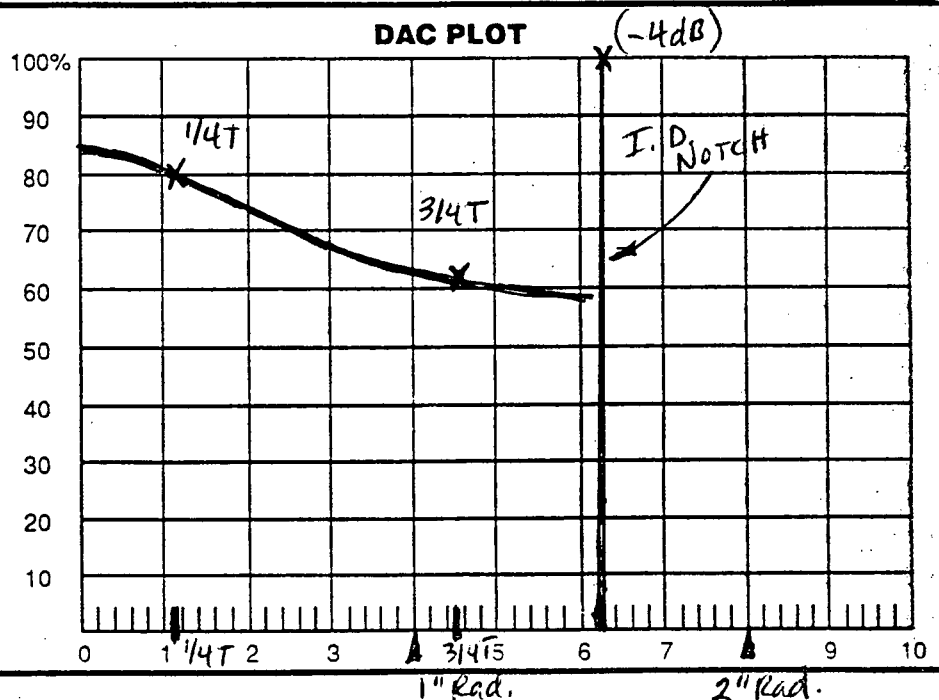
TIME

INITIAL CAL.	2040
INTERMEDIATE	
INTERMEDIATE	N/A
INTERMEDIATE	
FINAL CAL.	2340

COUPLANT

Brand ULTRAGEL II
Batch No. 092041

DAC PLOT



REMARKS:

COMPAS 1" & 2" RADII USED FOR SWEEP CALIBRATION
AT 4.0 & 8.0 SD RESPECTIVELY. (2.5" SCREEN)

EXAMINERS

1 Cliff Moss ^{CA}
2 N/A

LEVEL

II

DATE

4-6-92

REVIEWERS

1 Dale Munk
2 Richard B. Weber
3 CP Valladares

LEVEL

N/A

DATE

N/A

LEVEL

II

DATE

4/8/92

LEVEL

N/A

DATE

5/1/92

LEVEL

AN/I

DATE

5/1/92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB ROBINSON, UNIT 2DATA SHEET NO. 1080-3PAGE 2 OF 4EXAMINATION
DATA SHEETPROCEDURE NO. SP-10977 (2) ^{1090 4-8-92}REVISION/CHANGE NO. 0/N/ACOMPONENT/SYSTEM PULS. DAMPISO/DWG. NO. CPL-238 REV. 1THERMOMETER SN SEP 90-01COMPONENT TEMP. 70 ° F

EXAMINATION WELD/AREA

PULS. DAMP "A", WELD#1

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	X		X	N/A	X	N/A

WELD CROWN LIMITATION

☐ YES☒ NO

AREA SCANNED

USING "O" MARK AS DATUM, SCANNED FROM 0" → 23" CCW AS VIEWED FROM ABOVE. SCANNED BOTH SIDES OF WELD & ON WELD CROWN.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

N/A

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Cliff Mass LEVEL II DATE 4-6-92
2 W LEVEL N/A DATE N/A

1 Dale Muroch LEVEL III DATE 4/8/92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 Bill Madole LEVEL ANCI DATE 5/1/92



NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

PULS. DAMP "A" WELD 1

ISO/DWG. NO.

CPL-238, REV 1

ULTRASONIC INDICATION REPORT SHEET

- ☐ PIPING WELDS
☐ FERRITIC VESSELS $\geq 2" T^*$
☒ OTHER COMPONENT WELD

(Angle verified in material @ 450)

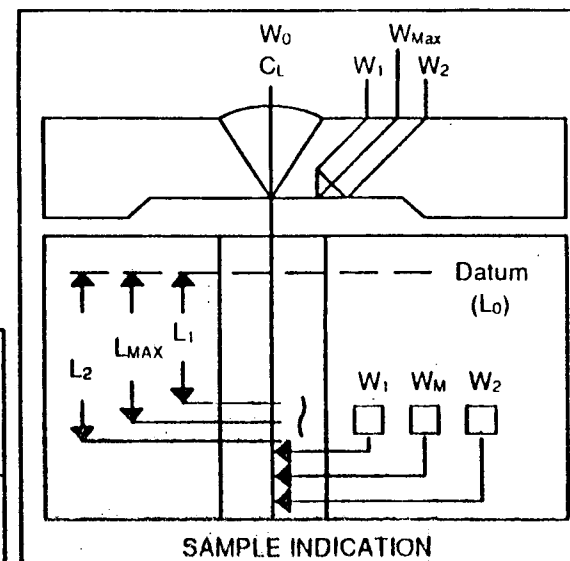
SEARCH UNIT ANGLE 45°

W0 LOCATION BOTTOM HALF TOE OF WELD

LO LOCATION "O" MARK

DATA SHEET NO. 1003

PAGE 3 OF 4



MP	Metal Path	W max	Distance from W ₀ to S.U. at maximum response.	
RBR	Remaining Back Reflection	W ₁	Distance from W ₀ at 50% of DAC (fwd)	
L	Distance from Datum	W ₂	Distance from W ₀ at 50% of DAC (backward)	

SAMPLE INDICATION

Ind. No.	%	W		FWD 50% DAC*		BACKWARD 50% DAC*		L ₁	L max	L ₂	RBR amp	S.U.	REMARKS
		W	MP	W ₁	MP	W ₂	MP	50% DAC		50% DAC		Loc.	
1	50	.60"	2.175"	N/A		N/A		N/A	ccw 21.5"	N/A	N/A	Bottom Looking WP	SCAN PERPENDICULAR TO WELD
			I.D	GEOMETRIC REFLECTOR									INDICATION JUST RECORDABLE AT THIS LOCATION ONLY - SEEN OTHER LOCATIONS BELOW RECORD LEVEL.
									N/A				N/A

- Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS

1

Ch Moss

LEVEL

II

DATE _____

4-6-92

2

N/A

LEVEL

N/A

DATE _____

N/A

REVIEWERS

1

Del. Mumford

LEVEL



DATE _____

4/9/9

2

Richard B. Weber

LEVEL

N/A

DATE _____

5/1/9

2

Phyllis

LEVEL

2211

DATE _____

5/1/64

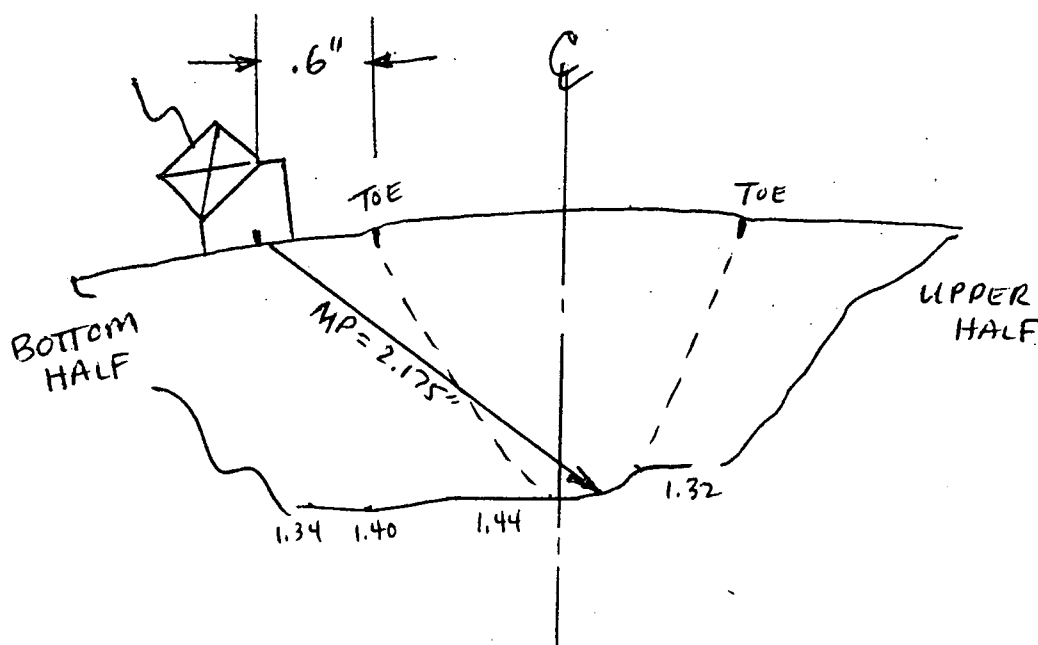
1125

NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 4 OF 4DATA SHEET NO. 1090-3EXAM ITEM PULS. DAMP "A" WELD#1ISO DWG. NO. CPL-238 REV. 1

SKETCH SHEET

GEOMETRIC INDICATION

EXAMINER

Cliff Moss @w

LEVEL

II

DATE

4-6-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Dale Muehl

LEVEL

III

DATE

4/8/92

REVIEWER

Richard B. Weber

DATE

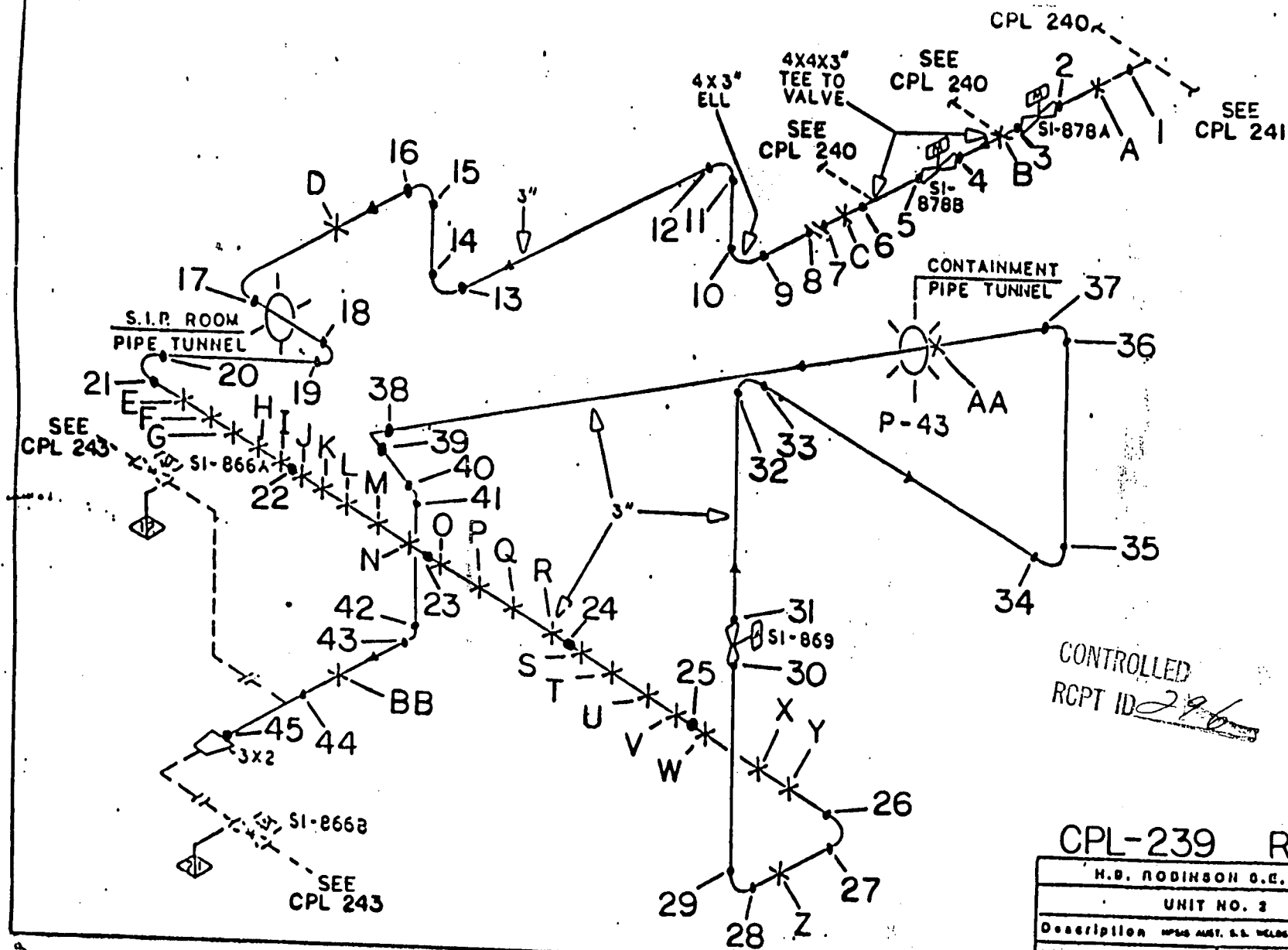
5/1/92

REVIEWER

Robert L. Leland ANI

DATE

5-1-92



CONTROLLED
RCPT ID 286

CPL-239 REV. 0

H.B. ROBINSON O.G. PLANT		C P & L
UNIT NO. 2		
Description WPS NO. AUT. S.S. WELDS 2 WPS 2.5 SPS 4		
Line No.	CPL 239 Rev. 0	

CP & L Dwg. No. HBR2-10618 SH 105					
CP & L P.O. No. CPL 51					
DWG. REV.	FIELD VERIFIED BY	DRAWN BY	CHK'D BY	APP'D BY	DATE
0	RBW	CPL	CLO	CLO	12/13/89

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 12
RM 4/4/92

* Actual nominal wall thickness = .35"

SYSTEM EXAMINED SAFETY INJECTION ISO/DWG/SK. # CPL-239 REVISION 0

DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>DRY/EVAP 5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>DWELL 15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>DRY/EVAP 5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>DEVELOP 7</u> MINUTES

[illegible]

EXAMINER Carl P. ...
EXAMINER N/A
REVIEWER D. G. ...
F. ... Richard B. Weber
REVIEWER

LEVEL III
LEVEL N/A
LEVEL III
DATE 4/2/92
DATE _____

DATE 3-31-92
DATE N/A
DATE 4/4/92

ANII RP Valladaro 4.9.92

1725

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR Unit 2
DATA SHEET NO. 10877-1095-2
PAGE 42 OF 102 4/92

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. 092-239 REV. 0
THERMOMETER S/N SP 90-01
COMPONENT TEMP. 58° F

EXAMINATION WELD/AREA

CPL-239-2 AND 2 1/2" LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe side only - volume that angle beam passed through
actual nominal thickness = .35"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO VALVE, PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO VALVE COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Robert R. Dwyer LEVEL II DATE 4-3-92
2 John J. Dwyer LEVEL III DATE 4/3/92

1 John J. Dwyer LEVEL II DATE 4-4-92
2 _____ LEVEL _____ DATE _____
3 _____ LEVEL _____ DATE _____

nes

NUCLEAR ENERGY SERVICES, INC.

LIQUID PENETRANT EXAMINATION

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 12
(2) 4/45

SYSTEM EXAMINED SAFETY INJECTION ISO/DWG/SK. # CPL-239 REVISION 0
DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF^{NF}₃₋₃₋₉₂</u>	<u>90L03P</u>	<u>7</u> MINUTES
		<u>SKD-NF</u>		

[illegible]

LEVEL III
LEVEL NIA
LEVEL III
DATE 4/2/92
DATE

DATE 3-31-92
DATE N/A
DATE 4/4/92

PLANT/UNIT HBR unit 2DATA SHEET NO. 1095-4PAGE 2 OF 2EXAMINATION
DATA SHEETPROCEDURE NO. SP-1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM SIISO/DWG. NO. CPL-239 REV. 0THERMOMETER S/N SEP 90-01COMPONENT TEMP. 58 ° F

EXAMINATION WELD/AREA

CPL-239-5 AND 2 1/2 T LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Tee side only - scanned volume that angle beam passed through
actual nominal Thickness = .40"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO VALVE, PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A				

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO VALVE COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
							N

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Richard R. Donnan LEVEL II DATE 4-3-92
 2 Dele Murdock LEVEL II DATE 4/3/92

1 Lat R... LEVEL III DATE 4-4-92
 2 _____ LEVEL _____ DATE _____
 3 _____ LEVEL _____ DATE _____

nes

NUCLEAR ENERGY SERVICES, INC.

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 12
4/4/82

* For actual wall thickness see attached UT exam data sheet

SYSTEM EXAMINED SAFETY INJECTION ISO DWG/SK. # CPL-239 REVISION 0
 DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

[illegible]

EXAMINER Art Krumm
EXAMINER N/A
REVIEWER Dale Meydock
REVIEWER Richard B. Walter

LEVEL III
LEVEL N/A
LEVEL III
DATE 4/2/92
DATE _____

DATE 3-31-92
DATE N/A
DATE 4/4/92

AN11 R. P. Valladas 4-9-92

1725

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR Unit 2
DATA SHEET NO. 1095-5
PAGE 2 OF 2

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SS
ISO/DWG. NO. CPL-239 REV. 0
THERMOMETER S/N SP 90-01
COMPONENT TEMP. 58 ° F

EXAMINATION WELD/AREA

CPL-239-6 AND 2 1/2 T LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
X	N/A	N/A	N/A	N/A	X	X	

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned both sides of weld volume that angle beam passed through
actual nominal thickness = .35" pipe side, .40" tee side

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE & TEE, SCANNED BOTH SIDES EXAM ON WELD LIMITED DUE TO
HIGH WELD CROWN, WELD IS IN AS WELDED CONDITION

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	X	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

SCANNED 1/2" ON BOTH SIDES OF WELD EXAM ON WELD LIMITED SEE
ABOVE, PIPE TO TEE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
							1

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

A

SEE ATTACHED I.E.R.


REVIEWERS:

1 Edward R. Dawson LEVEL I DATE 4/3/92
2 Dale M. M. M. LEVEL II DATE 4/3/92

1 Pat R. LEVEL III DATE 4-4-92
2 _____ LEVEL _____ DATE _____
3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 12
 4/44

* Actual nominal wall thickness = .35"

SYSTEM EXAMINED SAFETY INJECTION ISO/DWG/SK. # CPL-239 REVISION 0
 DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90503P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

[illegible]

EXAMINER Art P...
EXAMINER N/A
REVIEWER Dale M...
F...WER Richard B. Weber
REVIEWER

LEVEL III
LEVEL N/A
LEVEL III
DATE 4/2/92
DATE _____

DATE 3-31-92
DATE N/A
DATE 4/4/92

ANIL Pralladas 4-9-92

1725

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR unit 2DATA SHEET NO. 1087 + 1095-1PAGE 2 OF 102 4/4/92EXAMINATION
DATA SHEETPROCEDURE NO. SP-1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM SEISO/DWG. NO. CPL-239 REV. 0THERMOMETER S/N SCP 90-01COMPONENT TEMP. 58 ° F

EXAMINATION WELD/AREA

CPL-239-7 AND 2LT LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

Scanned pipe side volume that angle beam passed through
actual nominal thickness = .35"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

PIPE TO FLANGE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

PIPE TO FLANGE COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
							N

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Eckert/R. Dawson LEVEL II DATE 4-3-92
 2 Ed. Muehl LEVEL III DATE 4/3/92

1 Ed. Muehl LEVEL II DATE 4-3-92
 2 _____ LEVEL _____ DATE _____
 3 _____ LEVEL _____ DATE _____

nes

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1095-3
THERMOMETER S/N JL-91-01
TEMPERATURE 67 ° F
NOMINAL THICKNESS .337 INCHES *
MATERIAL STAINLESS STEEL
CLASS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 2
4/4/92

* Actual nominal wall thickness = .35"

SYSTEM EXAMINED SAFETY INJECTION ISO/DWG/SK. # CPL-239 REVISION 0
DATUM POINT REFERENCE N/A

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
WELD # 8 AND 2.5T OF LONG. SEAM	NO RECORDABLE INDICATIONS	<input checked="" type="checkbox"/>	<u>N/A</u>
N A			

EXAMINER Art Purnan
EXAMINER N/A
REVIEWER Dale Mumprecht
APPROVER Richard B. Nelson
REVIEWER _____

LEVEL III
LEVEL N/A
LEVEL III
DATE 4/2/92
DATE _____

DATE 3-31-92
DATE N/A
DATE 4/4/92

ANII AP Valladares 4.9.92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR Unit 2
DATA SHEET NO. 1095-3
PAGE 2 OF 2

EXAMINATION DATA SHEET

PROCEDURE NO. SP-7089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. CPL-239 REV. 0
THERMOMETER SN SEP 9001
COMPONENT TEMP. 58 °F

EXAMINATION WELD/AREA

CPL-239-8 AND 2 1/2 T LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
X	N/A	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned pipe side volume that angle beam passed through
actual nominal thickness = .35"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO FLANGE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	X	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO FLANGE COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
							N

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

A

SEE ATTACHED I.E.R.

REVIEWERS:

1 Schmidt, Doreen LEVEL II DATE 4-3-92
2 Dale, Michael LEVEL III DATE 4/3/92

1 Schmidt, Doreen LEVEL II DATE 4-3-92
2 Dale, Michael LEVEL III DATE 4/3/92
3 LEVEL DATE

nes

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1095-6
THERMOMETER S/N JL-91-01
TEMPERATURE 62 ° F
NOMINAL THICKNESS .337 INCHES *
MATERIAL STAINLESS STEEL
CLASS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP-1095
REVISION 0 F.C. NO. N/A
PAGE 1 OF 23
(Handwritten: 4/4/92)

* Actual nominal wall thickness = .35"

SYSTEM EXAMINED SAFETY INJECTION ISO/DWG/SK. # CPL-239 REVISION 0
DATUM POINT REFERENCE TOP DEAD CENTER

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90 J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90 H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90 J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90 L03P</u>	<u>2</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
WELD #9 AND	1. $\frac{1}{8}$ " ROUNDED, $3\frac{5}{8}$ " CW, $\frac{3}{8}$ " VS OF WELD &	<input checked="" type="checkbox"/>	N/A
2.5T OF LONG. SEAM	2. $\frac{1}{8}$ " ROUNDED, $5\frac{5}{8}$ " CW, $\frac{3}{8}$ " VS OF WELD &	<input checked="" type="checkbox"/>	N/A
NOTE: WELD CROWN IN THE AS WELDED CONDITION. INDICATIONS APPEAR TO BE DUE TO MINOR UNDERCUTTING AT THE EDGE OF THE WELD.			
<div>N</div> <div>A</div> <div>N</div> <div>A</div>			

EXAMINER Cert Purnan
EXAMINER N/A
REVIEWER Dale Mendenhall
OVER Richard B. Walker
REVIEWER

LEVEL III
LEVEL N/A
LEVEL III
DATE 4/2/92
DATE

DATE 3-31-92
DATE N/A
DATE 4/4/92

ANYI R Valladares 4-9-92

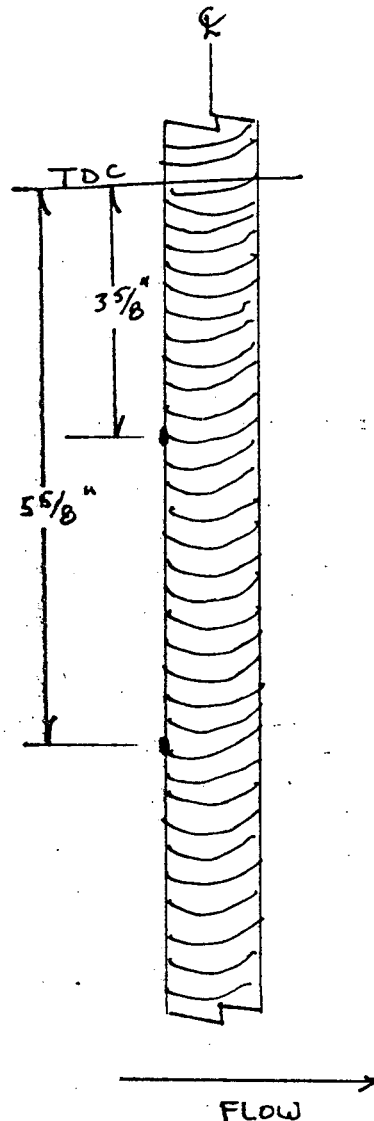
nes

NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 2 OF 3DATA SHEET NO. 1095-6EXAM ITEM WELD # 9ISO DWG. NO. CPL-239 REV. 0

SKETCH SHEET



EXAMINER	<u>Art Purneen</u>	LEVEL <u>III</u>	DATE <u>3-31-92</u>
EXAMINER	<u>N/A</u>	LEVEL <u>N/A</u>	DATE <u>N/A</u>
REVIEWER	<u>Dale Murdock</u>	LEVEL <u>III</u>	DATE <u>4/4/92</u>
REVIEWER	<u>Richard B. Weber</u>	LEVEL <u>N/A</u>	DATE <u>4/2/92</u>
REVIEWER	_____	LEVEL _____	DATE _____

PLANT/UNIT HBR Unit 2
 DATA SHEET NO. 1095-6
 PAGE 3 OF 3

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
 REVISION/CHANGE NO. 1
 COMPONENT/SYSTEM 35
 SC/DWG. NO. 1001 REV. 0
 THERMOMETER SN SCP 90 01
 COMPONENT TEMP. 58 ° F

EXAMINATION WELD/AREA

CPL 239-9 AND 2 1/2 LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
X	NA	NA	NA	NA	X	X	NA

WELD CROWN LIMITATION
☒ YES ☒ NO

Area Scanned

Scanned both sides volume that angle beam passed through
Actual nominal thickness = .35"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
NA	X	NA	NA	NA	X	X	NA

WELD CROWN LIMITATION
☒ YES ☒ NO

Area Scanned

PIPE TO ELBOW SCANNED BOTH SIDES EXAM ON WELD LIMITED DUE
TO HIGH WELD CROWN WELD IS IN AS WELDED CONDITION

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
NA	NA	X	NA	NA	X	X	NA

WELD CROWN LIMITATION
☒ YES ☒ NO

Area Scanned

PIPE TO ELBOW SCANNED ON BOTH OF WELD 1/2" EXAM ON WELD
LIMITED DUE TO HIGH WELD CROWN

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
							N

WELD CROWN LIMITATION
☐ YES ☐ NO

Area Scanned

SEE ATTACHED I.E.R.

REVIEWERS

1 Edmund R. Donnan LEVEL II DATE 4-3-92
 2 Dale M. Moor LEVEL III DATE 4/3/92
 3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-13PAGE 1 OF 7

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089REV. 0CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276-3789
 Sweep Length 4.00 Delay 7.78
 Range 2.5
 Gain (coarse) =20 ±20 dB
 Gain (fine) 26 18 dB
 Reference Sensitivity 46 38 dB
 Remarks: /

SEARCH UNIT

Serial No. G20839
 Size .25"
 Frequency 2.25 MHz
 Mode Shear
 Nom. Angle 45 °
 Measured Angle 46 °
 Cable Type RG-174/U
 Cable Length 6'
 Remarks: exit point to
front edge = .2"

CALIBRATION BLOCK

No. HT-2P3535 2-B
 T₀ 1.24" Dia. 4"
 Temperature 60 °F
 Thermometer S/N SEP 90-01

CALIBRATION

0° ☐ N/A Axial ☒ Circ. ☒
 Metal Path ☐ N/A Depth ☐ N/A
 Each Major Screen Div. = .2"
 Remarks 2.0" Screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	41
30	-12	21
40	+6	78
20	+12	75

CAL. CHECKS

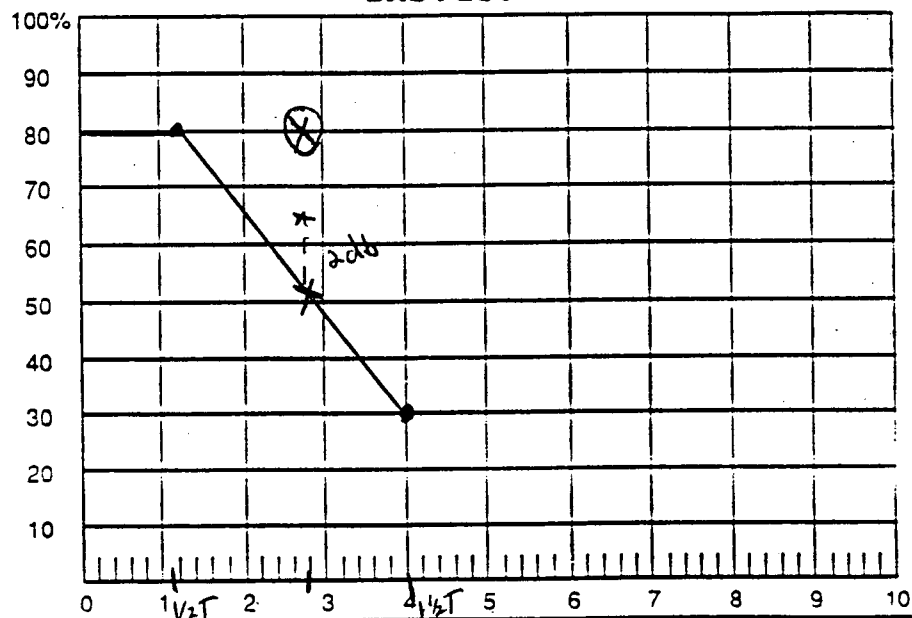
TIME

INITIAL CAL.	2315
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	0130

COUPLANT

Brand Ultracel II
 Batch No. 092091

DAC PLOT

REMARKS: X - Axial
⊗ - Circ.

EXAMINERS

1

Dale MurockLEVEL IIIDATE 4/26/92

2

N/ALEVEL N/ADATE N/A

REVIEWERS

1

Edward R. DavernLEVEL IIDATE 4-27-92

2

Richard B. WeberLEVEL N/ADATE 5/1/92

3

AP McQuadeLEVEL ANIIDATE 5-13-92

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HB R #2
DATA SHEET NO. 1087-13
PAGE 2 OF 9

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP SIS
ISO/DWG. NO. CPL-239 REV. 0
THERMOMETER S/N 52790-01
COMPONENT TEMP. 73 ° F

EXAMINATION WELD/AREA

CPL-239-2 plus 2 1/2 T Long Spam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe to Valve Scanned Pipe side only

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	X	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe to Valve scanned 2 directions complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Wali Murdock LEVEL III DATE 4-24-92
2 N/A LEVEL N/A DATE N/A

1 Edward R. Danner LEVEL I DATE 4-27-92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 R. Palladano LEVEL ANTI DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR #2
DATA SHEET NO. 108973
PAGE 3 OF 9

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1088
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HPSIS
ISO/DWG. NO. 02L 239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 73 ° F

EXAMINATION WELD/AREA

CPL-239-5 plus 2 1/2 T seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	45°	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Tee to Valve Tee side only Complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	45°	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned two directions circ

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 D. al Murdoch LEVEL III DATE 4/26/92
2 N/A LEVEL N/A DATE N/A

1 Edmund D. Aaron LEVEL II DATE 4-27-92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 AP Valladares LEVEL AN II DATE 5-13-92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR #2
DATA SHEET NO. 108973
PAGE 4 OF 7

EXAMINATION DATA SHEET

PROCEDURE NO. SP 10P9
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP SIS
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 73 ° F

EXAMINATION WELD/AREA

CPL-239-6 Plus 2 1/2 T Long seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.
N/A	45	N/A	N/A	N/A			N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Tee to Pipe Complete both sides

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.
N/A	N/A		N/A	N/A			N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned two directions circ

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Dale M. Mendenhall LEVEL III DATE 4/26/92
2 N/A LEVEL N/A DATE N/A

1 Edmund C. Dargatzis LEVEL II DATE 4-27-92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 AP Walladanes LEVEL AN II DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR #2
DATA SHEET NO. 108973
PAGE 5 OF 9

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1088
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP SIS
ISO/DWG. NO. LPL 239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 73 ° F

EXAMINATION WELD/AREA

CPL 239 - 7 plus 2 1/2 Long Seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	45	N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe to Flange Pipe side only Complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	75	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned 2 directions Circ.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Del Muroch LEVEL III DATE 4/26/92
2 N/A LEVEL N/A DATE N/A

1 Stephen R. Donovan LEVEL II DATE 4-27-92
2 Richard A. Weber LEVEL N/A DATE 5/1/92
3 APalladanes LEVEL AN II DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

CPL-239-7

CPL-239 Rev. 0

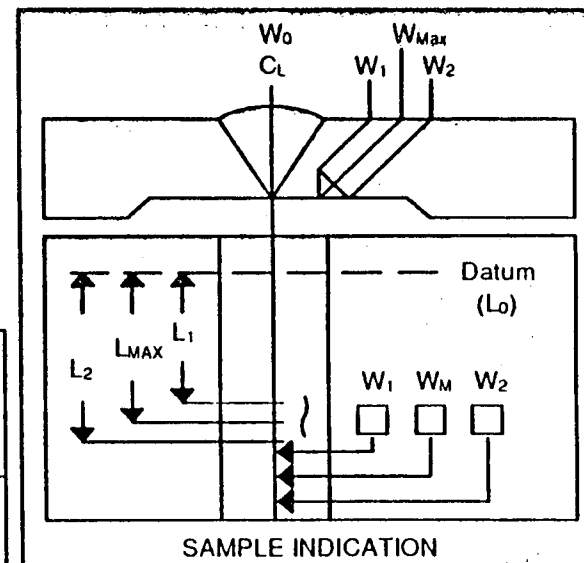
☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER _____

DATA SHEET NO. 108973
PAGE 6 OF 9

SEARCH UNIT ANGLE 4546° ^{DA 4/27/52}

W0 LOCATION $P_1 P_2$ side to c

Lo LOCATION TDC

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>Dale Murdoch</u>	LEVEL	<u>III</u>	DATE	<u>4/26/92</u>
	2	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWERS	1	<u>Ethel R. Downes</u>	LEVEL	<u>II</u>	DATE	<u>4-27-92</u>
		<u>Richard B. Weber</u>	LEVEL	<u>N/A</u>	DATE	<u>5/1/92</u>
		<u>W. Balladone</u>	LEVEL	<u>AN II</u>	DATE	<u>5-13-92</u>

1125

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR #2
DATA SHEET NO. 1089-13
PAGE 7 OF 9

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP SIS
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 73 ° F

EXAMINATION WELD/AREA

CPL-239-8 plus 2kt Long seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	45	N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

P.P. to Flange Pipe side only Complete

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	45	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned two directions Circ.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1. De Munk LEVEL III DATE 4-26-92
2. N/A LEVEL N/A DATE N/A
3. Richard B. Weber LEVEL II DATE 4-27-92
4. Richard B. Weber LEVEL N/A DATE 5-1-92
5. Richard B. Weber LEVEL III DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

CPL-239-8

CPL-239 Rev.0

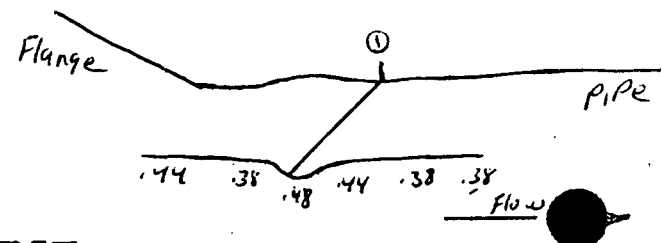
☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER _____

PAGE 8 OF 9

L0 LOCATION TDC

Root Geometry - Seen 360° at
varying amplitude

EXAMINERS	1	<u>Dale Murdoch</u>	LEVEL	<u>IV</u>	DATE	<u>4/26/92</u>
	2	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWERS	1	<u>Chunil P. Dason</u>	LEVEL	<u>II</u>	DATE	<u>4-27-92</u>
	2	<u>Richard B. Weber</u>	LEVEL	<u>N/A</u>	DATE	<u>5/1/92</u>
	3	<u>R. P. Williams</u>	LEVEL	<u>ANAL</u>	DATE	<u>5-13-92</u>



PLANT/UNIT HBR #2
DATA SHEET NO. 1089-13
PAGE 9 OF 9

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP SIS
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 73 ° F

EXAMINATION WELD/AREA

CPL-239-9 plus 2 1/2" Long seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
N/A	45	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe to Elbow complete both sides

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	45	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned two directions Circ.

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

1 Bob Muroch LEVEL III DATE 4/26/92
2 N/A LEVEL N/A DATE N/A

REVIEWERS:

1 Edmund L. Darrow LEVEL II DATE 4-27-92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 Bill Ballard LEVEL ANTI DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 108972
 PAGE 1 OF 11

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP 1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276-3784
 Sweep Length 4.26 Delay 7.66
 Range 2.5
 Gain (coarse) 20 dB
 Gain (fine) 10 dB
 Reference Sensitivity 30 dB
 Remarks: /

SEARCH UNIT

Serial No. B27400
 Size 2.5"
 Frequency 2.25 MHz
 Mode SHEAR
 Nom. Angle 60 °
 Measured Angle 60 °
 Cable Type RG-174-U
 Cable Length 6'
 Remarks: .4" EXIT POINT TO FRONT OF WEDGE

CALIBRATION BLOCK

No. HT-2P 3535 2-B
 T 34 Dia. 4.0"
 Temperature 72 °F
 Thermometer S/N JL 9105

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒
 Each Major Screen Div. = 2"
 Remarks 2.0" SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
30	-5	41
30	-12	22
40	+6	76
20	+12	73

CAL. CHECKS

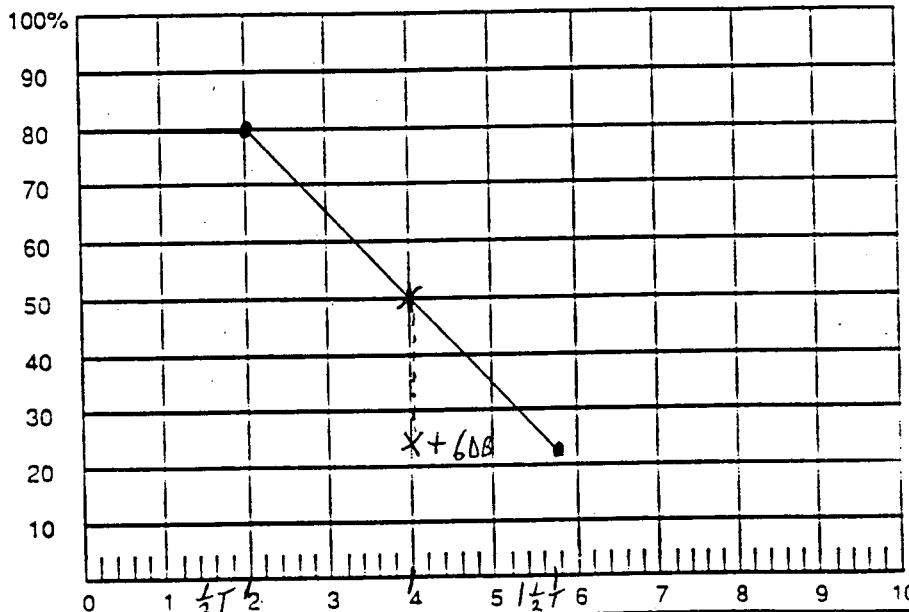
TIME

INITIAL CAL	2142
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL	2245

COUPLANT

Brand ULTRAGEL II
 Batch No. 092041

DAC PLOT



REMARKS: THE USE OF A 60° REFRACTED SHEAR ANGLE ON THIS CAL STD (2-B) DOES NOT ADEQUATELY CONTACT THE IO SURFACE. DUE TO THE OD/ID RATIO CIRC SCAN NOT POSSIBLE
FOR 0° SCAN SEE DATA SHEET 1089-1

EXAMINERS

1 Edward R. Drown
 2 N/A

LEVEL

DATE 4/25/92

REVIEWERS

1 John M. Mordel
 2 Richard B. W. Cohen
 3 R. Palladinos

LEVEL

DATE 4/27/92

LEVEL

DATE 5/1/92

LEVEL

DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT 1089-12 HBR #2 4/27/92
DATA SHEET NO. 1089-12
PAGE 2 OF 11

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP SIS
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N JL 9105
COMPONENT TEMP. 74 ° F

EXAMINATION WELD/AREA

PL-239-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	60	N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO VALVE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	*	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

ERD 4-2697

* SCANNED PARALLEL TO 2 1/2 T OF LONG SEAM
PARALLEL

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund R. Donnan LEVEL II DATE 4-25-92
2 N/A LEVEL N/A DATE N/A

1 Del. Muroch LEVEL II DATE 4/27/92
2 William B. Weber LEVEL N/A DATE 5/1/92
3 AR. Madane LEVEL ANTI DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

CPL - 239-2

CPL-239 REV-0

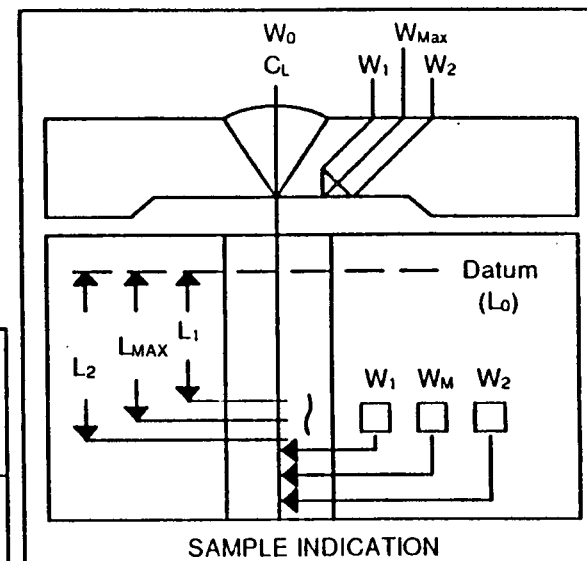
☒ PIPING WELDS
☐ FERRITIC VESSELS $\geq 2"$ T *
☐ OTHER _____

DATA SHEET NO. 1087
PAGE 3 OF 11

SEARCH UNIT ANGLE 60° ACTUAL

W₀ LOCATION Q OF CIRC WELD L₀ LOCATION DATUM "V"

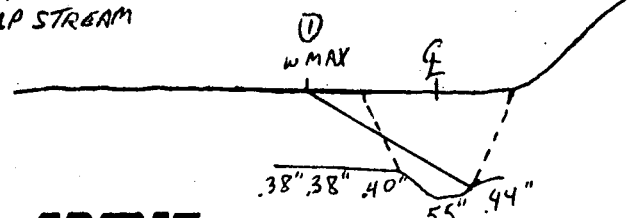
MP	Metal Path	W max	Distance from W ₀ to S.U. at maximum response.
RBR	Remaining Back Reflection	W ₁	Distance from W ₀ at 50% of DAC (lwd)
L	Distance from Datum	W ₂	Distance from W ₀ at 50% of DAC (backward)

[illegible]

EXAMINERS	1	<u>Eduard A. Nunez</u>	LEVEL <u>II</u>	DATE <u>1-2-92</u>
	2	<u>NA</u>	LEVEL <u>NA</u>	DATE <u>NA</u>
REVIEWERS	1	<u>Dale Murdoch</u>	LEVEL <u>III</u>	DATE <u>4/27/92</u>
	2	<u>Richard B. Weber</u>	LEVEL <u>N/A</u>	DATE <u>5/1/92</u>
	3	<u>Rita Madanes</u>	LEVEL <u>ANAL</u>	DATE <u>5-13-92</u>

PIPE SIDE
UP STREAM

VALVE SIDE
DOWN STREAM



1125

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR #2
DATA SHEET NO. 1089-12
PAGE 4 OF 11

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HPSIS
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N JL 9105
COMPONENT TEMP. 74 °F

EXAMINATION WELD/AREA

CPL 239-5

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	60	N/A		<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

TEE TO VALVE TEE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	*	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

RO 4-2692

* SCANNED PARALLEL TO 2 1/2 TOP LONG SEAM
PARALLEL

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

1 Edward R. Donoran LEVEL II DATE 4-25-92
2 N/A LEVEL N/A DATE N/A

REVIEWERS:

1 Dale Murdoch LEVEL III DATE 4/27/92
2 Richard B. White LEVEL N/A DATE 5/1/92
3 APolladans LEVEL ANTI DATE 5.13.92

NEPS

NUCLEAR ENERGY SERVICES, INC.

EXAM ITL

CPL-239-5

ISO/DWG. NO.

CPL-239 REV.-0

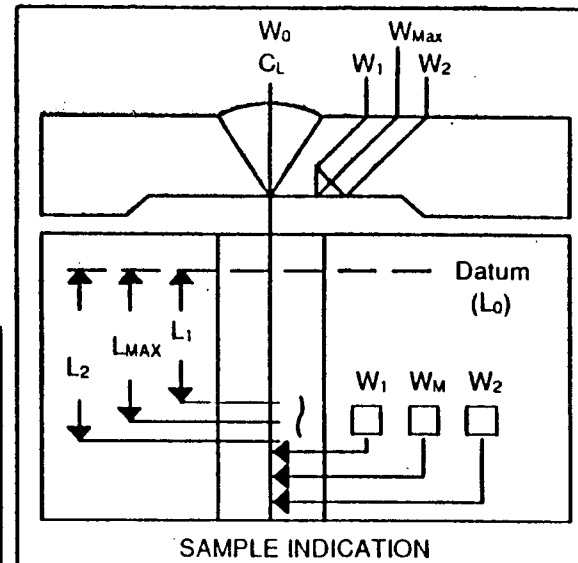
ULTRASONIC INDICATION REPORT SHEET

☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER NA

DATA SHEET NO. 1012
PAGE 5 OF 11

SEARCH UNIT ANGLE 60 ACTUAL

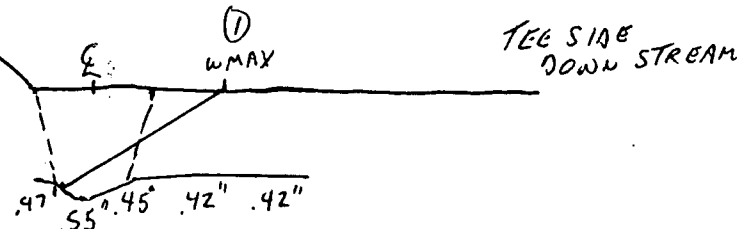
W0 LOCATION E CIRC WELD L0 LOCATION DATA "V"

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>William A. Loper</u>	LEVEL	<u>II</u>	DATE	<u>4-2-92</u>
	2	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWERS	1	<u>Dale Mendenhall</u>	LEVEL	<u>III</u>	DATE	<u>4/23/92</u>
	2	<u>Richard B. Zuber</u>	LEVEL	<u>N/A</u>	DATE	<u>5/1/92</u>
	3	<u>Bob Allardares</u>	LEVEL	<u>ANZI</u>	DATE	<u>5-13-92</u>

VALUE
SIDE
UPSTREAM



1165

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR #2
DATA SHEET NO. 1089-12
PAGE 6 OF 11

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP SIS
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N JL 9105
COMPONENT TEMP. 74 ° F

EXAMINATION WELD/AREA

CPL-239-6

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<u>NA</u>	<u>10</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>X</u>	<u>X</u>	<u>NA</u>

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

TEE TO PIPE BOTH SIDES COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<u>NA</u>	<u>NA</u>	<u>*</u>	<u>NA</u>	<u>NA</u>	<u>X</u>	<u>X</u>	<u>NA</u>

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

* SCANNED PARALLEL 2 1/2 T OF LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

1 Robert C. Down LEVEL II DATE 4-25-92
2 NA LEVEL NA DATE NA

REVIEWERS:

1 Dale Murod LEVEL III DATE 4/27/92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 Challadans LEVEL ANTI DATE 5-13-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HOR #2
DATA SHEET NO. 10P9-12
PAGE 7 OF 11

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP 515
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N JL-9105
COMPONENT TEMP. 74 ° F

EXAMINATION WELD/AREA

CPL-239-7

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<u>N/A</u>	<u>60</u>	<u>N/A</u>	<u>N/A</u>	<u>X</u>	<u>N/A</u>	<u>X</u>	<u>N/A</u>

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

PIPE TO FLANGE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<u>N/A</u>	<u>N/A</u>	<u>*</u>	<u>N/A</u>	<u>N/A</u>	<u>X</u>	<u>X</u>	<u>N/A</u>

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

* SCANNED PARALLEL 2 1/2 T OF LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund R. Brown LEVEL II DATE 4-2-92
2 N/A LEVEL N/A DATE N/A
3 R. Ballard LEVEL ANII DATE 5-13-92

nes

NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CPL - 239-7

ISO/DWG. NO.

CPL-239 REV-0

ULTRASONIC INDICATION REPORT SHEET

☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER NA

DATA SHEET NO. 108

PAGE 8 OF 11

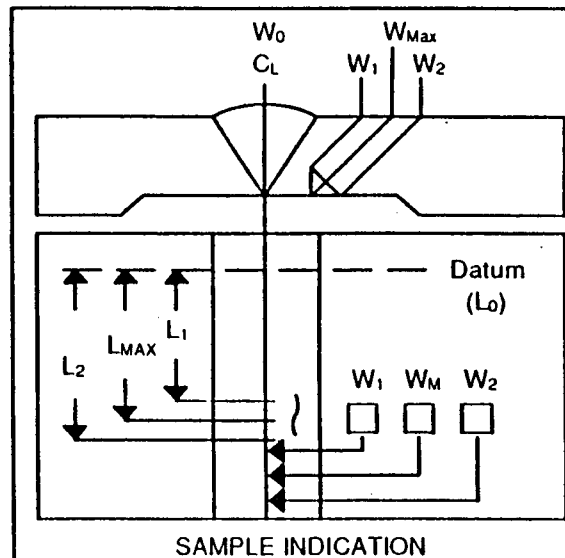
SEARCH UNIT ANGLE 60 ACTUAL

W0 LOCATION 2 CIRC WELD

L0 LOCATION TOP DEAD CENTER

MP	Metal Path
RBR	Remaining Back Reflection
L	Distance from Datum

W_{max}	Distance from W_0 to S.U. at maximum response.
W_1	Distance from W_0 at 50% of DAC (fwd)
W_2	Distance from W_0 at 50% of DAC (backward)

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS

1. Eckhardt K. Thamer

LEVEL II

DATE 4-25-12

2 A A

LEVEL 2

DATE 1A

REVIEWERS

1 Dale Myrobock

LEVEL 14

DATE 4/27/9

2 Richard B. Weber

LEVEL N/A

DATE 5/1/92

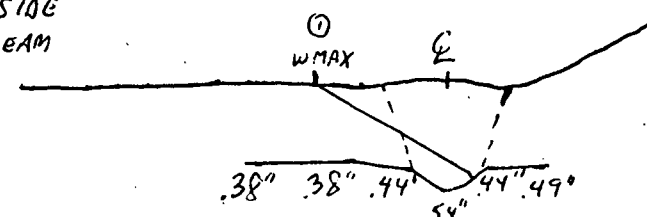
3 *Ophallanus*

LEVEL ANIL

DATE 5-13-92

PIPE SIDE
UP STREAM

FLANGE SIDE
DOWNSTREAM



1125

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR #2
DATA SHEET NO. 1089-12
PAGE 9 OF 11

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HPSIS
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N JL 9105
COMPONENT TEMP. 74 °F

EXAMINATION WELD/AREA

CPL-239-B

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	60°	N/A	N/A	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES

☒ NO

AREA SCANNED

PIPE TO FLANGE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	*	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES

☒ NO

AREA SCANNED

ERD 4692

* SCANNED PARALLEL TO 2 1/2 T OF LONG SEAM
PARALLEL

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES

☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES

☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund R. Down LEVEL II DATE 4-25-92
2 N/A LEVEL N/A DATE N/A

1 Dele Murolog LEVEL III DATE 4/27/92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 _____ LEVEL _____ DATE _____



NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CPL-239-8

ISO/DWG. NO.

CPL-239 REV-0

ULTRASONIC INDICATION REPORT SHEET

☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2"$ T *
☒ OTHER N/A

DATA SHEET NO. 108

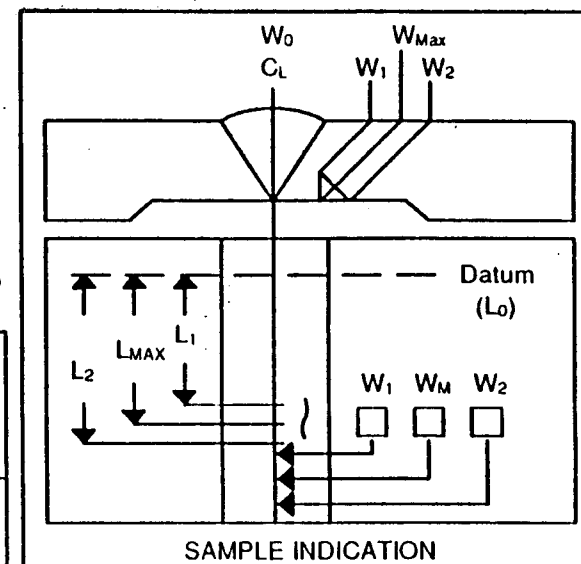
PAGE 10 OF 71

SEARCH UNIT ANGLE 60° ACTUAL

W0 LOCATION OFFICE WELD L0 LOCATION TOP DEAD CENTER

MP	Metal Path
RBR	Remaining Back Reflection
L	Distance from Datum

W max	Distance from W ₀ to S.U. at maximum response.
W ₁	Distance from W ₀ at 50% of DAC (fwd)
W ₂	Distance from W ₀ at 50% of DAC (backward)

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>E. Munkittrick</u>	LEVEL	<u>III</u>	DATE	<u>4-23-92</u>
	2	<u>J. J.</u>	LEVEL	<u>IIA</u>	DATE	<u>NA</u>
REVIEWERS	1	<u>Dale Murdoch</u>	LEVEL	<u>III</u>	DATE	<u>4/27/92</u>
	2	<u>Richard B. Zacher</u>	LEVEL	<u>N/A</u>	DATE	<u>5/1/92</u>
	3	<u>Art Hallgren</u>	LEVEL	<u>AKIT</u>	DATE	<u>5-13-92</u>

FLANGE SIDE
UP STREAM

PIPE SIDE
DOWN STREAM

1125

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR #2
DATA SHEET NO. 1089-12
PAGE 11 OF 11

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM HP SIS
ISO/DWG. NO. CPL-239 REV. 0
THERMOMETER S/N JL 9105
COMPONENT TEMP. 79 ° F

EXAMINATION WELD/AREA

CPL-239-9

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	60°	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO ELBOW BOTH SIDES COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	*	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

* SCANNED PARALLEL 2 1/2 T OF LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund R. Donovan LEVEL II DATE 4-25-92
2 N/A LEVEL N/A DATE N/A

1 Debi Myrdock LEVEL III DATE 4/27/92
2 Richard B. Weber LEVEL N/A DATE 5/1/92
3 W. Callahan LEVEL ANTI DATE 5/13/92

nes

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-1 1093T 4/4/92
 PAGE 21 OF 10
4/4/92

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model 4SK-7
 Serial No. 272763702
 Sweep Length 5.22 Delay 7.62
 Range .5"
 Gain (coarse) 20 dB
 Gain (fine) 20 dB
 Reference Sensitivity 40 dB
 Remarks: /

SEARCH UNIT

Serial No. KB10175
 Size 1/2" Dual
 Frequency 2.25 MHz
 Mode Long
 Nom. Angle 0 °
 Measured Angle N/A °
 Cable Type Self Contained
 Cable Length 6'
 Remarks: used 2.25 MHz to
improve signal to noise
ratio

CALIBRATION BLOCK

No. Component
 "T" .35" Dia. 4"
 Temperature 58 ° F
 Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ Axial ☒ N/A Circ. ☒ N/A
 Metal Path ☒ Depth ☒ N/A
 Each Major Screen Div. = .10"
 Remarks 1.0" screen

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	80
20	+12	80

CAL. CHECKS

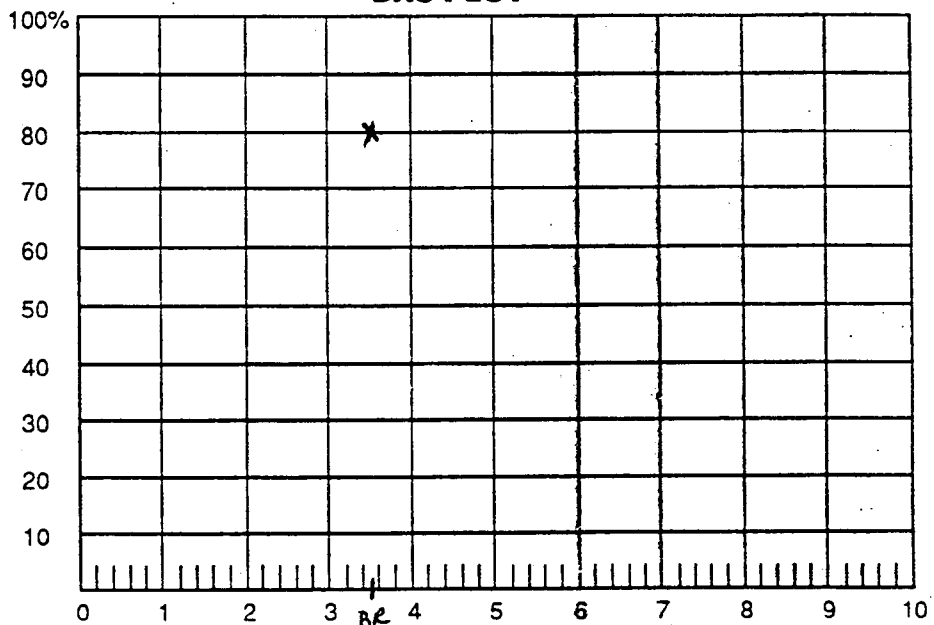
TIME

INITIAL CAL.	2245
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2350

COUPLANT

Brand Ultracel II
 Batch No. 092041

DAC PLOT



REMARKS: /

EXAMINERS

1

Dale Murdoch

LEVEL

III

DATE

4/3/92

2

Edward P. Donovan

LEVEL

II

DATE

4-3-92

REVIEWERS

1

John Pinner

LEVEL

III

DATE

4-4-92

2

Richard B. Weber

LEVEL

N/A

DATE

5/6/92

3

William Adams

LEVEL

N/A

DATE

5-18-92



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-1 1093-1 4/4/92
 PAGE 12 OF 10
4/4/92

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1093
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276.3702
 Sweep Length 5.22 Delay 7.62
 Range .5"
 Gain (coarse) 20 dB
 Gain (fine) 20 dB
 Reference Sensitivity N/A dB
 Remarks: /

SEARCH UNIT

Serial No. KB 10175
 Size 1/2" dual
 Frequency 2.25 MHz
 Mode Long
 Nom. Angle 0 °
 Measured Angle N/A °
 Cable Type Self Centered
 Cable Length 6'
 Remarks: /

CALIBRATION BLOCK

No. mini ISW 86-3269
 "T" N/A Dia. N/A
 Temperature 60 °F
 Thermometer S/N 25R 90-01

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒
 Each Major Screen Div. = .10"
 Remarks 1" screen for
Thickness measurement

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

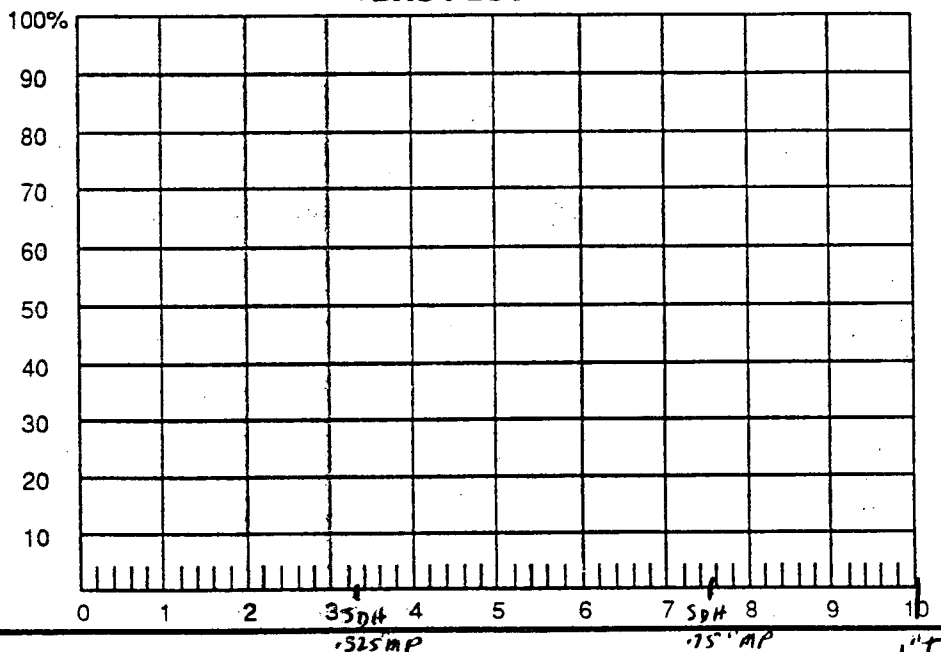
COUPLANT

Brand Ultraseal II
 Batch No. 092041

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	80
20	+12	80

DAC PLOT



CAL. CHECKS

TIME

INITIAL CAL.	2245
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2350

REMARKS: /

EXAMINERS 1 Dale Mendenhall LEVEL III DATE 4/3/92
 2 Edward R. Benson LEVEL II DATE 4-3-92
 REVIEWERS 1 Jim P... LEVEL III DATE 4-4-92
 2 Richard B. Weber LEVEL N/A DATE 5/9/92
 3 DA Walladeno LEVEL ANTI DATE 5-18-92

DATA SHEET NO. 1093-1089-1
 PAGE 3 OF 10

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
 REV. 0
 CHANGE NO. N/A

INSTRUMENT

Model KBI USK-7
 Serial No. 27276-3789
 Sweep Length 9.63 Delay 7.26
 Range .5
 Gain (coarse) 20 AXIAL/20 CIRC dB
 Gain (fine) 6 AXIAL/24 CIRC dB
 Reference Sensitivity 26 AXIAL/44 CIRC dB
 Remarks: +40B FOR 1/2 HOLE AXIAL
SET TO 80% FSH

SEARCH UNIT

Serial No. 620839
 Size 0.25
 Frequency 2.25 MHz
 Mode SHEAR
 Nom. Angle 45°
 Measured Angle 47 ON MINI IIW°
 Cable Type R6-174/U
 Cable Length 6'
 Remarks: 0.2" = EXIT POINT TO
FRONT OF WEDGE EDGE
ACTUAL ANGLE IN COMPONENT IS 45°

CALIBRATION BLOCK

No. CPL/24
 "T" .526" Dia. 4"
 Temperature 69° F
 Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒
 Each Major Screen Div. = 0.2"
 Remarks AXIAL = X
CIRC = •

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	20
40	+6	81
20	+12	80

CAL. CHECKS

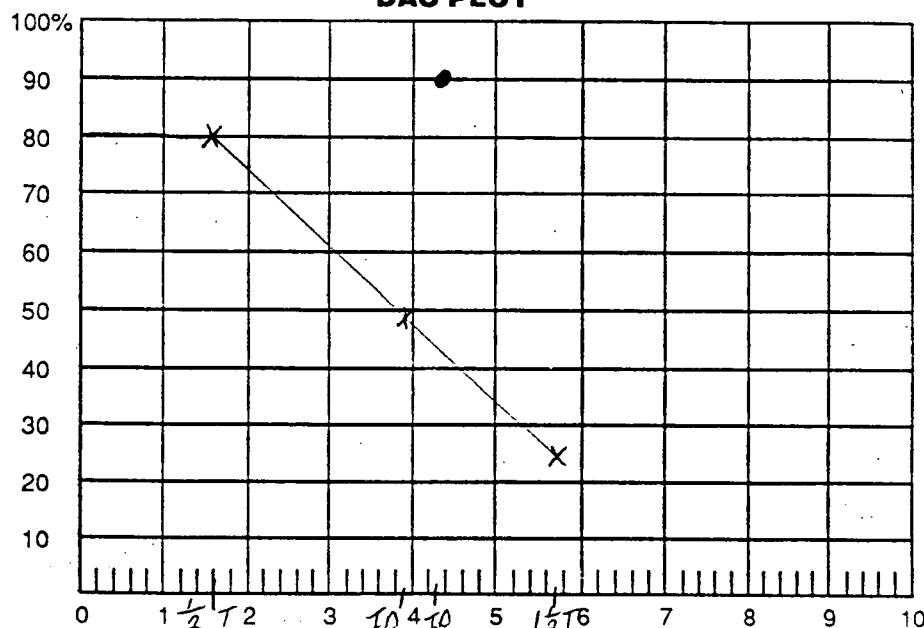
TIME

INITIAL CAL.	2135
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2349

COUPLANT

Brand ULTRAGEL II
 Batch No. 092041

DAC PLOT



REMARKS: N/A

EXAMINERS

1

Edward L. Dameron

LEVEL

II

DATE

4-3-92

2

Dale M. Mader

LEVEL

III

DATE

4/3/92

REVIEWERS

1

Curt P. Purnell

LEVEL

III

DATE

4-4-92

2

Richard B. Weber

LEVEL

N/A

DATE

5/18/92

3

R. W. Wulladorn

LEVEL

ANIS

DATE

5/18/92

PLANT UNIT HBR Unit 2
DATA SHEET NO. 1093-7 1089-1 *DN 4/4/92*
PAGE 4 OF 10

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. QPL-239 REV. 0
THERMOMETER S/N SP 90-01
COMPONENT TEMP. 58° F

EXAMINATION WELD/AREA

CPL-239-2 AND 2 1/2" LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

P, PE side only - volume that angle beam passed through
actual nominal thickness = .35"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO VALVE, PIPE SIDE ONLY COMPLETE
superseded by data pkg 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO VALVE COMPLETE
Superseded by data pkg 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	ACC.	REJ.
							N

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

A

SEE ATTACHED I.E.R.

REVIEWERS:

1 Robert K. Dwyer LEVEL II DATE 4-3-92
2 Nate Mendenhall LEVEL III DATE 4/3/92

1 Pat P... LEVEL III DATE 4-4-92
2 Richard B. Weber LEVEL N/A DATE 5/18/92
3 Abhikadav LEVEL AWT DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR UNIT 2
DATA SHEET NO. 1089-1
PAGE 5 OF 10

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SF
ISO/DWG. NO. 09-239 REV. 0
THERMOMETER S/N SCP 90-201
COMPONENT TEMP. 58 ° F

EXAMINATION WELD/AREA

PL-239-5 and 2 1/2" of Long Seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Tee Side only - scanned Volume That angle beam passed through
actual nominal thickness = .40"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe to Valve, pipe side only complete
Superseded by data pkg 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe to Valve Complete
Superseded by data pkg. 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edward R. Donovan LEVEL II DATE 4-3-92
2 Debi Munkach LEVEL III DATE 4/3/92

1 Out Pinner LEVEL III DATE 4-3-92
2 Richard B. Weber LEVEL N/A DATE 5/18/92
3 R. Walladous LEVEL AV II DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR UNIT 2
DATA SHEET NO. 10897
PAGE 6 OF 10

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. CPL-239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 58 ° F

EXAMINATION WELD/AREA

L-239-6 and 2 1/2 T of Long Seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

Scanned both sides of weld volume that angle beam passed through
Actual nominal thickness = .35" pipe side; .40" tee side

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

Pipe to Tee scanned both sides complete
Superseded by data pkg. 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

Pipe to Tee scanned both sides complete
Superseded by data pkg 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

1 Edmund K. Dorn LEVEL II DATE 4-3-92
2 Dan Murdoch LEVEL III DATE 4/3/92

REVIEWERS

1 Carl P. Parnell LEVEL III DATE 4-9-92
2 Blanca B. Weber LEVEL N/A DATE 5/18/92
3 A. P. Madano LEVEL ANT DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR UNIT 2
DATA SHEET NO. 1089-1
PAGE 7 OF 10

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. QPL-239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 58 ° F

EXAMINATION WELD/AREA

239-7 and 2 1/2 T of Long Seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

scanned Pipe side volume that angle beam passed through
actual nominal thickness = .35"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

Pipe to Flange - Pipe side only complete
superceded by data pkg 1089-73

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION
☒ YES ☒ NO

AREA SCANNED

Pipe to Flange complete
superceded by data pkg 1089-73

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION
☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund K. Dorian LEVEL II DATE 4-3-92
2 Dale M. Mordock LEVEL III DATE 1/3/92

1 Gettys LEVEL III DATE 4-9-92
2 Richard B. Weber LEVEL N/A DATE 5/18/92
3 William Dorian LEVEL III DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CAL-239-7

ISO/DWG. NO.

CPL-239 REV. 0

ULTRASONIC INDICATION REPORT SHEET

☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2" T$ *
☒ OTHER NA

DATA SHEET NO. ~~1088~~ 1089

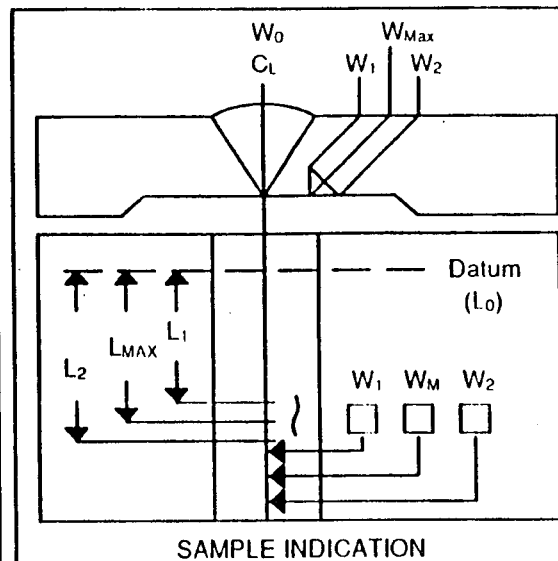
PAGE 8 OF 10

SEARCH UNIT ANGLE 45°

W0 LOCATION UP STREAM
EDGE OF WELD

L0 LOCATION TOP DEAD CENTER

MP	Metal Path	W_{max}	Distance from W_0 to S.U. at maximum response.
RBR	Remaining Back Reflection	W_1	Distance from W_0 at 50% of DAC (fwd)
L	Distance from Datum	W_2	Distance from W_0 at 50% of DAC (backward)

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>Glenn K. Donovan</u>	LEVEL <u>II</u>	DATE <u>4-5-92</u>
	2	<u>Dale Murdoch</u>	LEVEL <u>III</u>	DATE <u>4/3/92</u>
REVIEWERS	1	<u>Art Pomeroy</u>	LEVEL <u>III</u>	DATE <u>4-4-92</u>
	2	<u>Richard B. Weber</u>	LEVEL <u>N/A</u>	DATE <u>5/18/92</u>
	3	<u>Don Walligman</u>	LEVEL <u>ANTI</u>	DATE <u>5/18/92</u>

PIPESIDE
UPSTREAM

FLANGE
SIDE
DOWN
STREAM

$.38".38".38".38".47".45"$ 49

1125

NUCLEAR ENERGY SERVICES, INC.

PLANT UNIT HBR unit 2DATA SHEET NO. 10957 1089-7PAGE 7 OF 10EXAMINATION
DATA SHEETPROCEDURE NO. SP-1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM SIISO/DWG. NO. CPL-239 REV. 0THERMOMETER S/N SEP 9001COMPONENT TEMP. 58 ° F

EXAMINATION WELD/AREA

CPL-239-8 AND 2 1/2 T LONG SEAM

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒

YES

☒

NO

AREA SCANNED

Scanned pipe side volume that angle beam passed through
actual nominal thickness = .35"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒

YES

☒

NO

AREA SCANNED

PIPE TO FLANGE PIPE SIDE ONLY COMPLETE
superceded by data pkg 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒

YES

☒

NO

AREA SCANNED

PIPE TO FLANGE COMPLETE
Superceded by data pkg 1089-13

SCAN-USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
							N

WELD CROWN LIMITATION

☐

YES

☐

NO

AREA SCANNED

A

SEE ATTACHED I.E.R.

REVIEWERS:

1 Richard R. Dameron LEVEL II DATE 4-3-92
2 Dale M. Muel LEVEL III DATE 4/3/92

1 Carl R. Pinner LEVEL III DATE 4-4-92
2 Richard G. Weber LEVEL N/A DATE 5/18/92
3 CP Mulla LEVEL ADD DATE 5/18/92

NES

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR UNIT 2
DATA SHEET NO. 1089-1
PAGE 10 OF 10

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. CA-239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 58° F

EXAMINATION WELD/AREA

PL-239:9 and 2 1/2 T of Long Seam

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Scanned both sides of weld volume that angle beam passed through
Actual nominal thickness = .35"

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe to Elbow scanned both sides complete
superceded by data pkg. 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.
N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

Pipe to elbow scanned both sides complete
superceded by data pkg 1089-13

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1	<u>Edmund R. Donovan</u>	LEVEL <u>II</u>	DATE <u>4-3-92</u>	1	<u>Richard B. Weber</u>	LEVEL <u>III</u>	DATE <u>4-9-92</u>
2	<u>Bale Muroch</u>	LEVEL <u>III</u>	DATE <u>4/3/92</u>	2	<u>Richard B. Weber</u>	LEVEL <u>N/A</u>	DATE <u>5/18/92</u>
				3	<u>APMalladane</u>	LEVEL <u>ANTI</u>	DATE <u>5/18/92</u>



NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-4
PAGE 1 OF 12

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1089
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276 3409
Sweep Length 9.59 Delay 7.74
Range 5"
Gain (coarse) 20 dB
Gain (fine) 14 dB
Reference Sensitivity 34 dB
Remarks: 26 DB TO BRINE
1/2 T HOLE TO 80% FSH

SEARCH UNIT

Serial No. B 27400
Size 2.5"
Frequency 2.25 MHz
Mode SHEAR
Nom. Angle 60 °
Measured Angle 60 °
Cable Type RG-174-U
Cable Length 6
Remarks: 4" EXIT POINT
TO FRONT OF WEDGE
FRONT END 41592

CALIBRATION BLOCK

No. CPL-24
T 5.26" Dia. 4.0"
Temperature 64 °F
Thermometer S/N SEP 90-01

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒
Each Major Screen Div. = 0.2"
Remarks 2.0" SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

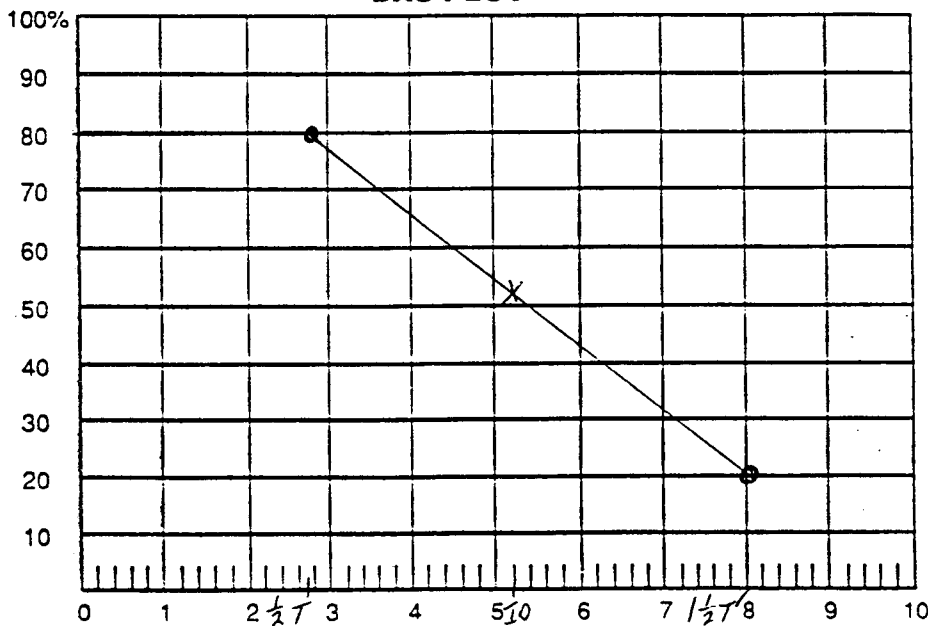
INITIAL	dB	RESULT
80	-6	40
80	-12	19
40	+6	80
20	+12	81

CAL. CHECKS

TIME

INITIAL CAL.	2040
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2202

DAC PLOT



REMARKS: THE USE OF A 60° REFRACTED SHEAR ANGLE
ON THIS CAL STD. (CPL 24) DOES NOT ADEQUATELY
CONTACT THE ID SURFACE. DUE TO THE OD/ID RATIO
CIRC SCAN NOT POSSIBLE

Superseded by Data Pkg. 1089-12 - incorrect Cal. block

EXAMINERS

1

Edmund R. Donovan

LEVEL II

DATE

4-14-92

2

N/A

LEVEL N/A

DATE

N/A

REVIEWERS

1

Dele M. M. M.

LEVEL III

DATE

4/16/92

2

Richard B. Weber

LEVEL N/A

DATE

5/18/92

3

Bill Adams

LEVEL APII

DATE

5/11/92

nes

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. 1089-4
PAGE 2 OF 12

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SP-1093
REV. 0
CHANGE NO. N/A

INSTRUMENT

Model USK-7
Serial No. 27276 3409
Sweep Length 568 Delay 751
Range 5
Gain (coarse) 20 dB
Gain (fine) 20 dB
Reference Sensitivity 40 dB
Remarks: N/A

SEARCH UNIT

Serial No. A 22667
Size .25" DUAL
Frequency 1.5 MHz
Mode LONG
Nom. Angle 0°
Measured Angle N/A
Cable Type SELF CONT
Cable Length 6'
Remarks: 1.5 MHz USED FOR
BETTER PENETRATION

CALIBRATION BLOCK

No. 863265 MINI ITW
T N/A Dia. N/A
Temperature 62 °F
Thermometer S/N SEP 9001

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
Metal Path ☒ Depth ☒
Each Major Screen Div. = 0.1"
Remarks 1.0" SCREEN USED
FOR THICKNESS MEASUREMENT

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	40
80	-12	19
40	+6	80
20	+12	81

CAL. CHECKS

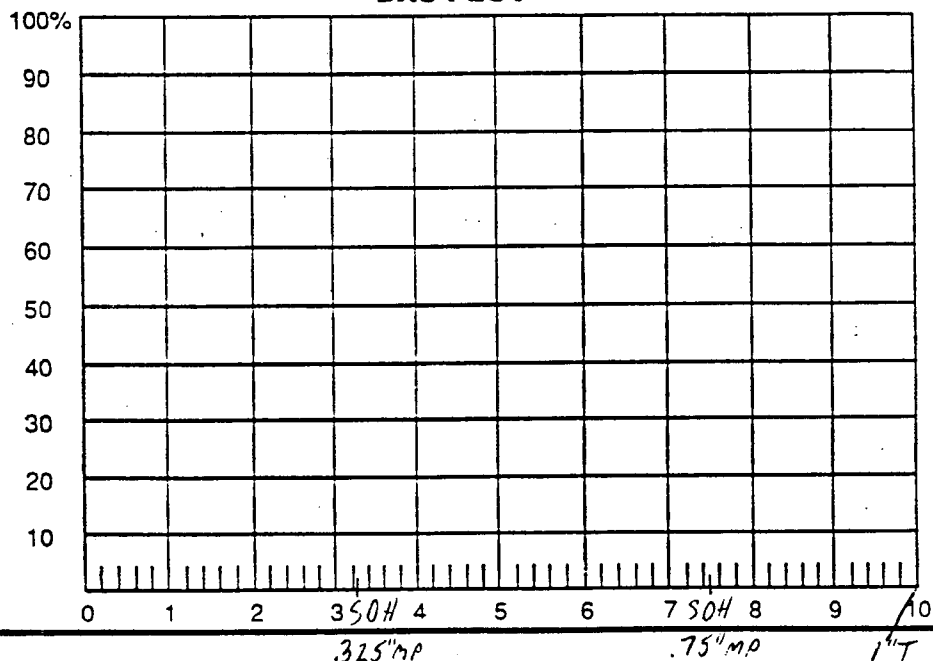
TIME

INITIAL CAL.	2210
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2232

COUPLANT

Brand ULTRAGEL II
Batch No. 092041

DAC PLOT



REMARKS: N/A

EXAMINERS 1 Chuck Darrow LEVEL II DATE 4-14-92
2 N/A LEVEL N/A DATE N/A
REVIEWERS 1 Dale Munday LEVEL III DATE 4/16/92
2 Richard B. Weber LEVEL N/A DATE 5/9/92
3 Bill Adams LEVEL N/A DATE 5/18/92

PLANT/UNIT HBR UNIT 2
DATA SHEET NO. 1089-4
PAGE 3 OF 12

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. 02-239 REV. 0
THERMOMETER S/N SEP 90-01
COMPONENT TEMP. 64° F

EXAMINATION WELD/AREA

CPL 239-2

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.
N/A		N/A	N/A		N/A		N/A

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

PIPE TO VALVE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SEE ATTACHED I.E.R.

1 Richard D. Dawson LEVEL II DATE 4-14-92
2 N/A LEVEL N/A DATE N/A

REVIEWERS:

1 Debi Myrdal LEVEL III DATE 4/16/92
2 Richard B. Weber LEVEL N/A DATE 5/9/92
3 R. P. Balladaw LEVEL AN/1 DATE 5/18/92

nes

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR UNIT 2
DATA SHEET NO. 10894
PAGE 4 OF 12

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1084
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N SEP 90-1
COMPONENT TEMP. 64 ° F

EXAMINATION WELD/AREA

CPL-239-5

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	X	N/A	X	N/A

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

VALVE TO PIPE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Gabriel R. Dawson LEVEL II DATE 4-14-92
2 N/A LEVEL N/A DATE N/A

1 Dele M. Mordock LEVEL III DATE 4/16/92
2 Richard D. Weber LEVEL N/A DATE 5/18/92
3 CPM Williams LEVEL AM DATE 5-18-92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR UNIT 2
DATA SHEET NO. 1089-4
PAGE 5 OF 12

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SS
ISO/DWG. NO. CPL 239 REV. 0
THERMOMETER S/N SCP 90-21
COMPONENT TEMP. 64° F

EXAMINATION WELD/AREA

CPL 239-6

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↘	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

TEE TO PIPE COMPLETE BOTH SIDES

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↘	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund R. Downer LEVEL II DATE 4-14-92
2 Richard B. Welter LEVEL N/A DATE 5/18/92
3 Bill Adams LEVEL III DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT 173R UNIT 2
DATA SHEET NO. 1089-4
PAGE 6 OF 12

EXAMINATION DATA SHEET

PROCEDURE NO. SP-1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. CPL-239 REV. 0
THERMOMETER S/N SEP 90 v1
COMPONENT TEMP. 64 ° F

EXAMINATION WELD/AREA

CPL-239-7

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	X	N/A	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE TO FLANGE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edmund L. Donovan LEVEL II DATE 4-14-92
2 JA LEVEL JA DATE JA

1 Dale M. Wood LEVEL IV DATE 4/16/92
2 Richard B. Weber LEVEL N/A DATE 5/18/92
3 APC Williams LEVEL ADU DATE 5/18/92



NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT H6R UNIT 2DATA SHEET NO. 1089-4PAGE 7 OF 12EXAMINATION
DATA SHEETPROCEDURE NO. SP 1089REVISION/CHANGE NO. 0COMPONENT/SYSTEM SEISO/DWG. NO. CPL 239 REV. 0THERMOMETER S/N SEP 70-01COMPONENT TEMP. 64 ° F

EXAMINATION WELD/AREA

CPL 239-8

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	X	N/A	X	N/A

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

FLANGE TO PIPE PIPE SIDE ONLY COMPLETE

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	I	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION



YES



NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Richard R. Downer LEVEL II DATE 4-14-92

2 NA LEVEL NA DATE NA

1 Dale Murdoch LEVEL III DATE 4/16/92

2 Richard B. Weber LEVEL N/A DATE 5/18/92

3 Dr. Walladous LEVEL ANU DATE 5/18/92

NES

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT HBR UNIT 2
DATA SHEET NO. 1089-4
PAGE 8 OF 12

EXAMINATION DATA SHEET

PROCEDURE NO. SP 1089
REVISION/CHANGE NO. 0
COMPONENT/SYSTEM SI
ISO/DWG. NO. PL-239 REV. 0
THERMOMETER S/N SEP 9001
COMPONENT TEMP. 64 ° F

EXAMINATION WELD/AREA

CPL-239-9

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.
N/A	X	N/A	N/A	N/A	X	X	N/A

WELD CROWN LIMITATION

☒ YES ☒ NO

AREA SCANNED

PIPE T₀ ELBOW COMPLETE BOTH SIDES

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=	↗	YES	NO	ACC.	REJ.

WELD CROWN LIMITATION

☐ YES ☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Edward R. Brown LEVEL II DATE 4-14-92
2 N/A LEVEL N/A DATE N/A

1 Dale McDaniel LEVEL III DATE 4/16/92
2 Richard B. Weber LEVEL N/A DATE 5/18/92
3 CP Belladonna LEVEL AVII DATE 2/18/92

nes

NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CPL-239-8

ISO/DWG. NO.

CPL 239 REV-0

ULTRASONIC INDICATION REPORT SHEET

- ☒ PIPING WELDS
- ☒ FERRITIC VESSELS $\geq 2"$ T *
- ☒ OTHER N/A

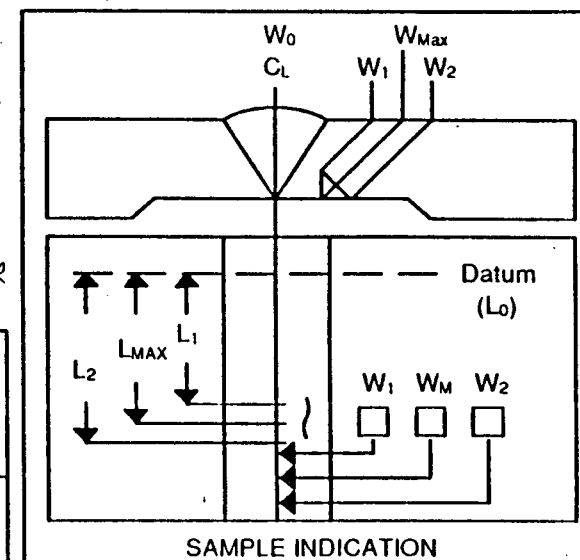
DATA SHEET NO. 108

PAGE 9 OF 12

SEARCH UNIT ANGLE 60 ACTUAL °

W0 LOCATION E OF STREVELD L0 LOCATION TOP DEAD CENTER

MP	Metal Path	W max	Distance from W ₀ to S.U. at maximum response.
RBR	Remaining Back Reflection	W ₁	Distance from W ₀ at 50% of DAC (lwd)
L	Distance from Datum	W ₂	Distance from W ₀ at 50% of DAC (backward)

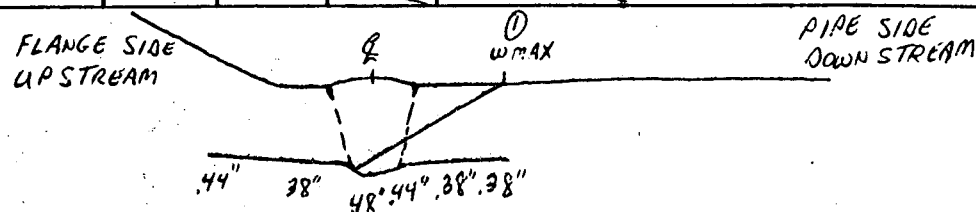
[illegible]

REMARKS

ROOT GEOMETRY * SEEN 360 WITH
VARYING AMPLITUDE

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	<u>Edmund K. Norvan</u>	LEVEL <u>II</u>	DATE <u>1-17-92</u>
	2	<u>NA</u>	LEVEL <u>NA</u>	DATE <u>NA</u>
REVIEWERS	1	<u>Dale W. Smith</u>	LEVEL <u>III</u>	DATE <u>4/16/92</u>
	2	<u>Richard B. Weber</u>	LEVEL <u>N/A</u>	DATE <u>5/18/92</u>
	3	<u>Robert J. Jones</u>	LEVEL <u>N/A</u>	DATE <u>5/18/92</u>



1125

NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CPL-239-5

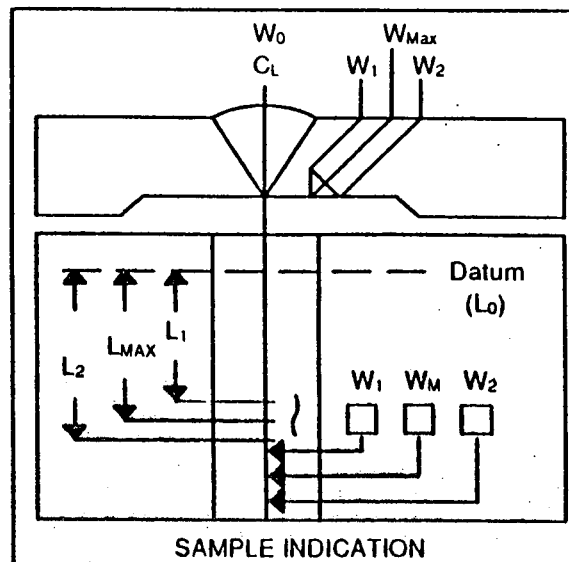
ISO/DWG. NO.

CPL 239 REV-0

ULTRASONIC INDICATION REPORT SHEET

- ☐ PIPING WELDS
- ☐ FERRITIC VESSELS $\geq 2"$ T *
- ☐ OTHER _____

DATA SHEET NO. 100
PAGE 11 OF 12



SEARCH UNIT ANGLE 60° ACTUAL

W0 LOCATION E CIRC WELA

LO LOCATION DATUM V

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS

1

Edmund Donovan

LEVEL

II

DATE _____

4-14-92

2

A N/A

LEVEL

2/A

DATE _____

分

REVIEWERS

1

Dele. H. H. H. H. H.

LEVEL

N/A

DATE _____

5/18/92

3

Arthur B. Weber
R. Valladas

LEVEL

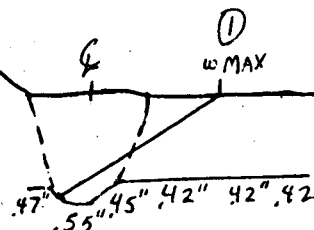
9211

DATE _____

5/5/19.

VALVE SIDE
UP STREAM

PIPE SIDE
DOWN STREAM



1125

NUCLEAR ENERGY SERVICES, INC.

EXAM ITEM

CPL-239-2

ISO/DWG. NO.

CPL 239 REV-0

ULTRASONIC INDICATION REPORT SHEET

☒ PIPING WELDS
☒ FERRITIC VESSELS $\geq 2" T$
☒ OTHER NA

DATA SHEET NO.

PAGE 12 OF 12

SEARCH UNIT ANGLE 60 ACTUAL °

W₀ LOCATION E OF CIRC WELD L₀ LOCATION DATUM V

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS

1 Eckman F. Watson

LEVEL 11

DATE 9-17-92

2. $\frac{N}{A}$

LEVEL 4

DATE 3/1

REVIEWERS

1 Dale Myrdock

LEVEL 14

DATE 8/16/9

2 Richard B. Weber

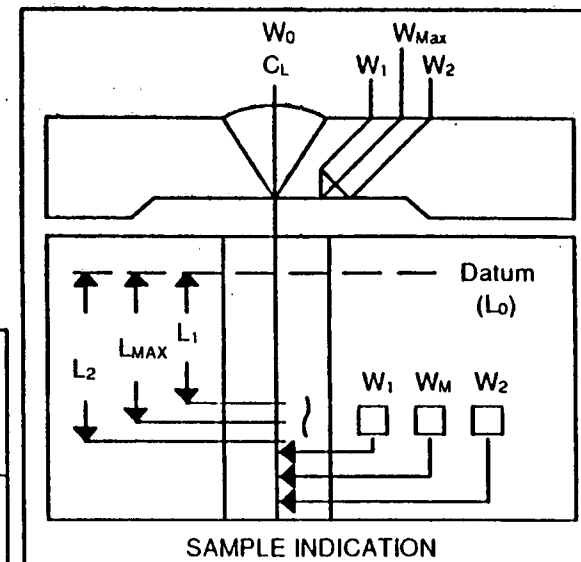
LEVEL N/

DATE 5/48/92

2 *Arctostaphylos*

LEVEL *AN*

DATE 5/18/92

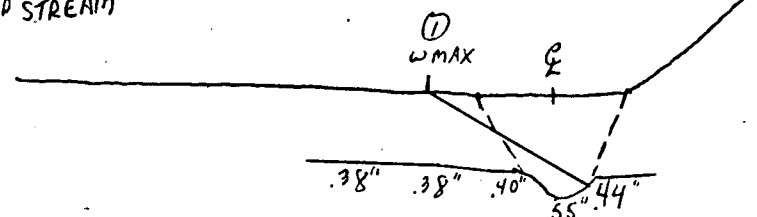


REMARKS

ROOT GEOMETRY* SEEN 360° WITH
VARYING AMPLITUDE

PIPE SIDE
UP STREAM

✓ VALUE SIGN
DOWN STREAM



1125

NUCLEAR ENERGY SERVICES, INC.

VISUAL EXAMINATION DATA SHEET

 REPORT NO. 1097-41

 WR&A # N/A

 PAGE 1 OF 2

 PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 239-A</u>
-------------------	--------------------------------	------------------------------------

 DWG./LOC.: CPL 239 REV 0 / SI PUMP RM

[X] VT-3 PROCEDURE: <u>NDP-613</u> ^{SP 1097 AP4-6-92} REV.: <u>0</u>	[] VT-4 PROCEDURE: <u>614 REV.: 0</u>
---	--

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <u>[X] N/A</u>
---	------------------------------------

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
<input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	<input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: BOLT HOLES IN CONCRETE WITHIN 5 DIAMETERS OF THE BASE PLATE ATTACHMENT. SEE ATTACHED SKETCH.

RECORDABLE INDICATIONS

EXAMINER: <u>Curt Purnan</u>	LEVEL: <u>II</u>	DATE: <u>4-6-92</u>
------------------------------	------------------	---------------------

REVIEWER: <u>Chf Mass</u> <i>mm</i>	LEVEL: <u>II</u>	DATE: <u>4-8-92</u>
-------------------------------------	------------------	---------------------

COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY	[] UNSATISFACTORY
--	--------------------

 REVIEWED BY: Richard B. Weber

REVIEWERS COMMENTS:

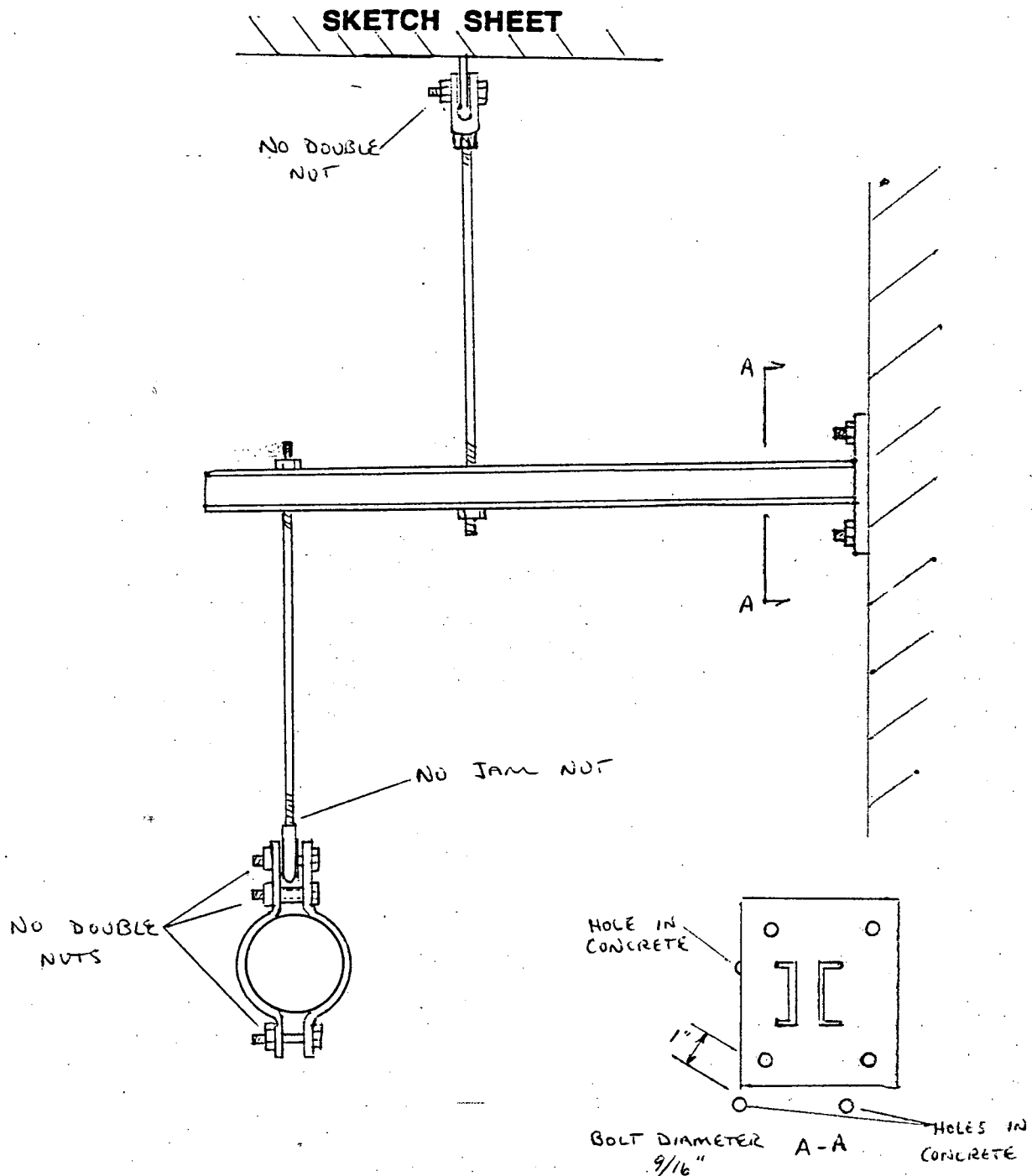
 ANII REVIEW: RP Valladares

 DATE: 4-14-92

1105

PAGE 2 OF 2DATA SHEET NO. 1097-41EXAM ITEM CPL 239-AISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET

EXAMINER Carl P. ...LEVEL IIDATE 4-6-92EXAMINER NALEVEL N/ADATE NAREVIEWER Chris MossLEVEL IIDATE 4-8-92REVIEWER Richard B. WeberDATE 4/13/92REVIEWER NADATE NANA



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-48

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 239-B</u>
----------------------	-----------------------------------	---------------------------------------

DWG./LOC.: CPL 239 REV 0 / SI PUMP RM.

☒ VT-3 PROCEDURE: SP 1097 AP 4-6-92 NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS	
FASTENING DEVICES		✓		/	
MISALIGNMENT		✓			
DEBRIS		✓			N/A
CORROSION/EROSION		✓			/
STRUCTURAL INTEGRITY		✓			
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT FOR CLEARANCES	
CLEARANCES OF MOVING PARTS			✓		
ARC STRIKES/GOUGES		✓			
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A				
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A	

COMMENTS: AP 4-8-92 N/A RECORDABLE INDICATION

EXAMINER: Art Penman LEVEL: II DATE: 4-6-92

REVIEWER: Edward R. Dawson LEVEL: II DATE: 4-7-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/13/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares DATE: 4-14-92

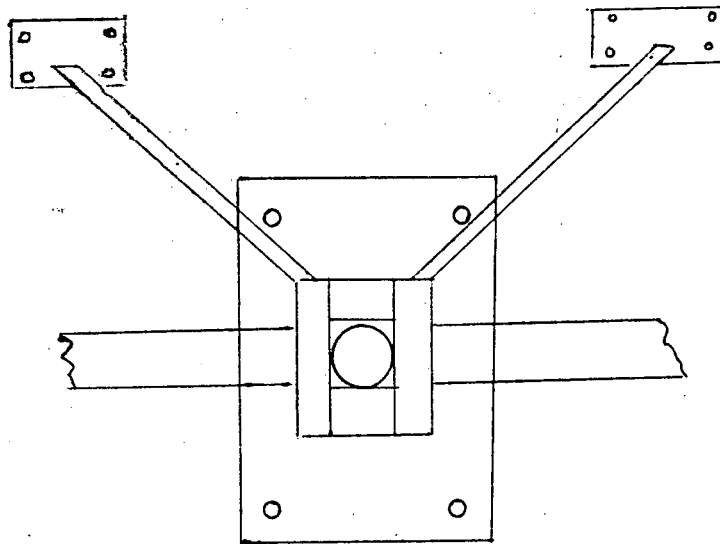
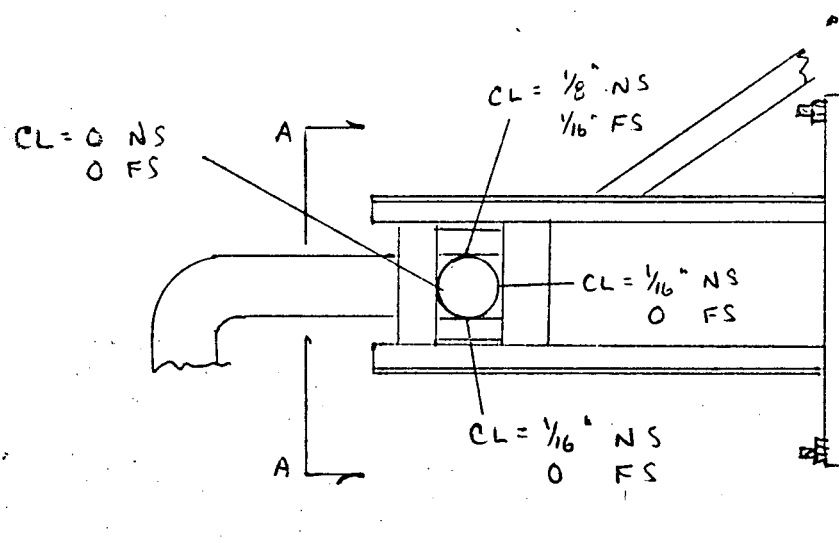
1125

PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CPL 239-BISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET



A-A

EXAMINER Curt P. ...
EXAMINER N/A
REVIEWER Edmund R. ...
REVIEWER Richard B. ...
REVIEWER ...

LEVEL II
LEVEL N/A
LEVEL I
DATE 4/13/92
DATE _____

DATE 4-6-92
DATE N/A
DATE 4-7-92

CPL
Crane Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

26600
 REPORT NO. 1091-257 571
 WR&A # N/A
 PAGE 1 OF 1

PLANT: H B ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: <u>HPSIS</u>	COMPONENT NAME: <u>HANGER</u>	COMPONENT ID NO.: <u>CPL-239-A</u>
-------------------------	----------------------------------	---------------------------------------

DWG./LOC.: CPL-239 REV-0 / SI PUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 5-7-92
~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	SIN <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

RE-EXAM AFTER REPAIR

WR/JO 92-AEUI.1

EXAMINER: Shirley D. Dancy

LEVEL: II

DATE: 5-6-92

REVIEWER: Art Purnan

LEVEL: II

DATE: 5-7-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/8/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladanes

DATE: 5-13-92

CP&L
Caroline Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-49

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 239-C</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 239 REV 0 / SI PUMP RM

[x] VT-3 PROCEDURE: ^{SP 1097 AP4-7-92}~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT [x] REMOTE [x]	VIDEO RECORDING NO: [x] N/A
EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Purnan LEVEL: II DATE: 4-6-92

REVIEWER: Edmund R. Donovan LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/13/92

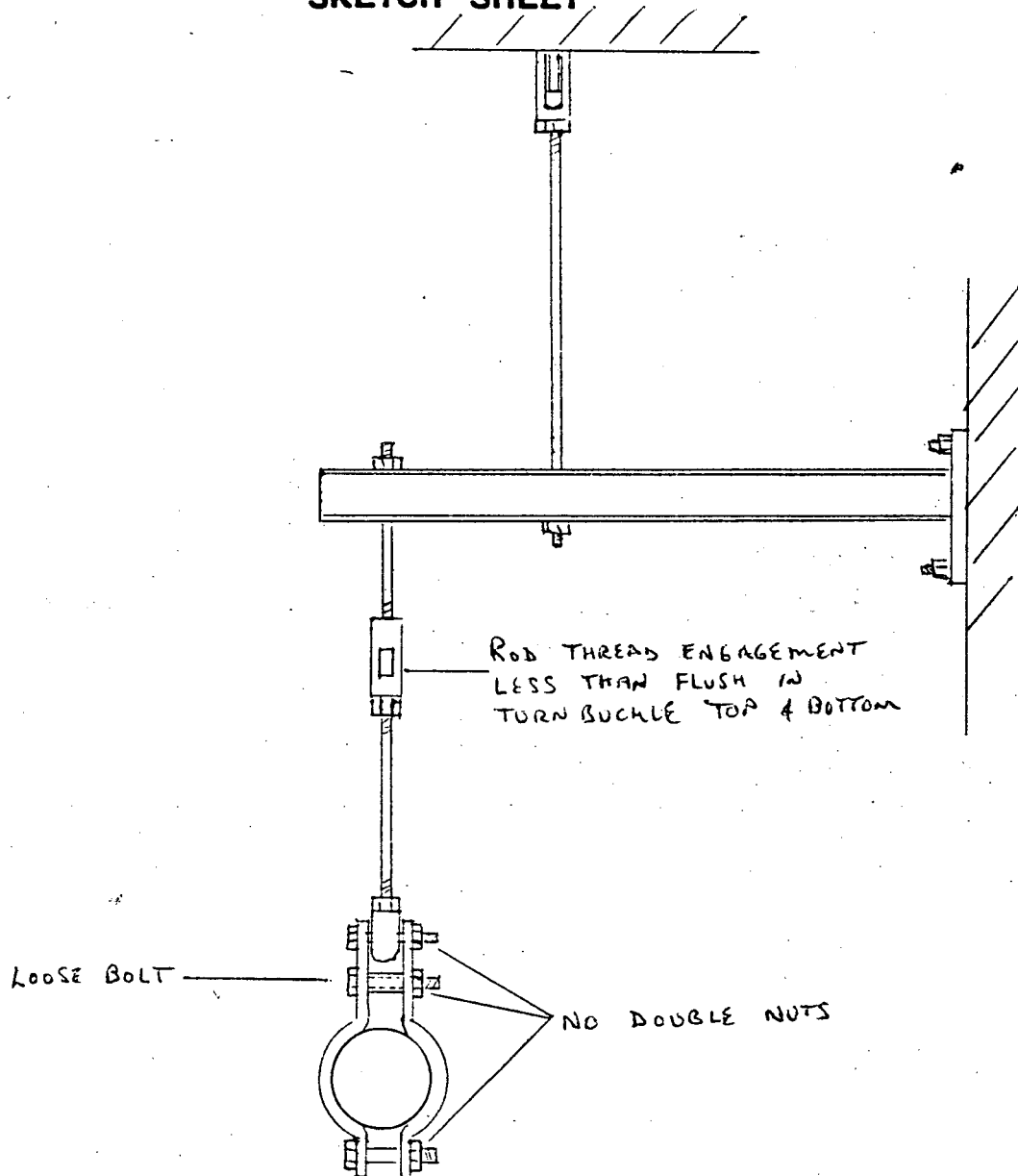
REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares DATE: 4-14-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-49EXAM ITEM CPL 239 -CISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET

EXAMINER GT Purnan LEVEL IIDATE 4-6-92EXAMINER N/A LEVEL N/ADATE N/AREVIEWER Charles L. Dorman LEVEL IIDATE 4-9-92REVIEWER Richard S. Weber DATE 4/13/92

REVIEWER _____ DATE _____

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-254 ²⁶⁷ ₉₇₄

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>HPSIS</u>	COMPONENT NAME: <u>HANGER</u>	COMPONENT ID NO.: <u>CPL-239-C</u>
-------------------------	----------------------------------	---------------------------------------

DWG./LOC.: CPL-239 REV-0 / SI PUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 5-792 NBEF-615 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT			ACTUAL: <u>N/A</u>	
SNUBBER			ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u> S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS
RE EXAM AFTER REPAIR WR/JO 92-AEUP.1

EXAMINER: Edmund R Donover LEVEL: II DATE: 5-6-92

REVIEWER: Art Purnan LEVEL: II DATE: 5-7-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard D. Weber 5/8/92

REVIEWERS COMMENTS:

ANII REVIEW: CP Valladares DATE: 5-13-92

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-50

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SI

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL 239-D

DWG./LOC.: CPL 239 REV 0 / SI PUMP RM

SP1097 AP4-6-92

[X] VT-3 PROCEDURE: NDP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR

[] OTHER _____

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] CONSTANT SUPPORT

[] MECHANICAL SNUBBER

[] VARIABLE SUPPORT

[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: CLAMP DOES NOT CONTACT PIPE IN MORE THAN ONE PLACE.
CLAMP DIAMETER IS 1" LARGER THAN PIPE.
RECORDABLE INDICATIONS.

EXAMINER: Get Puncum

LEVEL: II

DATE: 4-6-92

REVIEWER: Edmund R. Donovan

LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY

[] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/13/92

REVIEWERS COMMENTS:

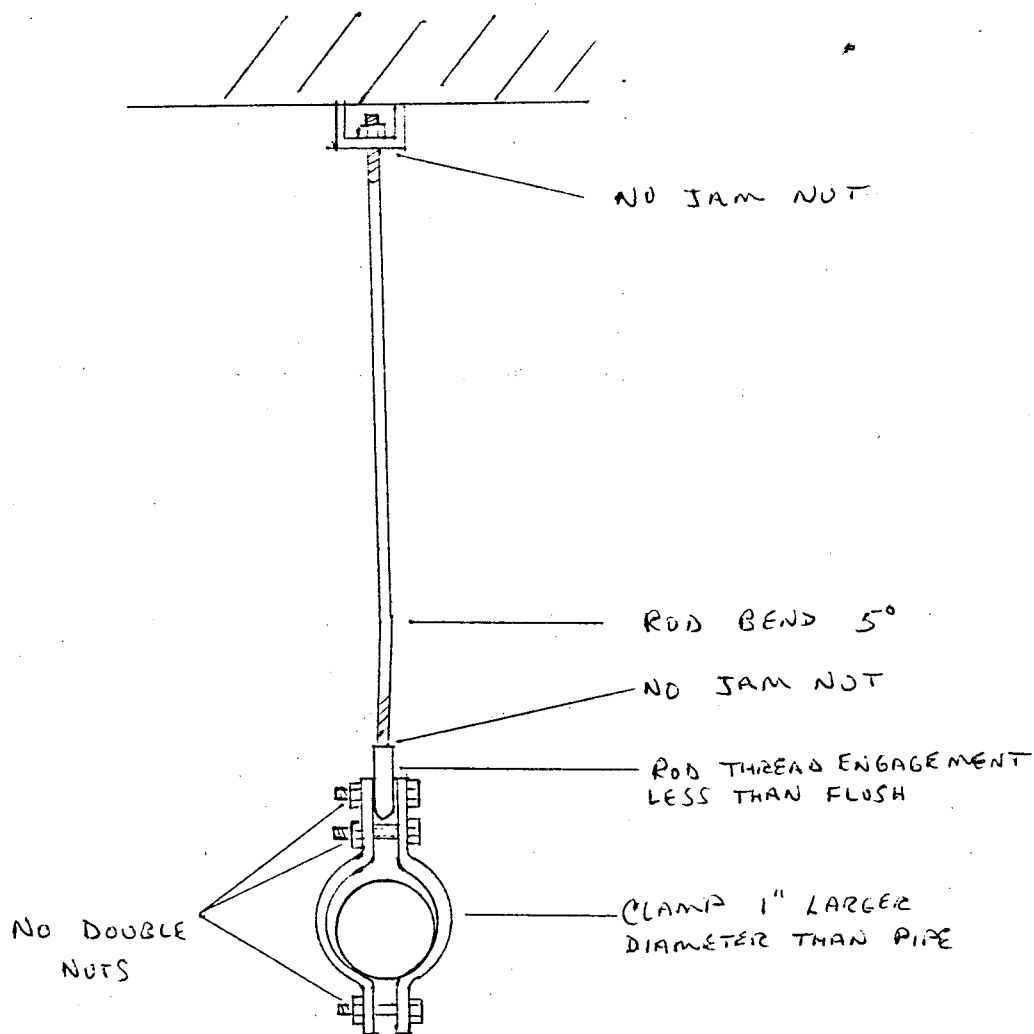
ANII REVIEW: AP Valladares

DATE: 4-14-92

1125

PAGE 2 OF 2DATA SHEET NO. 1077-50EXAM ITEM CPL 239 -DISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET



EXAMINER

Art Runcen

LEVEL

II

DATE

4-6-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Edmund R. Davron

LEVEL

II

DATE

4-7-92

REVIEWER

Richard B. Weber

DATE

4/13/92

REVIEWER

DATE

DM

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-271

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>HP SIS</u>	COMPONENT NAME: <u>HANGER</u>	COMPONENT ID NO.: <u>CPL-239-0</u>
--------------------------	----------------------------------	---------------------------------------

DWG./LOC.: CPL-239 REV-0 / SI PUMP ROOM

[X] VT-3 PROCEDURE: SP 1097 ERO 5-792
NOEP 613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT <u>[X]</u> REMOTE <u>[X]</u>	VIDEO RECORDING NO: <u>[X] N/A</u>
EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[]</u> MIRROR <u>[]</u> OTHER _____	TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[X]</u> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>[X]</u>		<div style="font-size: 2em; transform: rotate(-45deg); display: inline-block;">N A</div>
MISALIGNMENT		<u>[X]</u>		
DEBRIS		<u>[X]</u>		
CORROSION/EROSION		<u>[X]</u>		
STRUCTURAL INTEGRITY		<u>[X]</u>		
RESISTANCE TO MOVEMENT			<u>[X]</u>	
CLEARANCES OF MOVING PARTS		<u>[X]</u>		
ARC STRIKES/GOUGES		<u>[X]</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: NO RECORDABLE INDICATIONS

RE-EXAM AFTER REPAIR

WR/JO 92-AEUQ-1

EXAMINER: Edward R. Aron LEVEL: II DATE: 5-7-92

REVIEWER: Carl P. ... LEVEL: II DATE: 5-9-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/9/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares

DATE: 5-12-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-125

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-239-E</u>
---------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-239, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 (CN) 4-11-92
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	See page #2 for comment
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS	<input checked="" type="checkbox"/>			Light dust/debris on horizontal surfaces
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details.

EXAMINER: Cliff Moss (CN) LEVEL: II DATE: 4-11-92

REVIEWER: Edmund R. Donovan JR LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares

DATE: 4-17-92

105

PAGE 2 OF 2DATA SHEET NO. 1097-125EXAM ITEM CPL-239-EISO DWG. NO. CPL-239 REV. 0

SKETCH SHEET

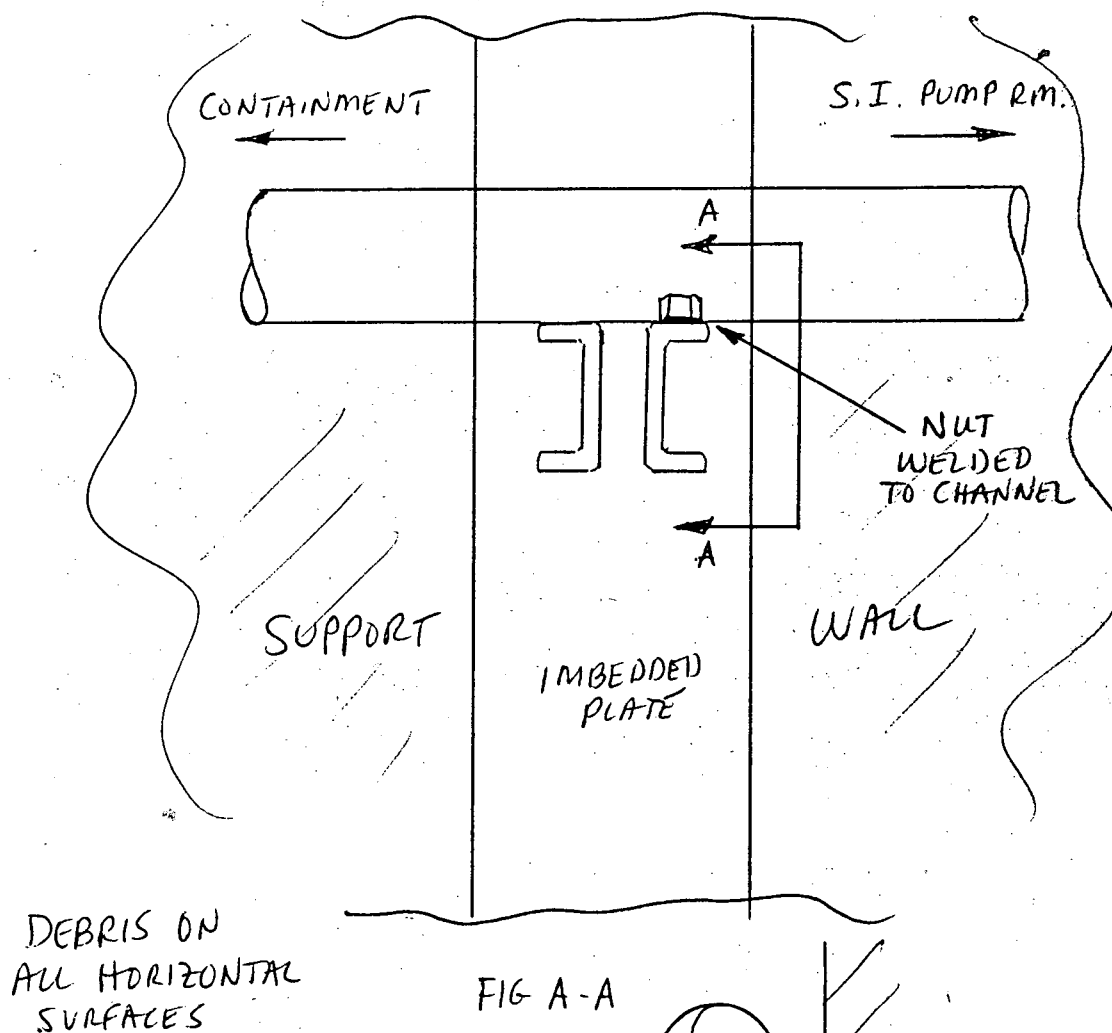
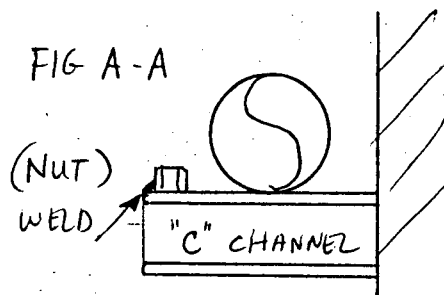


FIG A-A

EXAMINER Cliff MossEXAMINER N/AREVIEWER Richard B. WeberREVIEWER Richard B. WeberREVIEWER LEVEL IILEVEL N/ALEVEL DATE 4/15/92DATE DATE 4-11-92DATE N/ADATE



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-126

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-239-F

DWG./LOC.: CPL-239 Rev 0 / PIPE ALLEY

X VT-3 PROCEDURE: SP-1097 EN 4-11-92 NOEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.: 0

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR X OTHER 6" Rule
TYPE OF COMPONENT SUPPORT: 1 HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	<u>N/A</u>
MISALIGNMENT		<u>X</u>		
DEBRIS		<u>X</u>		
CORROSION/EROSION		<u>X</u>		
STRUCTURAL INTEGRITY		<u>X</u>		
RESISTANCE TO MOVEMENT			<u>X</u>	
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONS
See page #2 for actual clearances.

EXAMINER: Chiff Moss CR LEVEL: II DATE: 4-11-92

REVIEWER: Edmund L. Donovan DN LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY: Richard B. Webb 4/14/92

REVIEWERS COMMENTS:

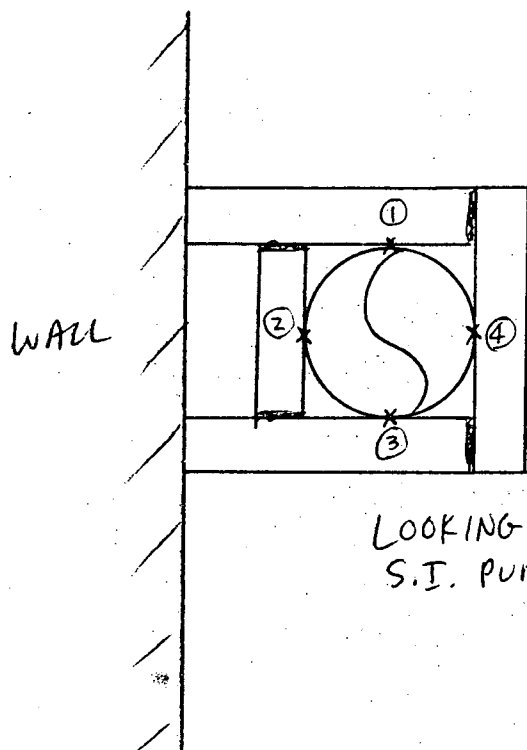
ANII REVIEW: R. Valladao

DATE: 4-17-92

1105

PAGE 2 OF 2DATA SHEET NO. 1097-126EXAM ITEM CPL-239-FISO DWG. NO. CPL-239 REV. 0

SKETCH SHEET



CLEARANCES

- (1) .150"
- (2) .100"
- (3) 0
- (4) 0

LOOKING AT
S.I. PUMP RM.

EXAMINER Cliff MossEXAMINER N/AREVIEWER Edmund R. DormanREVIEWER Richard B. WeberREVIEWER AMLEVEL IILEVEL N/ALEVEL IIDATE 4/14/92

DATE _____

DATE 4-11-92DATE N/ADATE 4-14-92



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-127

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-239-G

DWG./LOC.: CPL-239 Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: ^{SP-1097 @ 4-11-92} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☒ OTHER 6" SCALE
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			Light debris on all horizontal surfaces
CORROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			See page #2 for missing welds
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Cliff Moss @ LEVEL: II DATE: 4-11-92

REVIEWER: Richard R. Dwyer @ LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

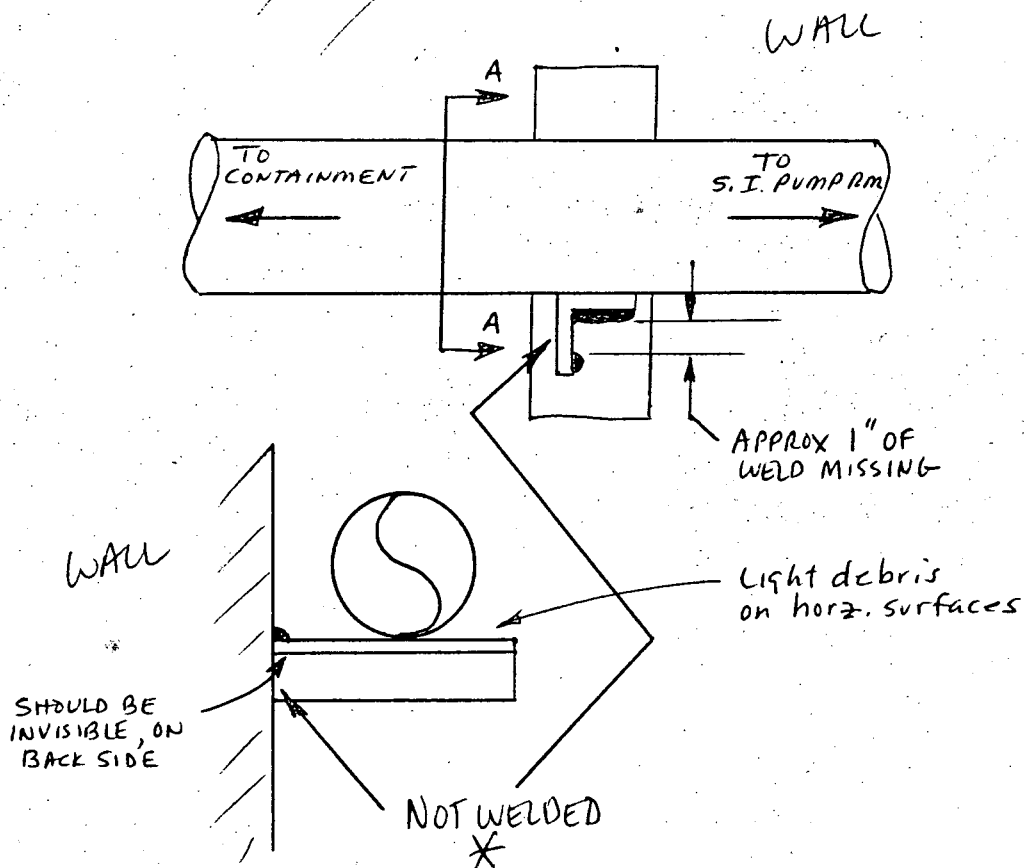
REVIEWERS COMMENTS:

ANII REVIEW: AP Valladares DATE: 4-17-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-127EXAM ITEM CPL-239-GISO DWG. NO. CPL-239 REV. 0

SKETCH SHEET

EXAMINER Cliff MossEXAMINER N/AREVIEWER Edmund R. DawsonREVIEWER Richard B. Weber

REVIEWER _____

LEVEL IILEVEL N/ALEVEL IIDATE 4/15/92

DATE _____

DATE 4-11-92DATE N/ADATE 4/14/92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-309

WR&A # 92-AFE41

PAGE 1 OF 1

PLANT: <u>HBR</u>		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>SI</u>	COMPONENT NAME: <u>Support</u>	COMPONENT ID NO.: <u>CPL-239-H</u>	
DWG./LOC.: <u>CPL-239 9/0</u> / <u>PIPE ALLEY</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SA 1097</u> <u>NDEP-613</u> REV.: <u>0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>N/A</u> 614 REV.:	
DIRECT <input checked="" type="checkbox"/> REMOTE <input type="checkbox"/>		VIDEO RECORDING NO: <u>N/A</u>	
EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR		<input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT	
<input type="checkbox"/> OTHER _____		<input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT	
<input checked="" type="checkbox"/> SUPPORT/HANGER			

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	
MISALIGNMENT			X	
DEBRIS			X	
CORROSION/EROSION			X	
STRUCTURAL INTEGRITY			X	
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES			X	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>VERIFIED support Tagged Abandoned in place</u> <u>92-AFE41</u>				
EXAMINER: <u>[Signature]</u>	LEVEL: <u>II</u>		DATE: <u>5-26-92</u>	
REVIEWER: <u>[Signature]</u>	LEVEL: <u>N/A</u>		DATE: <u>5-26-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY				
REVIEWED BY: <u>Richard B. Weber</u> <u>5/26/92</u>				
REVIEWERS COMMENTS:				
ANII REVIEW: <u>RP Valladares</u> DATE: <u>6/2/92</u>				

VISUAL EXAMINATION
DATA SHEETREPORT NO. 1097-48²⁸³ NR
5/15/92

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SI

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL-239-H

DWG./LOC.: CPL 239 REV 0 / PIPE ALLEY

[X] VT-3 PROCEDURE: ^{SP 1097 APR 17-92} ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV. #

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR

[X] OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] CONSTANT SUPPORT

[] MECHANICAL SNUBBER

[] VARIABLE SUPPORT

[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			DOES NOT SUPPORT LOAD - SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER: *Cat Purnell*

LEVEL: II

DATE: 4-15-92

REVIEWER: *Edmund R. Dawson*

LEVEL: II

DATE: 4-16-92

COMPONENT CONDITION: [] SATISFACTORY

[] UNSATISFACTORY

REVIEWED BY: *Richard B. Welch* 4/17/92

REVIEWERS COMMENTS:

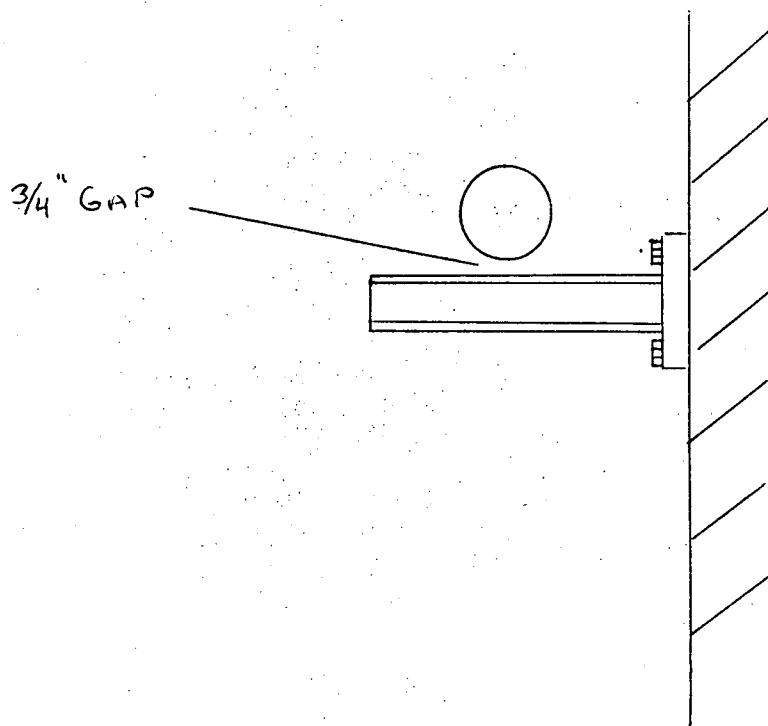
ANII REVIEW: *CP Valladares*

DATE: 4-20-92

1105

PAGE 2 OF 2
DATA SHEET NO. 1097-148-23 AP 4-15-92
EXAM ITEM CPL 239 - HT H
ISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET



EXAMINER Ced Pymmer
EXAMINER N/A
REVIEWER Cheryl R. Donovan
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/12/92
DATE _____

DATE 4-15-92
DATE N/A
DATE 4-16-92

MR

FINAL SUMMARY
OF
ASME SECTION XI
INSERVICE PRESSURE TESTING PROGRAM
SECOND TEN YEAR INTERVAL

AT
CAROLINA POWER AND LIGHT COMPANY
H.B.ROBINSON
STEAM ELECTRIC PLANT
UNIT 2

PREPARED BY
GILBERT/COMMONWEALTH, INC.

This document summarizes the results of the hydrostatic testing and associated examinations conducted at the Carolina Power and Light Company, H. B. Robinson Plant, Unit 2, during refueling outage No. 14. This testing was performed between March, 1992 and June, 1992, as part of the Second Ten Year Inspection Interval. The ASME Section XI Code year of record for this interval is the 1977 Edition, Summer 1978 Addenda with the incorporation of Code Case #N-498 for class 1 and 2 systems or portions there-of, through Relief Request # XXXX.

Relief Request # XXXX identifies the class 2 portions of systems classified as class 2 for the purpose of containment integrity and accounts for testing under the Appendix J program.

This testing supplements and completes the hydrostatic testing previously initiated during Refueling Outage No. 13.

Five test blocks referenced in the Final Summary Report of Refueling Outage No. 13 that were originally scheduled for Refueling Outage No. 13 and rescheduled for Refueling Outage No. 14 are redefined as follows ;

SP-376 CVCS (Chemical and Volume Control) Test Blocks 17 and 18 are reissued as SP-1069.

SP-365 RHR (Residual Heat Removal) was reissued as EST-080.

SP-369 CCW (Component Cooling Water) Test Blocks 9 and 10 were deleted due to a drawing change which changed the normal valve positions from open to closed, terminating the class 3 boundary at these valves.

SP-370 FW (Feedwater) was revised to remove the VT-2 requirements for the portion from the first isolation valves of the CST to; the flange at the SDAFW pump, AFW-22, 12-C-424, and Demin. Water Recirc. to condenser. This piping VT-2 examination is accredited to MOD-1018, completed 10/13/89. The SDAFWP casing and class 3 portion of piping from AFW-17 to AFW-9A is non-closed and tested in accordance with OST-202.

In the preparation of establishing test boundaries for portions of the Feedwater System, (SP-370 and SP-1071) drawing G-190197 Sheet 4 of 4 was revised to move the class boundaries upstream by one valve to facilitate testing and be in compliance with Reg. Guide 1.26. The class boundaries were moved from AFW-11 to AFW-9, FW-202 to FW-201, FW-204 to FW-203, FW-206 to FW-205.

Seven systems or portions thereof, were tested, utilizing 15 separate hydrostatic test parameters. These tests were implemented by 6 procedures containing applicable information and results as follows :

- * test pressures
- * vent, drain and test connections
- * pre- and post-test gauge calibration sheets
- * temperature sensing device calibration sheets
- * leakage identification sheets
- * CP&L,s work authorization number for corrective action
- * the identification of through-wall leaks
- * any retests required
- * drawings and valve line-ups reflecting boundaries

Since Code Case #N-498 allows class 1 and 2 hydrostatic test pressure to be the equivalent of nominal system operating pressure, portions of the tests were conducted during system operation and plant instrumentation was used as the measuring device of record.

The following lists define the systems to be accounted for, the procedures used, system classification, revisions incorporated, and the test methods used for compliance to complete the interval testing.

SYS#	TEST#	CL	CODE REQUIREMENT
PACV	REF SP-378	2	APP. J
PPS	REF SP-367	2	APP. J
FP	REF SP-364	2	APP. J
HVAC	REF SP-381	2	APP. J
PASS	REF SP-366	2	APP. J
LWDS	REF SP-383	2	APP. J
PSS	SP-379 1	2	IWC-5000 / CC # N-498
	* 2	2	IWC-5000 / CC # N-498
	* 3	2	IWC-5000 / CC # N-498
	* 4	2	IWC-5000 / CC # N-498
AFWS	SP-370 1	3	IWD-5000
AFWS	* 2	3	IWD-5000
AFWS	* 3	3	IWD-5000
AFWS	OST-202	3	IWD-5000
FWS	* 4	3	IWD-5000
FWS	* 5	3	IWD-5000
FWS	* 6	3	IWD-5000
MS	* 7	3	IWD-5000
MS/FW/BD	SP-1071 1	2	IWC-5000 / CC # N-498
CVCS	SP-1069 1	2	IWC-5000 / CC # N-498
RHR	EST-080 1	2	IWC-5000 / CC # N-498
SIS	EST-090 1	2	IWC-5000 / CC # N-498
SIS	OQC-304 1	2	IWC-5000 / CC # N-498
RCS	EST-083 1	1	IWB-5000
RCS	* 2	1	IWB-5000

The following table defines the system condition and pressure requirements for the performance of the hydrostatic testing and/or examination.

SP#	#	SYSTEM BOUNDARIES	MIN PRES	SYSTEM REQUIREMENTS	WR #	RWP #
SP 370	1	CST	ST	CST \geq DESIGN	AKGC1	N/A
	2	FW/AFW-1424/5	110	AFW/FW ISOL	AKGI1	N/A
	3	AFW-1424/5 to-16ABC	1500	AFW ISOL	AKGI1	N/A
	4	FW TO 8A	1500	FW A,B,C ISOL	AKGI1	N/A
	5	FW TO 8B	1500	FW B ISOL	AKGI1	N/A
	6	FW TO 8C	1500	FW C ISOL	AKGI1	N/A
	7	MS TO SDAFWP	1356	SDAFWP ISOL	AKGI1	N/A
SP 379	1	PSS SS/HV	2235	SS SAMPLE ISOL	AKFG1	0639
	2	PSS LS	2235	LS SAMPLE ISOL	AKFH1	0639
	3	PSS RC2/3	2235	RC LOOP2/3 SAMPLE ISOL	AKFI1	0639
	4	PSS A,B,C ACC	650	A,B,C ACC SAMPLE ISOL	AKFK1	0639
SP 1069	1	CVCS TO 312C	2200	MIN 1 PUMP OPP	N/A	0736 0639
SP 1071	1	MS/FW/BD CL2	800	HEADER PRESS \geq 800	AKGA1	0736 0639
EST 080	1	RHR	350	AT OPP PRESS PER OST-254	INS.	0735 0736 0738 0639
EST 090	1	HH SI	1550	PER OST-151	N/A	0736 0639
OQC 304	1	LH SI	650	AT OPP PRESS WITH SP-1071	N/A	0639
EST 083	1	RCS	2235	AT OPP PRESS	INS.	0639

SP-1071 MS

**PERFORMED : 3/26 MIN.PRESSURE : 800 PSIG
SYSTEM CONDITIONS : ALIGNED PER OP-403
OUTSIDE CV**

**"A" PENETRATION# P-7 (S-40) TO MS-10A, MS-19,
MS-21, MS-261A, MS-20, MS-V1-8A**

**"B" PENETRATION# P-8 (S-41) TO MS-11A, MS-28,
MS-30, MS-261B, MS-29, MS-V1-8B**

**"C" PENETRATION# P-9 (S-42) TO MS-12A, MS-37,
MS-39, MS-261C, MS-38, MS-V1-8C**

DEFICIENCIES : NONE

**EXCEPTIONS : 3 ; MS-262A WR#91-AMFL1, 91-AMFL2,
91-AMFL3; MS-262B WR#91-AIAF1, 91-AIAF2,
91-AIAF3; SV1-4B WR#92-ADTD1**

SP-1071 MS

**PERFORMED : 3/28 MIN.PRESSURE : 800 PSIG
SYSTEM CONDITIONS : ALIGNED PER OP-403
INSIDE CV**

LINE FROM GEN. A TO PENETRATION# P-7 (S-40)

LINE FROM GEN. B TO PENETRATION# P-8 (S-41)

LINE FROM GEN. C TO PENETRATION# P-9 (S-42)

DEFICIENCIES : NONE

EXCEPTIONS : NONE

SP-1071 BD

**PERFORMED : 3/26 MIN.PRESSURE : 800 PSIG
SYSTEM CONDITIONS : ALIGNED PER OP-405
OUTSIDE CV**

**"A" PENETRATION# P-15 (S-26) TO IVSW-100A,
IVSW-85, FCV-1930B, IVSW-90, FCV-1933B**

**"B" PENETRATION# P-13 (S-30) TO IVSW-100B,
IVSW-86, FCV-1931B, IVSW-91, FCV-1934B**

**"C" PENETRATION# P-14 (S-24) TO IVSW-100C,
IVSW-87, FCV-1932B, IVSW-92, FCV-1935B**

DEFICIENCIES : NONE

EXCEPTIONS : NONE

SP-1071 BD

**PERFORMED : 3/28 MIN.PRESSURE : 800 PSIG
SYSTEM CONDITIONS : ALIGNED PER OP-405
INSIDE CV**

"A" GEN. AND LINE TO PENETRATION# P-15 (S-26)

"B" GEN. AND LINE TO PENETRATION# P-13 (S-30)

"C" GEN. AND LINE TO PENETRATION# P-14 (S-24)

DEFICIENCIES : NONE

EXCEPTIONS : NONE

SP-1071 FW

**PERFORMED : 3/26 MIN.PRESSURE : 800 PSIG
SYSTEM CONDITIONS: ALIGNED PER OP-406
OUTSIDE CV**

**"A" PENETRATION# P-10 (S-43) TO FW-201, FW-8A
P-57 (S-8) TO AFW-V2-16A**

**"B" PENETRATION# P-11 (S-14) TO FW-203, FW-8B
P-58 (S16) TO AFW-V2-16B**

**"C" PENETRATION# P-12 (S-45) TO FW-205, FW-8C
P-59 (S12) TO AFW-V2-16C**

DEFICIENCIES : NONE

**EXCEPTIONS : 3 ; AFW-62 WR#92-ADTC1; AFW-65
WR#92-ADTA1; AFW-67 WR#92-ADTB1**

SP-1071 FW

**PERFORMED : 3/28 MIN. PRESSURE : 800 PSIG
SYSTEM CONDITIONS : ALIGNED PER OP-406
INSIDE CV**

**"A" GEN. LINES TO LT-474, LT-607A, LT-477,
LT-475, LT-476, 16" LINE TO P-10 (S-43)**

4" LINE TO P-57 (S-8)

**"B" GEN. LINES TO LT-484, LT-607B, LT-487,
LT-485, LT-486, 16" LINE TO P-11 (S-14)**

4" LINE TO P-58 (S-16)

**"C" GEN. LINES TO LT-494, LT-607C, LT-497,
LT-495, LT-496, 16" LINE TO P-12 (S-45)**

4" LINE TO P-59 (S12)

DEFICIENCIES : NONE

**EXCEPTIONS : 3 ; FW-36 WR#92-ADSY1; AFW-69
WR#92-ADSI5; AFW-70 WR#92-ADSZ1**

SP-1069 CVCS

**PERFORMED : 3/26 MIN. PRESSURE : 2200 PSIG
SYSTEM CONDITIONS : ALIGNED PER OP-301
OUTSIDE CV**

**CHARGING PUMPS A/B/C TO CHECKVALVE IVSW-71 AND
PENETRATION# P-24 (S-17)**

DEFICIENCIES : NONE

**EXCEPTIONS : 7 ; CVC-287 WR#92-ADSP1; CVC-121C
WR#92-ADST1; CVC-294F WR#92-ADSU1; CVC-121A
WR#92-ADSW1; CVC-282 WR#92-ADSX1; CHG. PUMP "A"
WR#92-ADTF1; CHG. PUMP "C" WR#92-ADTG1**

SP-1069 CVCS

**PERFORMED : 3/28 MIN. PRESSURE : 2200 PSIG
SYSTEM CONDITIONS : ALIGNED PER OP-301
INSIDE CV**

PENETRATION# P-24 TO CHECKVALVE CVC-282

DEFICIENCIES : NONE

EXCEPTIONS : NONE

EST-090 SI

**PERFORMED : 3/29 MIN. PRESSURE : 1410 PSIG
SYSTEM CONDITIONS : ALIGNED PER OST-151
PIPE TUNNEL**

SI-868A TO P-64 (S-7)

SI-868B TO P-62 (S-3)

SI-868C TO P-63 (S-5)

DEFICIENCIES : NONE

EXCEPTIONS : NONE

EST-090 SI

INSIDE CV

P-64 (S-7) TO SI-873D

P-62 (S-3) TO SI-873E

P-63 (S-5) TO SI-873F

DEFICIENCIES : NONE

EXCEPTIONS : NONE

OQC-304 SI

**PERFORMED : 3/28 MIN. PRESSURE : 640 PSIG
SYSTEM CONDITIONS : ALIGNED PER OP-202
INSIDE CV**

SI-865C TO SI-850E, SI-875F

DEFICIENCIES : NONE

EXCEPTIONS : NONE

EST-080 RHR

PERFORMED : 3/30-31 MIN. PRESSURE : 350 PSIG
SYSTEM CONDITIONS : ALIGNED PER OST-254
INSIDE CV, PIPE ALLEY, RHRHX ROOM, RHR PIT
DEFICIENCIES : NONE
EXCEPTIONS : 9 ; SI-891D WR#92-ADTU1; RHR-757C
WR#92-ADWT1; RHR-754B WR#92-ADWU1; RHR-745A
WR#92-ADTS1; RHR-752A WR#92-ADTX1; RHR-752B
WR#92-ADTY1; RHR-759B WR#92-ADWW1; RHR PUMP "A"
WR#92-ADUB1; RHR PUMP "B" WR#92-ADUC1

EST-083 RCS

PERFORMED : 4/16 MIN. PRESSURE : N/A
SYSTEM CONDITIONS : COLD SHUTDOWN
DEFICIENCIES : NONE
EXCEPTIONS : 58 ; "A" GEN. MANWAY WR#92-AERU1;
CVC-310C WR#92-AEQR1; CVC-311 WR#92-AEQU1;
CVC-312 WR#92-AEQZ1; RC-505A WR#92-AERB1;
SI-875H WR#92-AERA1; SI-884B WR#92-AERC1;
CVC-309D WR#92-AESU1; CVC-475 WR#92-AERD1;
LCV-460AWR#92-AERE1; LCV-460B WR#92-AERF1;
"B" GEN. MANWAY WR#92-AESX1; BRCP WR#92-AESZ1;
"B" GEN. MANWAY WR#92-AESY1; CVC-310H WR#92-AERK1
PS-954A WR#92-AERG1; PS-955A WR#92-AERH1;
SI-874C WR#92-AERI1; SI-866B WR#92-AERJ1;
CVC-310D WR#92-AERL1; CVC-299L WR#92-AERM1;
SI-875B WR#92-AERN1; SI-884D WR#92-AETZ1;
SI-850D WR#92-AERP1; SI-875J WR#92-AERQ1;
SI-875E WR#92-AERR1; RC-525 WR#92-AERS1;
RC-527C WR#92-AERW1; PS-954B WR#92-ADPZ1;
"C" GEN. MANWAY WR#92-AETC1; PS-955B WR#92-AERX1;
"C" GEN. MANWAY WR#92-AETD1; CVC-301F WR#92-AERY1
CVC-307C WR#92-AERZ1; PS-956A WR#92-AFBF1;
PS-956D WR#92-AFBJ1; PS-956C WR#92-AFBI1;
FITTINGS WR#92-ADPX1; PS-955E WR#92-AFBT1;
PS-956G WR#92-AFBU1; 2RC600B WR#92-AETB1;
SI-866A WR#92-AESA1; "C" RCP WR#92-AETA1;
RC-503 WR#92-AESB1; SI-875T WR#92-AESC1;
SI-884F WR#92-AESD1; SI-850F WR#92-AESE1;
SI-875L WR#92-AESF1; RC-524 WR#92-AESG1;
RC-515A WR#92-AESH1; RC-601 WR#92-AESJ1;
RC-537 WR#92-AESL1; RC-538 WR#92-AESM1;
RC-546A WR#92-AESP1; RC-547 WR#92-AESQ1;
RC-536 WR#92-AESW1; CVC-299J WR#92-AERS1;
CVC-299E WR#92-AESS1;

EST-083 RCS

PERFORMED : 6/21 MIN. PRESSURE : 2235 PSIG
SYSTEM CONDITIONS : START-UP
DEFICIENCIES : NONE
EXCEPTIONS : 5

SP-379 PSS1

PERFORMED : 4/14 MIN. PRESSURE : 2235 PSIG
INSIDE CV
HEAD VENT LINE TO PENETRATION# P-29 (S-22)
PIPE ALLEY
PENETRATION# P-29 (S-22) TO IVSW-79, PS-956B
DEFICIENCIES : NONE
EXCEPTIONS : 4 ; RC-586 WR92#92-AFBC1; RC-575
WR#92-AFBD1; PS-951C WR#92-AFBE1; PS-956A
WR#92-AFBF1

SP-379 PSS2

PERFORMED : 4/14 MIN. PRESSURE : 2235 PSIG
INSIDE CV
PS-953 TO PENETRATION# P-30 (S-22)
PIPE ALLEY
PENETRATION# P-30 (S-22) TO IVSW-80, PS-956D
DEFICIENCIES : NONE
EXCEPTIONS : 5 ; FITTINGS WR#92-ADPX1; PS-953C
WR#92-AFBG1; PS-953 WR#92-AFBH1; PS-956C
WR#92-AFBI1; PS-956D WR#92-AFBJ1

SP-379 PSS3

PERFORMED : 4/14 MIN. PRESSURE : 2235 PSIG
INSIDE CV
PS-955A AND PS-955B TO PENETRATION# P-31
(S-22)
PIPE ALLEY
PENETRATION# P-31 (S-22) TO IVSW-81, PS-956F
DEFICIENCIES : NONE
EXCEPTIONS : 5 ; PS-953G WR#92-AFBK1; PS-955F
WR#92-AFBL1; PS-956E WR#92-AFBN1; PS-956F
WR#92-AFBP1; PCV-26E WR#92-AFBW1

SP-379 PSS4

PERFORMED : 4/15 MIN. PRESSURE : 650 PSIG
INSIDE CV
PS-954C, PS-954D, PS-954E, TO PENETRATION# 60
(S-22)
PIPE ALLEY
PENETRATION# 60 (S-22) TO IVSW-97, PS-956H
DEFICIENCIES : NONE
EXCEPTIONS : 5 ; PS-954D WR#92-AFBQ1; PS-955D
WR#92-AFBR1; PS-954E WR#92-AFBS1; PS-955E
WR#92-AFBT1; PS-956G WR#92-AFBU1

SP-370 FW1 PERFORMED : 4/6 MIN. PRESSURE : STATIC
 YARD
 CST TO FIRST VALVE
 DEFICIENCIES : NONE
 EXCEPTIONS : 1 ; C-438 WR#92-AEFD1

SP-370 FW2 PERFORMED : 5/16 MIN. PRESSURE : 110 PSIG
 TURBINE BLDG/AFW PUMP ROOM
 AFW-22 TO SW-118, THRU BAFWP TO CF-317,
 FCV-1425, AFW-44, RO-1400A, THRU AAFWP TO
 CF-316, FCV-1424, RO-1400A
 DEFICIENCIES : NONE
 EXCEPTIONS : 2 ; DW-20 WR#92-AGZX1;
 DW-19 WR#92-AGZY1

SP-370 FW3 PERFORMED : 5/19 MIN. PRESSURE : 1500 PSIG
 AFW PUMP ROOM
 FCV-1424 AND FCV-1425 TO AFW-V2-16A,
 AFW-V2-16B, AFW-V2-16C
 DEFICIENCIES : NONE
 EXCEPTIONS : 9; FCV-1424 WR#92-AHCA1; 1425
 WR#92-AHCB1; AFW-86 WR#92-AHCC1; AFW-54
 WR#92-AHCD1; AFW-V2-20A WR#92-AHCE1; AFW-V2-16A
 WR#92-AHCF1; AFW-V2-16B WR#92-AHCG1; AFW-V2-16C
 WR#92-AHCH1; AFW-43 WR#92-AHCI1

SP-370 FW4 PERFORMED : 5/26 MIN. PRESSURE : 1500 PSIG
 TURBINE BLDG.
 SDAFWP DISCHARGE FLANGE TO AFW-V2-14C, AFW-V2-14B
 AFW-V2-14A, FCV-479, FW-V2-6A, CF-313, FW-8A
 DEFICIENCIES : NONE
 EXCEPTIONS : 11; AFW-17 WR#92-AHRI1; AFW-20
 WR#92-AHRJ1; FCV-6416 WR#92-AHRL1; AFW-V2-14C
 WR#AHRP1; AFW-V2-14B WR#92-AHRR1; AFW-V2-14A
 WR#92-AHRS1; FW-9A WR#92-AHRT1; FW-V2-6A WR#
 92-AHRU1; FCV-478 WR#92-AHRX1; FW-6A WR#92-AHSE1;
 FW-5A WR#92-AHRZ1.

SP-370 FW5 PERFORMED : 5/26 MIN. PRESSURE : 1500 PSIG
 TURBINE BLDG.
 FW-8B TO CF-312, FW-V2-6B, AFW-V2-14B, FCV-489,
 FW-V2-6B
 DEFICIENCIES : NONE
 EXCEPTIONS: 5 ; FW-24A WR#92-AHRC1; FW-V2-6B
 WR#92-AHRE1; FW-25A WR#92-AHRF1; FW-25B WR#92-AHRG1;
 FW-7B WR#92-AHRH1.

SP-370 FW6 PERFORMED : 6/3 MIN. PRESSURE : 1500 PSIG
 TURBINE BLDG
 FW-8C TO CF-311, FW-V2-6C, AFW-V2-14C, FCV-499,
 FW-V2-6C
 DEFICIENCIES : NONE
 EXCEPTIONS : 1 ; AFW-V2-14C WR#92-AHRP1

SP-370 FW7 PERFORMED : 5/13 MIN. PRESSURE : 1356 PSIG
 TURBINE BLDG
 FROM MS-V1-8C, MS-38, MS-V1-8B, MS-29, MS-V1-8A,
 MS-20, TO MS-154, MS-160, MS-161, MS-156, MS-158,
 MS-159
 DEFICIENCIES : NONE
 EXCEPTIONS : 6 ; MS-262A WR#91-AMFL1; MS-38

CHANGES

EST-080	RHR	TEMPORARY CHANGE DCF#92-P-0431 REF. CODE CASE #N-498 REVISE GAGE CAL. SPECIFICATION FROM 12 MO. TO 18 MO. +25% REFLECTING TECH. SPEC. REVISIONS TO SECTION 4.0 REDEFINED VT-2 BOUNDARIES TO ACCOMMODATE HYDROSTATIC TEST REQUIREMENTS CLARIFIED HOLD TIMES
EST-090	SI	TEMPORARY CHANGE DCF#92-P-0432 REF. CODE CASE #N-498 REVISE GAGE CAL. SPECIFICATION FROM 12 MO. TO 18 MO. +25% REFLECTING TECH. SPEC. REVISIONS TO SECTION 4.0 REDEFINED VT-2 BOUNDARIES TO ACCOMMODATE HYDROSTATIC TEST REQUIREMENTS CLARIFIED HOLD TIMES
EST-083	RCS	REVISED TO TWO SECTIONS TO ADD COLD SHUTDOWN BOLTED CONNECTION EXAMINATION WITH INSULATION REMOVED
SP-1071	MS/2	REVISED TO REFLECT UTILIZATION OF CODE CASE #N-498 AND PRESSURIZE UPSTREAM OF AFW-68,69,70 WITH HYDRO PUMP WHILE GEN.>900 PSIG TEMPORARY CHANGE DCF#92-P-0433 ISSUED TO AMEND TYPOGRAPHICAL ERROR OMITTING THE B FROM VALVE # FCV-1934B TEMPORARY CHANGE DCF#92-P-0425 ISSUED TO ACCOMMODATE TESTING THE OUTDOOR PORTION IN CASE OF INCLEMENT WEATHER, THIS CHANGED INITIAL CONDITIONS FROM >900 PSIG TO >800 PSIG FOR PORTIONS OTHER THAN THAT UPSTREAM OF AFW-68,69 & 70.
SP-1069	CVCS	REVISED TO UTILIZE CODE CASE #N-498 TO PERFORM VT-2 EXAMINATIONS DURING OPERATION

CHANGES
(CONTINUED)

SP-370 FW

REVISED TO INCL. MAIN STEAM TO SDAFWPT, REDUCE LARGE 3 LOOP BOUNDARY INTO 3 TEST BLOCKS WITH THE OPTION OF SIMULTANEOUS PERFORMANCE

TEMPORARY CHANGE DCF#92-P-0836 ISSUED TO EXPEDITE TESTING IN CONJUNCTION WITH MOD WORK, CHANGE AFW-20 FROM OPEN TO CLOSED, CHANGE GAG RV'S TO GAG OR BLANK

TEMPORARY CHANGE DCF#92-P-0837 ISSUED TO INCLUDE MS-263A IN HYDRO BOUNDARY DUE TO IT'S REPLACEMENT

TEMPORARY CHANGE DCF#92-P-1025 ISSUED TO BLANK STEAM INLET CASING FLANGE DUE TO EXCESSIVE LEAKAGE THROUGH MS-154

TEMPORARY CHANGE DCF#92-P-1030 ISSUED TO CLOSE AFW-4 ON TEST BLOCK #2 AND ACCREDIT INLET PIPING TO CASING FLANGE TO MOD#1018, ADD AFW-20 OPEN AND INCLUDE PIPING TO DISCHARGE FLANGE TO TEST BLOCK #4, INSTALL BLANK AT CASING DISCHARGE FLANGE...THIS IS DUE TO THE SDAFW PUMP CASING BEING A NON-CLOSED COMPONENT

SP-379 PSS

REVISED TO UTILIZE CODE CASE # N-498 BUT USE HYDROPUMP FOR PRESSURIZATION

OQC-304 LHSI

ISSUED TO COVER REMAINING PORTION FROM 91 OUTAGE

TEST NOTES

SP-1071

3/28

SUFFICIENT LEAKAGE THRU THE '16 VALVES
REQUIRED REDUCTION OF BOUNDARY (THREE LEGS
VALVED IN THRU TEST MANIFOLD)
USING MEDIUM SIZE PUMP
PUMP CEASED OPERATION ON THREE OCCASIONS
DURING TESTING
REMOVED PUMP, INSTALLED HYDROLASER
REGULATED BY THROTTLING RECIRC' LINE FROM
DISCHARGE TO INLET
13:00 820 PSIG UPSTREAM OF AFW-68, 69,
& 70 AND DOWNSTREAM OF AFW-V2-16A, B, & C
17:00 STARTED VT-2 EXAMINATION

EST-080

3/30

0:001 RHR-760 OPEN
9:00 SYSTEM > 350 PSIG
12:00 RHR-744A & B OPEN
4 HOUR HOLD
13:00 VT-2 UPSTREAM OF RHR-744A & B
16:00 VT-2 DOWNSTREAM OF RHR-744A & B

3/31

PRESSURE REMAINED > 350 PSIG
TEMPERATURE < 200
VERIFIED INSULATION REMOVED BETWEEN VALVES
RHR-861A & RHR-860A AND
RHR-861B & RHR-860B
VT-2 IN RHR PIT
RHR-861B OPENED 10:43
VT-2 UPSTREAM AT 10:53
RHR-861A OPENED 10:54
VT-2 UPSTREAM AT 11:04

SP-379

3/14

PRESSURIZED TEST BLOCKS #1, #2 AND #3
SIMULTANEOUSLY WITH A COMMON MANIFOLD
09:30 PRESSURE AT 2300 PSIG
10:00 VT-2 UNINSULATED PORTIONS
13:30 VT-2 INSULATED AREAS INSIDE CV AND
PIPE ALLEY
14:00 VT-2 COMPLETE, DEPRESSURIZED

3/15

TEST BLOCK #4
10:30 PRESSURE AT 670 PSIG
11:00 VT-2 UNINSULATED PORTION IN CV
15:00 VT-2 INSULATED PORTION IN PIPE ALLEY
15:15 VT-2 COMPLETE, DEPRESSURIZE

TEST NOTES
(CONTINUED)

SP-370

5/13

TEST BLOCK #7
10:45 PRESSURE AT 1400 PSIG
14:45 VT-2 EXAMINED
15:15 VT-2 COMPLETE, DEPRESSURIZED
(HYDRO-LASER USED, MS-262A LEAKING BY
SEAT EXCESSIVELY)
(SEE TEMPORARY CHANGES)

5/16

TEST BLOCK #2
9:30 PRESSURE AT 115 PSIG
13:30 VT-2 EXAMINED
14:00 VT-2 COMPLETE, DEPRESSURIZED
(SEE TEMPORARY CHANGES)

H. B. ROBINSON
SUMMARY OF RECORDED INDICATIONS
1992 - RFO- 14

Hanger Number	Exam Method	Accept As Is	Rework/Repair	Other	Site Memo Eval Sht
CP&L-220-U	VT	✓			TSE-92-EQ
CP&L-220A-J	VT	✓			ETS-92-HI
CP&L-220A-K	VT		✓		ETS-92-HI
CP&L-221A-A	VT	✓			TSE-92-EQ
CP&L-221A-K	VT		✓		ETS-92-AH
CP&L-221A-L	VT	✓			ETS-92-AH
CP&L-221A-W	VT	✓			ETS-92-AH
CP&L-221A-X	VT	✓			ETS-92-AH
CP&L-221A-Y	VT	✓			ETS-92-AH
CP&L-221B-A	VT	✓			TSE-92-CR
CP&L-221B-B	VT	✓			TSE-92-BM
CP&L-221B-D	VT	✓			TSE-92-BM
CP&L-221B-E	VT	✓			TSE-92-AM
CP&L-222-A	VT	✓			ETS-92-AK
CP&L-222-G	VT			Changed by mod 1087 No longer on this ISO	TSE-92-CP
CP&L-222A-F	VT			DELETED BY MOD 1087	ETS-92-AM
CP&L-222A-G	VT	✓			TSE-92-CQ
CP&L-222B-A	VT		✓		ETS-92-AK
CP&L-222B-B	VT	✓			ETS-92-AQ
CP&L-222B-B1	VT	✓			ETS-92-AQ
CP&L-222B-C	VT	✓			ETS-92-AQ
CP&L-230-A	VT		✓		TSE-92-CX
CP&L-230-B	VT		✓		TSE-92-EQ
CP&L-230-C	VT	✓			ETS-92-AH
CP&L-231-B	VT	✓			TSE-92-CR
CP&L-232-C	VT		✓		TSE-92-BO
CP&L-232-E	VT		✓		TSE-92-EP
CP&L-232-F	VT		✓		TSE-92-EP
CP&L-232-I	VT		✓		TSE-92-DN

Exam and Evaluation Reviewed <i>San V. Sufjan</i> 4/14/92 ISI Coordinator Date	Plant Concurrence <i>Richard B. Weber</i> 9/14/92 Plant Designee Date
--	---

H. B. ROBINSON
SUMMARY OF RECORDED INDICATIONS
1992 - RFO- 14

Hanger Number	Exam Method	Accept As Is	Rework/Repair	Other	Site Memo Eval Sht
CP&L-232-J	VT	✓			TSE-92-CR
CP&L-233-A	VT		✓		TSE-92-BO
CP&L-233-C	VT	✓			ETS-92-AM
CP&L-233-D	VT	✓			ETS-92-AK
CP&L-233-F	VT			ABANDONED IN PLACE RFO 14	ETS-92-AN
CP&L-234-A	VT		✓		TSE-92-EQ
CP&L-234-B	VT	✓			ETS-92-AK
CP&L-234-C	VT		✓		TSE-92-CW
CP&L-234A-I	VT	✓			ETS-92-AN
CP&L-234A-J	VT	✓			ETS-92-AN
CP&L-234A-N	VT	✓			ETS-92-AK
CP&L-239-A	VT		✓		ETS-92-HI
CP&L-239-B	VT	✓			ETS-92-AK
CP&L-239-C	VT		✓		ETS-92-HI
CP&L-239-D	VT		✓		ETS-92-AK
CP&L-239-E	VT	✓			ETS-92-AN
CP&L-239-G	VT	✓			ETS-92-AN
CP&L-239-H	VT			ABANDONED IN PLACE RFO 14	TSE-92-CW
CP&L-239-I	VT			ABANDONED IN PLACE RFO 14	TSE-92-CW
CP&L-241-A	VT	✓			ETS-92-HI
CP&L-241-B	VT	✓			TSE-92-EQ
CP&L-241-C	VT		✓		ETS-92-HI
CP&L-241-D	VT	✓			ETS-92-AK
CP&L-241-E	VT	✓			TSE-92-CD
CP&L-241-F	VT	✓			TSE-92-EA
CP&L-241-G	VT	✓			TSE-92-EA
CP&L-241-H	VT	✓			TSE-92-EA
CP&L-242-A	VT	✓			ETS-92-AK
CP&L-242-B	VT	✓			ETS-92-AK

<p>Exam and Evaluation Reviewed</p> <p><i>[Signature]</i> 4/14/92</p> <p>ISI Coordinator Date</p>	<p>Plant Concurrence</p> <p><i>[Signature]</i> 9/14/92</p> <p>Plant Designer Date</p>
---	---

H. B. ROBINSON
SUMMARY OF RECORDED INDICATIONS
1992 - RFO-14

Hanger Number	Exam Method	Accept As Is	Rework/Repair	Other	Site Memo Eval Sht
CP&L-244-A	VT			ABANDONED IN PLACE RFO 14	TSE-92-CW
CP&L-244-B	VT	✓			TSE-92-FO
CP&L-301-A	VT	✓			TSE-92-CR
CP&L-313-A	VT	✓			TSE-92-EQ
CP&L-313-C	VT	✓			TSE-92-EQ
CP&L-313-C1	VT		✓		TSE-92-EQ
CP&L-313-D	VT	✓			TSE-92-EQ
CP&L-314-A	VT		✓		TSE-92-EQ
CP&L-314-B	VT	✓			ETS-92-AK
CP&L-314-J	VT	✓			TSE-92-EQ
CP&L-315-B	VT	✓			ETS-92-AK
CP&L-323-A	VT	✓			TSE-92-EQ
CP&L-323-C	VT	✓			TSE-92-EQ
CP&L-323-WW	VT	✓			TSE-92-EQ
CP&L-325-E	VT		✓		ETS-92-AK
CP&L-325-E1	VT	✓			ETS-92-AM
CP&L-325-F	VT	✓			TSE-92-CG
CP&L-325-G	VT		✓		ETS-92-AK
CP&L-325-I	VT	✓			TSE-92-EL
CP&L-326-B	VT	✓			ETS-92-AQ
CP&L-326-B1	VT	✓			ETS-92-CX
CP&L-326-C	VT	✓			ETS-92-AQ
CP&L-326-D	VT	✓			ETS-92-AQ
CP&L-326-O	VT		✓		TSE-92-EQ
CP&L-327-A	VT	✓			ETS-92-AK
CP&L-327-P	VT		✓		ETS-92-AK
CP&L-327-B	VT	✓			ETS-92-AO
CP&L-327-Q	VT	✓			TSE-92-EL
CP&L-327-R	VT	✓			ETS-92-AO

Exam and Evaluation Reviewed <i>Ken H. Simpson</i> ISI Coordinator	Plant Concurrence <i>Richard B. Weber</i> Plant Designer
<i>9/14/92</i> Date	<i>9/14/92</i> Date

H. B. ROBINSON
SUMMARY OF RECORDED INDICATIONS
1992 - RFO-14

Hanger Number	Exam Method	Accept As Is	Rework/Repair	Other	Site Memo Eval Sht
CP&L-327-C	VT	✓			ETS-92-AO
CP&L-327-T	VT			DELETED	ETS-92-AQ
CP&L-328-A	VT		✓		TSE-92-CF
CP&L-328-B	VT	✓			TSE-92-EL
CP&L-328-Z	VT		✓		ETS-92-AK
CP&L-328-DD	VT		✓		ETS-92-AK
CP&L-328-AA	VT	✓			ETS-92-AO
CP&L-328-BB	VT	✓			TSE-92-EL
CP&L-328-C	VT	✓			ETS-92-AO
CP&L-328-CC	VT	✓			TSE-92-CX
CP&L-329-B	VT	✓			ETS-92-AN
CP&L-329-D	VT		✓		ETS-92-AN
CP&L-329-E	VT	✓			ETS-92-AN
CP&L-330-E	VT	✓			ETS-92-AL
CP&L-330-F	VT	✓			ETS-92-AL
CP&L-330-G	VT	✓			ETS-92-AL
CP&L-331-A	VT		✓		TSE-92-CE
CP&L-331-B	VT		✓		TSE-92-CE
CP&L-331-C	VT	✓			TSE-92-CD
CP&L-331A-AA	VT	✓			ETS-92-AK
CP&L-331A-BB	VT	✓			TSE-92-EA
CP&L-331A-CC	VT	✓			ETS-92-AK
CP&L-331A-T	VT		✓		TSE-92-DN
CP&L-331A-U	VT		✓		TSE-92-DX
CP&L-331A-V	VT		✓		TSE-92-DN
CP&L-331A-W	VT		✓		TSE-92-DX
CP&L-331A-X	VT		✓		TSE-92-DN
CP&L-331A-Y	VT		✓		TSE-92-DX
CP&L-331A-Z	VT	✓			TSE-92-EA

<p>Exam and Evaluation Reviewed</p> <p><i>[Signature]</i> 9/14/92</p> <p>ISI Coordinator Date</p>	<p>Plant Concurrence</p> <p><i>[Signature]</i> 9/14/92</p> <p>Plant Designee Date</p>
---	---

H. B. ROBINSON
SUMMARY OF RECORDED INDICATIONS
1992 - RFO-14

Hanger Number	Exam Method	Accept As Is	Rework/Repair	Other	Site Memo Eval Sht
CP&L-331B-A	VT	✓			ETS-92-AQ
CP&L-331B-B	VT	✓			ETS-92-AM
CP&L-331B-C	VT		✓		ETS-92-AK
CP&L-331B-D	VT		✓		ETS-92-AK
CP&L-331B-E	VT		✓		ETS-92-AK
CP&L-331B-F	VT	✓			ETS-92-AK
CP&L-332-B	VT	✓			ETS-92-AK
CP&L-332-C	VT	✓			ETS-92-AK
CP&L-334A-A	VT		✓		ETS-92-AK
CP&L-334A-C1	VT			DELETED AND REMOVED	TSE-92-CE
CP&L-334B-A	VT		✓		ETS-92-AK
CP&L-334B-E	VT	✓			TSE-92-EQ
CP&L-334B-G	VT	✓			TSE-92-EQ
CP&L-335-A	VT	✓			TSE-92-CD
CP&L-221-HH	VT	✓			TSE-92-EP
CP&L-221A-N	VT		✓		TSE-92-DN
CP&L-221A-Q	VT		✓		TSE-92-EP
CP&L-221B-F	VT			DELETED	TSE-92-EA
CP&L-221B-F1	VT			DELETED	TSE-92-EA
CP&L-222-C	VT			DELETED	TSE-92-EQ
CP&L-222A-J	VT			DELETED	TSE-92-EQ
CP&L-233-F2	VT		✓		TSE-92-EP
CP&L-233-J1	VT		✓		TSE-92-EP
CP&L-244-D	VT	✓			TSE-92-FO
CP&L-323-D	VT	✓			TSE-92-EQ
CP&L-323-R	VT	✓			TSE-92-EQ
CP&L-323-T	VT	✓			TSE-92-EQ
CP&L-323-A1	VT		✓		TSE-92-EQ
CP&L-326-I	VT		✓		TSE-92-EL

<p>Exam and Evaluation Reviewed</p> <p><i>[Signature]</i> 4/14/92</p> <p>ISI Coordinator Date</p>	<p>Plant Concurrence</p> <p><i>[Signature]</i> 9/14/92</p> <p>Plant Designee Date</p>
--	--

H. B. ROBINSON
SUMMARY OF RECORDED INDICATIONS
1992 - RFO-14

[illegible]

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222G
& CPL-222-WS-G

Visual Exam Report No. 1097-42
& LPR No. 1095-11

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS BEING MODIFIED BY MOD M-1087. IT WILL
NO LONGER SUPPORT LINE 6-SI-84 BUT ONLY LINE 3-CH-9.
DUE TO MUCH REDUCED LOADING, WELD QUALITY PROBLEMS
IN ORIGINAL CONSTRUCTION NEED NOT BE CORRECTED.
SINCE THE LUG WELDS WILL NOT BE USED TO TRANSFER ANY
LOADS, IT IS NOT NECESSARY TO REPAIR SMALL INDICATION
FOUND ON LUG WELD.

4/29/92 Clement Raisner 4-17-92
NED Engineer Date

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-22A-F

Visual Exam Report No. 1097-32

N/A

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Basis:

This support has been removed by Mod M-1087.

ISI data base and drawings should be revised to

delete this support. This support will not be

re-installed.

Clement Rajendra / 4-23-92
NED Engineer Date

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221-HH

Visual Exam Report No. 1097-153

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. VENDOR DID NOT PROVIDE LOCK NUTS FOR
CLAMP BOLTS AND THEREFORE ACCEPTABLE 'AS-IS'. THERE IS
ADEQUATE BEARING AREA UNDER WASHER PLATE, THEREFORE
SLIGHTLY TURNED WASHER PLATE IS ACCEPTABLE.

Clement Rajendra / 5-13-92
NED Engineer / Date

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-326-WS-B

Visual Exam Report No. 1097-151

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not APPLICABLE

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC,"
DEAD WEIGHT SUPPORT. BECAUSE THE WEIGHT ACTS DOWN, THE WELDS
DO NOT TRANSFER PRIMARY LOADS. SMALL AMOUNT OF CORROSION
DOES NOT AFFECT STRUCTURAL INTEGRITY OF SUPPORT.

Clement Rajendra / 4-29-92
NED Engineer Date

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222A-G

Visual Exam Report No. 1097-88
& 1097-89

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Basis:

THIS SUPPORT IS TO BE TOTALLY REMOVED BY MOD M-1027
AND RE-BUILT WITH A NEW CONFIGURATION.
INDICATIONS FOUND WOULD NOT HAVE AFFECTED THE OPERABILITY
OF THE SUPPORT. INDICATIONS FOUND DO NOT APPEAR TO BE
SERVICE INDUCED.

Clement Rajendra 4-20-92
NED Engineer Date

(W) MEMORANDUM

RSPO-92-019
APRIL 17, 1992

TO: ED ROSSMAN
RHONDA RICHARDSON

FROM: RUSS MUTH

SUBJECT: H.B. Robinson - Recommendation for RCP Motor Flywheel Gouge

THE ISI DATA SHEET 1097-115 PAGE 2 OF 2, EXAM ITEM CPL-144-SPARE. WHICH IS THE ISI DONE ON SITE OF THE REFURBISHED RCP FLYWHEEL WAS FORWARDED TO (W) EMD ENGINEERING FOR RECOMMENDATION. THE FOLLOWING IS THE (W) DESIGN ENGINEERING DISPOSITION. IT SHOULD BE NOTED THIS WAS SUPPLIED ON A RUSH BASIS BY (W) AT NO COST TO CPL AND THAT CPL DOES NOT HAVE A CONTRACT FOR (W) SUPPORT (TECH REVIEW) OF THE ISI WORK BEING DONE DURING THE OUTAGE.

RJH
R.J. MUTH (W) SSM

Ltr. # LME-92-139

The small gouge on the outside diameter does not affect the integrity of the flywheel. At the earliest convince (next time work is done in the flywheel area) the gouge should be blended to 3 to 1 taper to remove any sharp corners or raised metal. Reworked area should be liquid penetrant examined to ensure that no cracks or linear indications are present. Apply red primer (908A912H03) over reworked areas.

M. H. Weyant
(W)EMD Large Motor Engineering

CC: B.A. HARWARD
M.F. PAGE
S.W. FARMER

**H. B. ROBINSON UNIT 2
STEAM GENERATOR "C" FEEDWATER NOZZLE WELD 1
MAY 16, 1992**

To investigate low amplitude reflectors that had been recorded during previous examinations, an ultrasonic examination was conducted on May 13, 1992 by Mr. J. Coley, NRC Region 2, and Mr. A. Pennanen, Nuclear Energy Services.

This examination was conducted with a 45 degree shear wave (detection technique), RTD 70 degree refracted longitudinal wave (flaw tip detection technique) and a 30-70-70 mode converted longitudinal wave (ID flaw detection technique).

Calibration for the 45 degree and the 30-70-70 degree technique was performed on an ASME 18" OD calibration block. The 70 degree tip detection technique calibration was performed on a carbon steel 1" thick step block.

The 45 degree examination produced a reflector with a through wall dimension of .150" at 16" clockwise from top dead center of the nozzle facing the generator. A tip, .450" from the OD surface was also seen with the RTD 70 degree transducer (See plot on page 4).

To confirm the presence of this reported flaw, CP&L performed several additional examinations which are discussed as follows.

CP&L CONFIRMATORY EXAMINATIONS

On May 14, 1992, a radiographic examination of the subject area was performed with Iridium 192 using Kodak Type M film. 100 percent on the subject weld was radiographed.

A second series of ultrasonic examinations were conducted on the subject area by Mr. E. Black and Mr. A. Pennanen on May 14, 1992 using the CP&L NDE procedure for sizing planar flaws (NDEP-426). A 1.5" notched block was used for calibration. (See page 5 for sketch of block.)

Angles/Wave Modes/Techniques used were:

1. 45 degree shear wave (detection)
2. 45 degree shear wave (tip diffraction)
3. 45 degree refracted longitudinal wave (tip detection)
4. 60 degree refracted longitudinal wave (tip detection)
5. 70 degree refracted longitudinal wave RTD (tip detection)
6. 0 degree longitudinal (thickness)
7. 30-70-70 mode converted longitudinal wave technique (ID connected flaw)

The following is a discussion of the examinations conducted and the results obtained.

CP&L EXAMINATION RESULTS

1. **Radiography** - This examination revealed a counterbore at the same location as the UT reflector in question. Comparison with fabrication radiographs revealed no significant differences with respect to the counterbore indication.
1. **45 degree shear wave (Detection Technique)** - The reflector could be seen from both sides of the weld. From the nozzle side, an additional 20 dB was needed to see the reflector. The signals produced by this scan consisted of a corner reflector and two associated multiples (typical of a geometric type reflector).
2. **45 degree shear wave (Tip diffracted Technique)** - Scans from both sides of the reflector produced no tip signal.
3. **45 degree RL (Tip Detection Technique)** - Scans from both sides of the weld produced a reflector tip at .600" from the OD surface.
4. **60 degree RL (Tip Detection Technique)** - Scans from both sides of the weld produced no reflectors.
5. **70 degree RL (Tip Detection Technique)** - From the reducer side, this scan produced a reflector .450" from the OD surface. From the nozzle side, this scan produced a reflector .500" from the OD surface.
6. **0 degree longitudinal (Thickness Technique)** - A detailed profile of this weld at location L-18" is attached. A thickness of .645" exists at the location of the reflector.
7. **30-70-70** - This examination produced signals that could not be associated with wave modes normally produced by the WSY 70.

CONCLUSION

Based on the results obtained and recorded using the above examination techniques, this reflector does not appear to be associated with a crack. The characteristics exhibited are indicative of reflectors associated with geometric reflectors.

This conclusion is based on:

- Results obtained from the 45 degree shear wave, 45 degree RL, and 60 degree RL tests. See attached profile for full scale cross section of this indication (Attached Page 6).
- Radiography revealed a geometric condition (counterbore) in the same location as the reported ultrasonic reflector. Also, comparison with fabrication radiographs revealed no significant changes.

- The 70 degree RL results did not correspond with the results of the other tests. Using the 70 degree RL transducer, accurate depth measurements could not be obtained from the .600" deep remaining ligament and/or deeper notches on the sizing block used for calibration. Only the .200" and .400" notches were used. The .450" and .500" depths were outside the calibration range. (See attached sketch of the sizing block.)

As recommended by Mr. J. Coley on May 15, 1992, Mr. Stan Walker, EPRI NDE Center, performed a technical review of the ultrasonic methodologies used to confirm/deny the presence of a flaw. Mr. Walker also examined the subject weld using 45 degree shear, 70 degree longitudinal and 60 degree longitudinal wave modes and found no evidence of flaws within the subject weld. Mr. Walker will provide a trip report to Carolina Power & Light.

Stan Walker
LEVEL II

1125

4 of 6

PAGE ____ OF ____

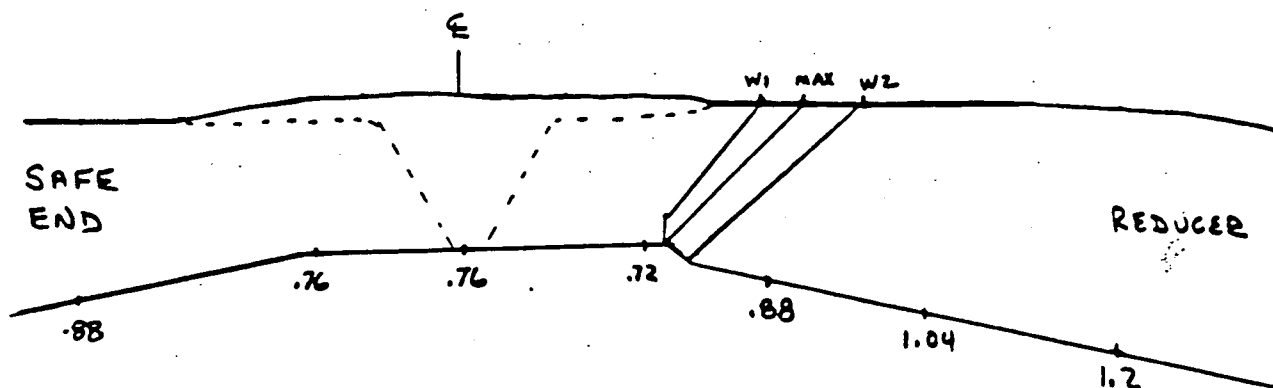
DATA SHEET NO. _____

EXAM ITEM CPL 217-1

ISO DWG. NO. CPL 217

REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER

At Pinner

LEVEL

III

DATE

5-13-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

LEVEL

DATE

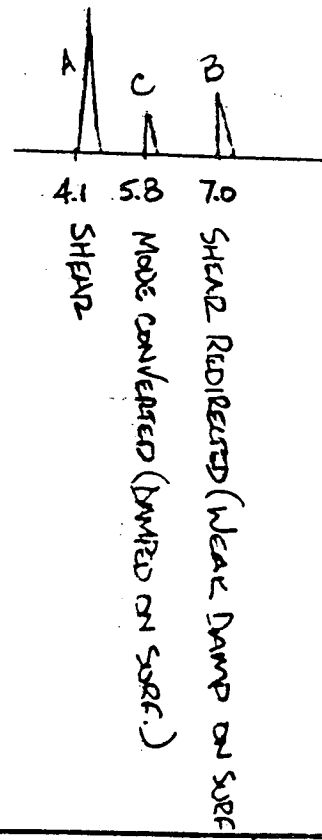
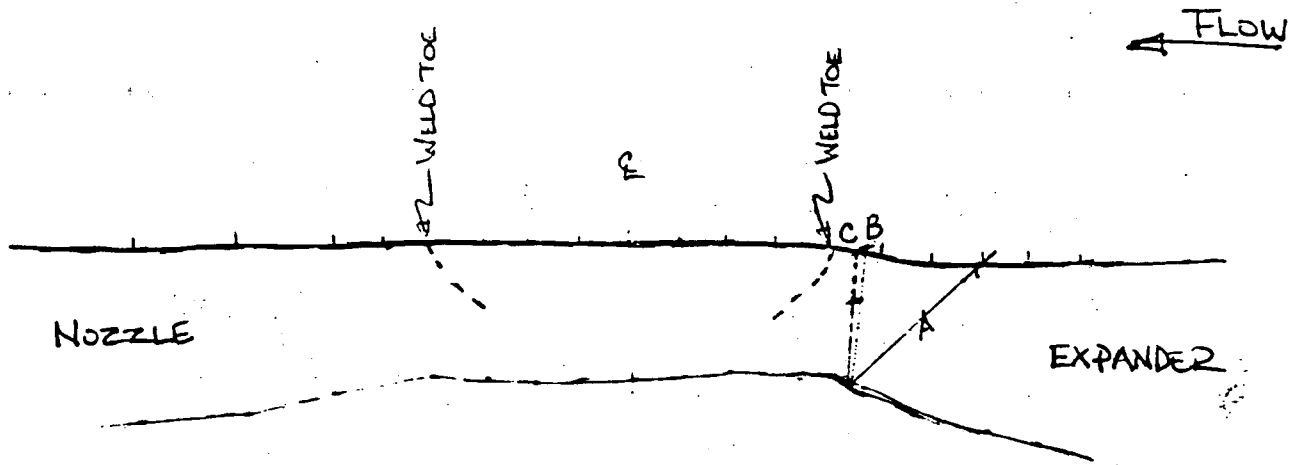
REVIEWER

DATE

REVIEWER

DATE

PROJECT	JOB NO.	UNIT 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>	DATE <u>5/15/92</u>
DRAWING	SYSTEM <u>S/C 'C'</u>	LINE <u>FEEDWATER NOZZLE</u>	WELD/ITEM NUMBER <u>WELD 1</u>



SCALE: 1" = 1"

TIP DIFFRACTION 2.25 MHz

REVISION 0

Sheet number:

Batch No: 092091

Pyrometer S/N:

N/A

SIMULATOR BLOCK

ID:

Reflector Type:

CF-2: Div's ^{N/A}

Pulse Separation: _____ Depth: _____

Pulse Separation: _____ Depth: _____

CABLES

6-8-97

[illegible]

DATE: 10-6-54

CAROLINA POWER & LIGHT COMPANY				FORM QA UT-16A	
ULTRASONIC CALIBRATION SHEET FOR PLANAR FLAW SIZING				REVISION 0	
Plant: <u>H.B. ROBINSON</u>		Unit: <u>2</u>	Date: <u>5/14/92</u>	Sheet number:	
Procedure: <u>NDEP 426</u>		Rev: <u>0</u>	Couplant: <u>ULTRAGEL</u>	Batch No: <u>092041</u>	
Examiner: <u>E.M. BLACK</u>		Level: <u>II</u>	Calibration Block ID: <u>CPL-UT-004</u>	Pyrometer S/N:	
Examiner: <u>N/A</u>		Level: <u>N/A</u>	Calibration Block Temp: <u>AMB</u>	<u>N/A</u>	
REFERENCE BLOCK		INSTRUMENT		TRANSDUCER	
ID: <u>N/A</u>		<input checked="" type="checkbox"/> digital <input type="checkbox"/> analog		Single <input type="checkbox"/> Dual <input checked="" type="checkbox"/>	
Type: <u>N/A</u>		Model: <u>USK 7D</u>		Serial No: <u>45RL(NRC)</u>	
Material: <u>N/A</u>		Serial No: <u>32810-894</u>		Frequency: <u>1.5</u> Mhz	
Measured Beam Angle: <u>N/A</u>		Manufacturer: <u>KB</u>		Size: <u>.50 X .50</u>	
				Manufacturer: <u>SUSI</u>	
				Pulse Separation: <u>N/A</u> Depth: <u>N/A</u>	
INSTRUMENT SETTINGS		CALIBRATION		METHOD	
Reject: <u>0</u>				Wave Mode:	
Damping: <u>FIXED</u>				shear: <input type="checkbox"/>	
Delay: <u>9.745</u>				longitudinal: <input checked="" type="checkbox"/>	
Mat'l Cal: <u>7601"/ms</u>				bi-modal: <input type="checkbox"/>	
Frequency: <u>.5-7M</u>				Type Reflector	
Gain/Coarse: <u>42.5dB</u>				holes: <input type="checkbox"/>	
Gain/Fine: <u>2.5"</u>				notches: <input checked="" type="checkbox"/>	
Filter: <u>FIXED</u>				<input type="checkbox"/> PATT Measured Beam Angle <input checked="" type="checkbox"/> HALT <u>45RL</u> deg. <input type="checkbox"/> MOST <input type="checkbox"/> SPOT <input type="checkbox"/> 30-70-70 CE-2: <u>N/A</u> Div's	
Pulse/Echo: <input type="checkbox"/>					
Thru trans: <input checked="" type="checkbox"/>					
Jack Used: T <input checked="" type="checkbox"/> / R <input checked="" type="checkbox"/>					
Rep Rate: <u>FIXED</u>					
remarks: <u>5/8" C' NOZZLE WELD #1</u>					
REVIEWED BY: <u>[Signature]</u>		LEVEL: <u>III</u>		DATE: <u>5-18-92</u>	
		ANII REVIEW: <u>[Signature]</u>		DATE: <u>6-8-92</u>	

5/14

CAROLINA POWER & LIGHT COMPANY				FORM QA UT-16A													
ULTRASONIC CALIBRATION SHEET FOR PLANAR FLAW SIZING				REVISION 0													
Plant: <u>H.B. ROBINSON</u>		Unit: <u>2</u>	Date: <u>5/14/92</u>	Sheet number:													
Procedure: <u>NDEP 426</u>		Rev: <u>0</u>	Couplant: <u>ULTRAGE</u>	Batch No: <u>092041</u>													
Examiner: <u>E.M. BUACIK</u>		Level: <u>II</u>	Calibration Block ID: <u>CPL-UT-004</u>	Pyrometer S/N:													
Examiner: <u>N/A</u>		Level: <u>N/A</u>	Calibration Block Temp: <u>AMB</u>	<u>N/A</u>													
REFERENCE BLOCK		INSTRUMENT		SIMULATOR BLOCK													
ID: _____		<input type="checkbox"/> digital <input checked="" type="checkbox"/> analog		ID: _____													
Type: _____		Model: <u>USK 7D</u>		Reflector Type: _____													
Material: <u>N/A</u>		Serial No: <u>32810-894</u>		CE-2: _____ Div's <u>N/A</u>													
Measured Beam Angle: _____		Manufacturer: <u>K-B</u>		Pulse Separation: _____ Depth: _____													
Serial No: _____		Frequency: <u>1.5</u> Mhz															
		Size: <u>.37 x .37</u>															
		Manufacturer: <u>SUSI</u>															
INSTRUMENT SETTINGS		CALIBRATION		METHOD													
Reject <u>0</u> Damping <u>FIXED</u> Delay <u>9.9 us</u> Vel. Mat. Cal <u>467.6 in/s</u> AP 5-18-92 Frequency <u>.5-7 MHz</u> Gain/Coarse <u>42.5 dB</u> RANGE Gain/Fine <u>2.5"</u> AP 5-18-92 Filter <u>FIXED</u> Pulse/Echo <input type="checkbox"/> Thru trans <input checked="" type="checkbox"/> Jack Used: T <input checked="" type="checkbox"/> / R <input checked="" type="checkbox"/> Rep Rate <u>FIXED</u> remarks <u>S/G 'C' NOZZLE WELD #1</u>		<p style="text-align: center;"> <input type="checkbox"/> 8 thru wall <input checked="" type="checkbox"/> depth in inches </p>		Wave Mode: shear: <input type="checkbox"/> longitudinal: <input checked="" type="checkbox"/> bi-modal: <input type="checkbox"/> Type Reflector holes: <input type="checkbox"/> notches: <input checked="" type="checkbox"/> Measured Beam Angle <u>60° RL</u> 5-15-92 PATT <input type="checkbox"/> HALT <input checked="" type="checkbox"/> MOST <input type="checkbox"/> SPOT <input type="checkbox"/> 30-70-70 <input type="checkbox"/> CE-2: _____ Div's													
				CABLES RG62 <input type="checkbox"/> RG58 <input type="checkbox"/> RG174 <input checked="" type="checkbox"/> Length: <u>6 FT</u> Initial Calibration Time: <u>1410</u> CAL CHECKS <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Time</th> <th>Initials</th> </tr> <tr> <td><u>1833</u></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>		Time	Initials	<u>1833</u>									
Time	Initials																
<u>1833</u>																	
REVIEWED BY: <u>[Signature]</u>		LEVEL: <u>III</u>	DATE: <u>5-14-92</u>	ANI REVIEW: <u>[Signature]</u> DATE: <u>6-8-92</u>													

CAROLINA POWER & LIGHT COMPANY				FORM QA UT-16A	
ULTRASONIC CALIBRATION SHEET FOR PLANAR FLAW SIZING				REVISION 0	
Plant: <u>H.B. ROBINSON</u>		Unit: <u>2</u>	Date: <u>5/19/92</u>	Sheet number:	
Procedure: <u>NDEP 426</u>		Rev: <u>0</u>	Couplant: <u>ULTRACEL</u>	Batch No: <u>092091</u>	
Examiner: <u>EM. BLICK</u>		Level: <u>II</u>	Calibration Block ID: <u>CPL-UT-004</u>	Pyrometer S/N: <u>N/A</u>	
Examiner: <u>N/A</u>		Level: <u>N/A</u>	Calibration Block Temp: <u>AMBIENT</u>		
REFERENCE BLOCK	INSTRUMENT	TRANSDUCER	SIMULATOR BLOCK		
ID: _____	<input checked="" type="checkbox"/> digital <input type="checkbox"/> analog	Single <input checked="" type="checkbox"/> Dual <input type="checkbox"/>	ID: <u>HI # 128097</u>		
Type: _____	Model: <u>USK 7D</u>	Serial No: <u>56526-00622</u>	Reflector Type: <u>10% ID NOTCH</u>		
Material: <u>N/A</u>	Serial No: <u>32810-894</u>	Frequency: <u>2</u> Mhz	CE-2: <u>7.6</u> Div's		
Measured Beam Angle: _____	Manufacturer: <u>KB</u>	Size: _____	Pulse Separation: <u>N/A</u> Depth: <u>N/A</u>		
INSTRUMENT SETTINGS		CALIBRATION		METHOD	
Reject	<u>0</u>			Wave Mode:	
Damping	<u>LOW</u>			shear: <input type="checkbox"/>	
Delay	<u>8.5us</u>			longitudinal: <input checked="" type="checkbox"/>	
Mat'l Cal	<u>121.6ms N/A</u>			bi-modal: <input type="checkbox"/>	
Frequency	<u>.5-7</u>			Type Reflector	
Gain/Coarse	<u>51dB</u>			holes: <input type="checkbox"/>	
Gain/Fine	<u>N/A</u>			notches: <input checked="" type="checkbox"/>	
Filter	<u>N/A</u>			<input type="checkbox"/> PATT Measured Beam Angle <input type="checkbox"/> HALT _____ deg. <input type="checkbox"/> MOST <input type="checkbox"/> SPOT <input checked="" type="checkbox"/> 30-70-70 CE-2: _____ Div's	
Pulse/Echo	<input checked="" type="checkbox"/>			CABLES	
Thru trans	<input type="checkbox"/>			RG62 <input type="checkbox"/>	
Jack Used: T <input checked="" type="checkbox"/> / R _____		RG58 <input type="checkbox"/>			
Rep Rate <u>FIXED</u>		RG174u <input checked="" type="checkbox"/>			
remarks	<u>N/A</u> thru wall <u>N/A</u> depth in inches		Length: <u>6'</u>		
			Initial Calibration Time: <u>1300</u>		
			CAL CHECKS		
			Time	Initials	
			<u>1840</u>		
			<u>N/A</u>		
REVIEWED BY: <u>[Signature]</u>	LEVEL: <u>III</u>	DATE: <u>5-19-92</u>	ANII REVIEW: <u>[Signature]</u>		
			DATE: <u>6-8-</u>		

CAROLINA POWER & LIGHT COMPANY						FORM QA UT-16A		
ULTRASONIC CALIBRATION SHEET FOR PLANAR FLAW SIZING						REVISION 0		
Plant: <u>H.B. ROBINSON</u>		Unit: <u>2</u>		Date: <u>5/14/92</u>		Sheet number:		
Procedure: <u>426</u>		Rev: <u>0</u>		Couplant: <u>ULTRAGEL</u>		Batch No: <u>092091</u>		
Examiner: <u>E.M. BLACIL</u>		Level: <u>II</u>		Calibration Block ID: <u>CPL-UT-004</u>		Pyrometer S/N:		
Examiner: <u>N/A</u>		Level: <u>N/A</u>		Calibration Block Temp: <u>AMBIENT</u>		<u>N/A</u>		
REFERENCE BLOCK		INSTRUMENT		TRANSDUCER		SIMULATOR BLOCK		
ID: <u>CPL-004</u>		<input checked="" type="checkbox"/> digital <input type="checkbox"/> analog		Single <input type="checkbox"/> Dual <input checked="" type="checkbox"/>		ID: <u>CPL-004</u>		
Type: <u>NOTCHED</u>		Model: <u>USK-7D</u>		Serial No: <u>83-924</u>		Reflector Type: <u>NOTCH</u>		
Material: <u>C/S</u>		Serial No: <u>NX-32810-814</u>		Frequency: <u>2MHz</u> Mhz		CE-2: <u>N/A</u> Div's		
Measured Beam Angle: <u>N/A</u>		Manufacturer: <u>K-B</u>		Size: <u>6 x 13</u>		Pulse Separation: <u>N/A</u> Depth: <u>N/A</u>		
INSTRUMENT SETTINGS			CALIBRATION		METHOD		CABLES	
Reject	<u>OFF</u>	screen div's			Wave Mode:		RG62 <input type="checkbox"/>	
Damping	<u>Fixed</u>				shear: <input type="checkbox"/>		RG58 <input type="checkbox"/>	
Delay	<u>9.7us</u>				longitudinal: <input checked="" type="checkbox"/>		RG174 <input checked="" type="checkbox"/>	
Mat'l Cal	<u>132.5%</u>				bi-modal: <input type="checkbox"/>		Length: <u>6'</u>	
Frequency	<u>.5-7M</u>				Type Reflector		Initial Calibration Time: <u>1230</u>	
Gain/Coarse	<u>60dB</u>	<input type="checkbox"/> thru wall <input checked="" type="checkbox"/> depth in inches		holes: <input type="checkbox"/>		CAL CHECKS		
Gain/Fine	<u>N/A</u>			notches: <input checked="" type="checkbox"/>		Time		Initials
Filter	<u>N/A</u>			<input type="checkbox"/> PATT <input checked="" type="checkbox"/> HALT <input type="checkbox"/> MOST <input type="checkbox"/> SPOT <input type="checkbox"/> 30-70-70		1844		
Pulse/Echo	<input checked="" type="checkbox"/>			Measured Beam Angle <u>70 RL</u> deg.		N/A		
Thru trans	<input checked="" type="checkbox"/>			CE-2: <u>N/A</u> Div's				
Jack Used: T <input checked="" type="checkbox"/> / R <input checked="" type="checkbox"/>								
Rep Rate: <u>Fixed</u>								
REMARKS: <u>S/G 'C' NOZZLE WELD # 1</u>								
REVIEWED BY:			LEVEL:		DATE:		DATE: <u>6-8-92</u>	
					ANII REVIEW: <u>5/20/92</u>			

21x212

COMPONENT: 5/8" C' FN NOZZLE WELD
#1

REV. 0

2 _____ BLOCK THICKNESS _____

Condition	Group A (Solid)	Group B (Dashed)	Group C (Dotted)
1	80	75	85
2	78	80	82
3	76	82	80
4	75	85	75

EACH MAJOR SCREEN DIVISION: .100"

RANGE: 1.0 "

TRANSDUCER SIZE: 1/4

TRANSDUCER ELEMENT: SINGLE OR DUAL

COMMENTS:

GAIN = 53 dB

ZERO = 3.79 μ S (DIGITAL)

3 colladares puz DATE 6-8-92

ADDITIONAL SHEETS: YES NO

QA - RT - 1
REV. 2

Carolina Power & Light Company

CPL-217 6.8.92

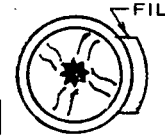
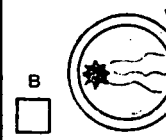
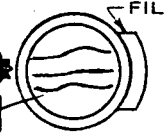
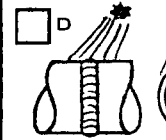
RADIOGRAPHIC NDE REPORT

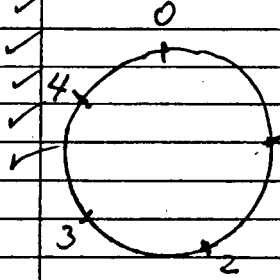
PAGE 1 OF 1

DATE 5/14/92

PROJECT <u>HBR</u>	JOB NO. <u>N/A</u>	UNIT 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>	
DRAWING <u>N/A</u>	SYSTEM <u>FW</u>	LINE	WELD/ITEM NUMBER <u>W1</u>
DESIGN CLASS/CATEGORY <u>II</u>	ACCEPTANCE STANDARD <input type="checkbox"/> ASME111 <input type="checkbox"/> VIII <input type="checkbox"/> B31.1 <input type="checkbox"/> AWS D1.1 <input checked="" type="checkbox"/> OTHER <u>INFO.</u>		

MTL TYPE <u>C/S</u>	MTL THICKNESS <u>1/16"</u>	O.D./LENGTH <u>18"</u>	SURFACE FINISH: <input type="checkbox"/> AS-WELDED <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> OTHER	NDE PROCEDURE NO. <u>101</u>	REV <u>14</u>
STAGE OF MFG. <input checked="" type="checkbox"/> INFO <input type="checkbox"/> REPAIR <input type="checkbox"/> ROOT <input type="checkbox"/> INTERMEDIATE <input type="checkbox"/> FINAL	JOINT DESIGN <input type="checkbox"/> BRN <input type="checkbox"/> BKS <input type="checkbox"/> INS <input type="checkbox"/> OPN. BT <input checked="" type="checkbox"/> N/A <input type="checkbox"/> SOCKET <input type="checkbox"/> OTHER				

X-RAY <u>N</u>		ISOTOPE <input checked="" type="checkbox"/> IRIIDIUM 192 <input type="checkbox"/> COBALT 60		LEAD SCREENS	
MAKE	KVP. <u>M.A. A</u>	SIZE DIA. <u>.107"</u> LENGTH <u>.102"</u>		FRONT <input type="checkbox"/> .005 <input checked="" type="checkbox"/> .010	CENTER <u>N/A</u> BACK <input type="checkbox"/> .005 <input checked="" type="checkbox"/> .010
FOCAL SPOT SIZE		CURIES <u>59</u>	RT STANDARD SET-UP (CHECK ONE)		
FILM MFG. <u>"M"</u>	ASTM CLASS 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/>	LOADED 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	A  B 		
FFD. <u>18"</u>	EXPOSURE TIME MIN. <u>25</u> SEC.		C  D 		
PENETRATOR SIZE <u>12</u> MTL. <u>9/5</u> ASTM <input type="checkbox"/> ASME <input checked="" type="checkbox"/>					
PENETRATOR SOURCE SIDE <input type="checkbox"/> FILM SIDE <input checked="" type="checkbox"/>					
SHIM MTL. <u>N/A</u> THICK		COLLIMATION YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>			
RADIOGRAPHER <u>NVP / PETE TINGEN</u>		CERT. LEVEL <u>II</u>	RT COMPANY <u>CP&L</u>		
VIEWING SINGLE <input checked="" type="checkbox"/> COMPOSITE <input type="checkbox"/>		FILM PROCESSING <input type="checkbox"/> AUTOMATIC <input checked="" type="checkbox"/> MANUAL		TEMPERATURE <u>68°F</u>	
		<input type="checkbox"/> E OTHER (ATTACH SKETCH)			

LOCATION MARKERS	SENSITIVITY	WELD	DENSITY		DISCONTINUITIES														REMARKS			
			PENETRATOR	ACCEPT	REJECT	POROSITY	SLAG INCL.	CRACK	INCOMPLETE PENET.	INCOMPLETE FUSION	UNDERCUT	ROOT UNDERCUT	BURN-THRU	CRATER PIT/CRACK	ROOT CONVEXITY	ROOT CONCAVITY	TUNGSTEN	UNCOM. INSERT		SURFACE DEFECTS	ARTIFACTS	
0-1	2T		✓																			
1-2			✓																			
2-3			✓																			
3-4			✓																			
4-0			✓																			
FOR INFO ONLY																						
INTERPRETER <u>[Signature]</u> CERTIFICATION LEVEL <u>II</u> FILM EVALUATION DATE <u>5/14/92</u>																						

IF APPLICABLE CONTRACTOR REVIEWER		TITLE	
FILM REVIEW DATE		COMMENTS	
IF APPLICABLE CP&L QA REVIEW <u>[Signature]</u>		DATE <u>5/14/92</u>	IF APPLICABLE <u>[Signature]</u> DATE <u>6-8-92</u>

1 of 6

**SUPPLEMENTAL REPORT FOR
H. B. ROBINSON UNIT 2
STEAM GENERATOR "C" FEEDWATER NOZZLE WELD 1
SUMMARY DATED MAY 16, 1992**

The purpose of this attachment is to evaluate the .450" from outside diameter (OD) signal produced on May 14, 1992 using RTD transducer, S/N 83-924 during inspection of FW nozzle weld 1.

Attached are full scale plots and profiles of transducer exit point relative to holes, notches and counterbore to illustrate amplitude and screen positions of the 70° refracted longitudinal (RL) and the 34° shear (S) beam angles from the dual element RTD transducer, S/N 83-924 (enclosed).

The exit point and beam angles were measured using a type II, carbon steel IIW block and verified on various side drilled holes as shown on pages 2 and 3. Reflected 70° RL signals can easily be seen from side drilled holes with depths of up to .600" from the OD surface with no other accompanying signals that could confuse the operator.

As shown on page 4, using a one inch thick notched block, each tip diffracted RL signal is accompanied by a trailing 34° corner reflected shear wave signal at screen position 10. With a thinner block or component, the shear signal would be closer in time to that of the tip diffracted signal which could confuse the operator. (Notice the amplitude difference between the longitudinal and shear signals.)

On page 5, using a carbon steel block close in thickness to that of the feedwater nozzle weld 1 at H. B. Robinson, a 70° RL and 34° S signal could be obtained from the inside diameter (ID) notch. Because the metal path of the corner reflected shear component is almost half that of the RL tip signal, the screen position of the 34° shear component appears almost in the same location as that of the longitudinal signal.

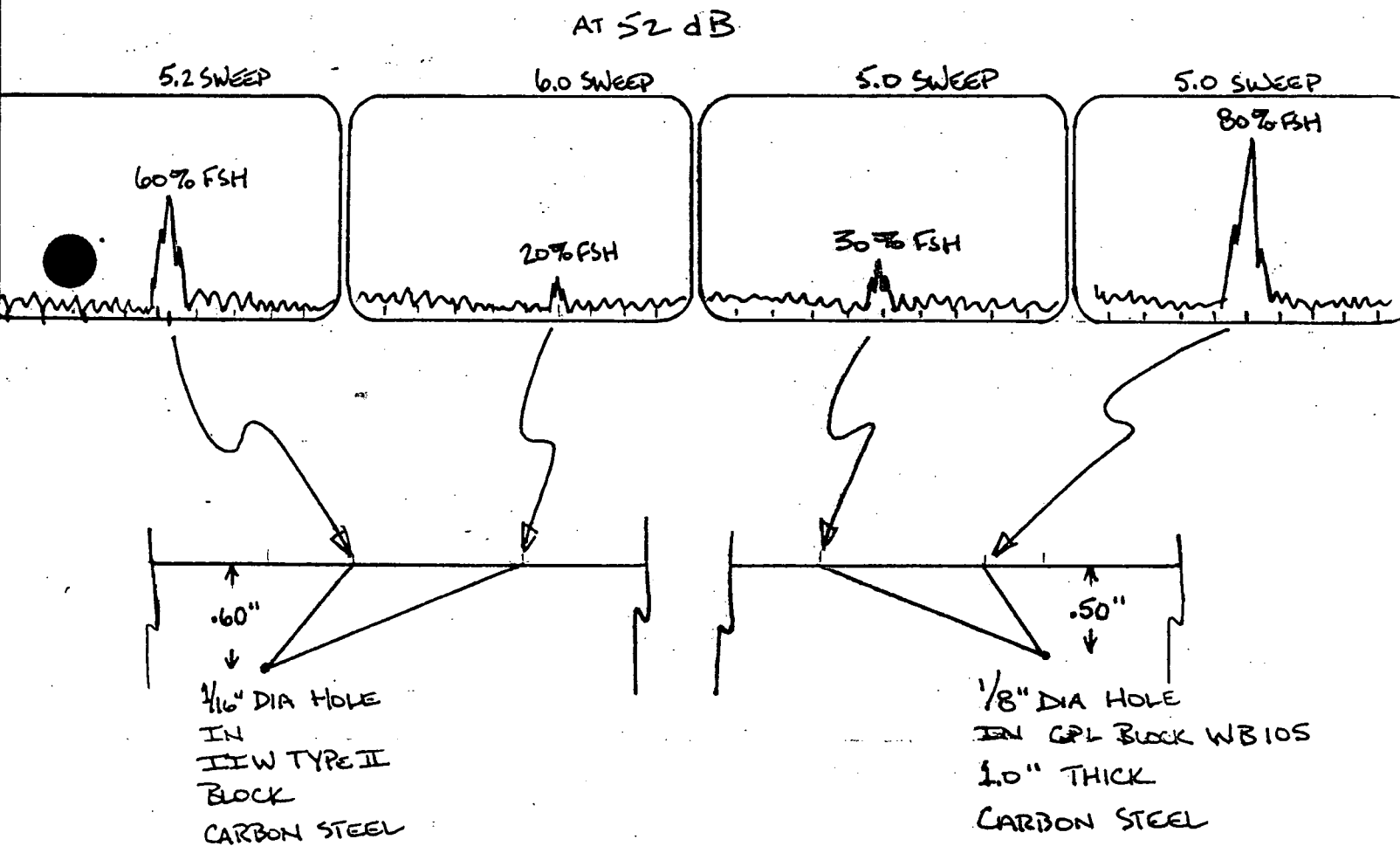
Page 6 shows the approximate RTD probe location during the May 14 examination relative to the counterbore. It is possible that the counterbore signal was the cause of the signal seen at .450" from the OD surface. This is based on the signal presentation from the .600" deep hole shown on page 2. The sweep positions of the shear and longitudinal components are too close to avoid possible operator confusion. Also, the short echo dynamic response noted from the .450" deep signal on May 14 was characteristic of a shear signal; longitudinal signals exhibit long echo dynamic responses.

According to the EPRI Text, UT Operator Training for Sizing IGSCC, "The primary intent when sizing with the high-angle, L-wave method, is to limit the penetration of the beam into the metal in order to avoid confusion from unidentified ultrasonic signals." (Module 3, page 11, 10/89 Edition.)

We conclude that for the feedwater nozzle in steam generator C, weld 1 at H. B. Robinson Unit 2, this transducer should be used for flaws that penetrate within .300" of the outside surface (3 screen divisions) to reduce the possibility of shear wave encroachment of the calibrated region. (5.2 screen divisions on page 2.) This will prevent possible misinterpretation of shear signals caused by internal weld geometry.

Signed: Carl R. Cannon Date: 3 JUNE, 1992

SCREEN PRESENTATIONS RELATIVE TO TRANSDUCER PLACEMENT
FOR 70° REFRACTED LONGITUDINAL AND TRAILING 32° SHEAR COMPONENT

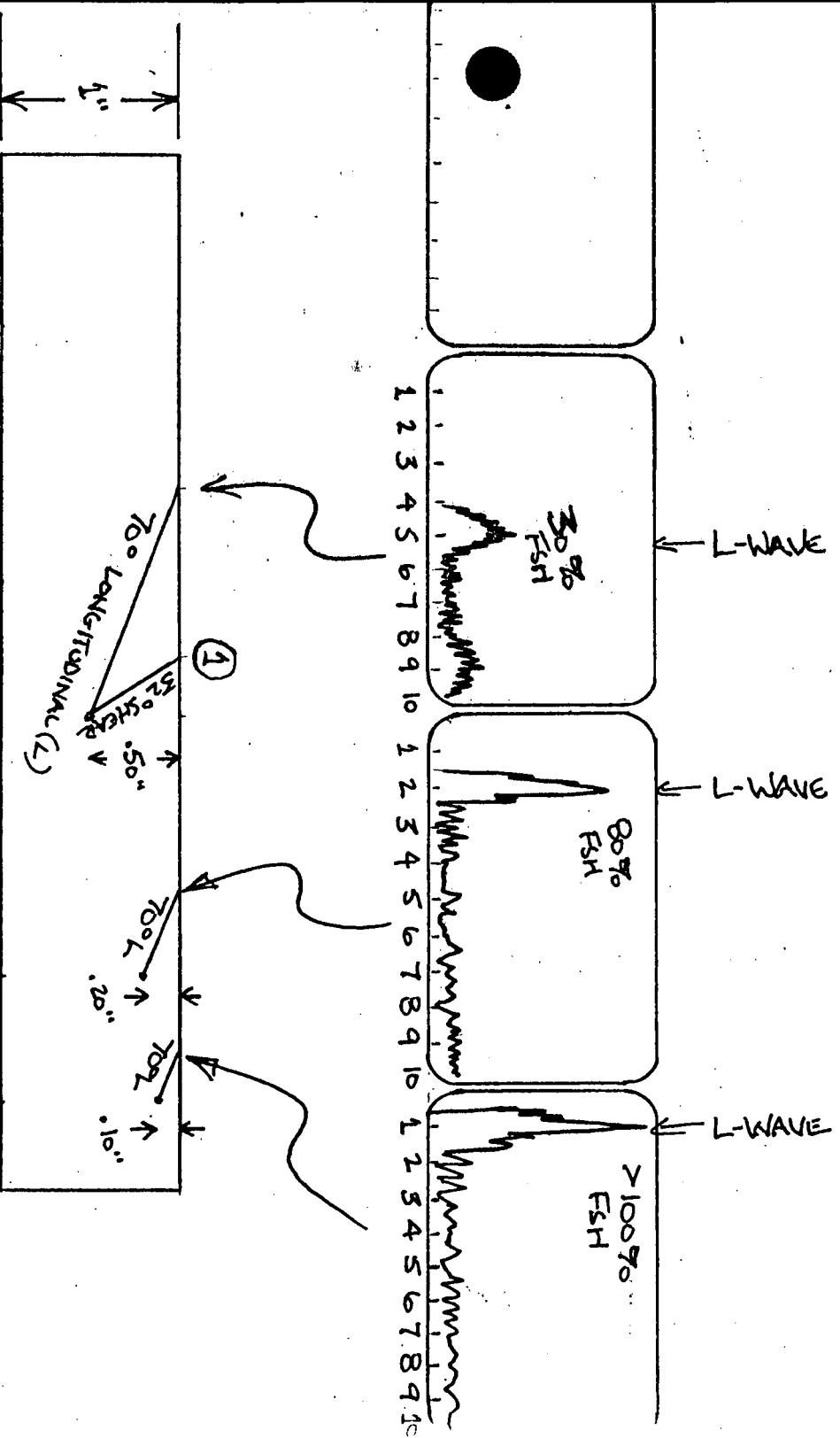


NOTE: THE SCREEN WAS CALIBRATED SO THAT EACH
MAJOR DIVISION = .100" DEPTH FROM D.D.
SURFACE - USING 70° RL.

Cur Block
LEVEL II 52042

SCREEN PRESENTATIONS RELATIVE TO TRANSDUCER PLACEMENT

AT 52 dB

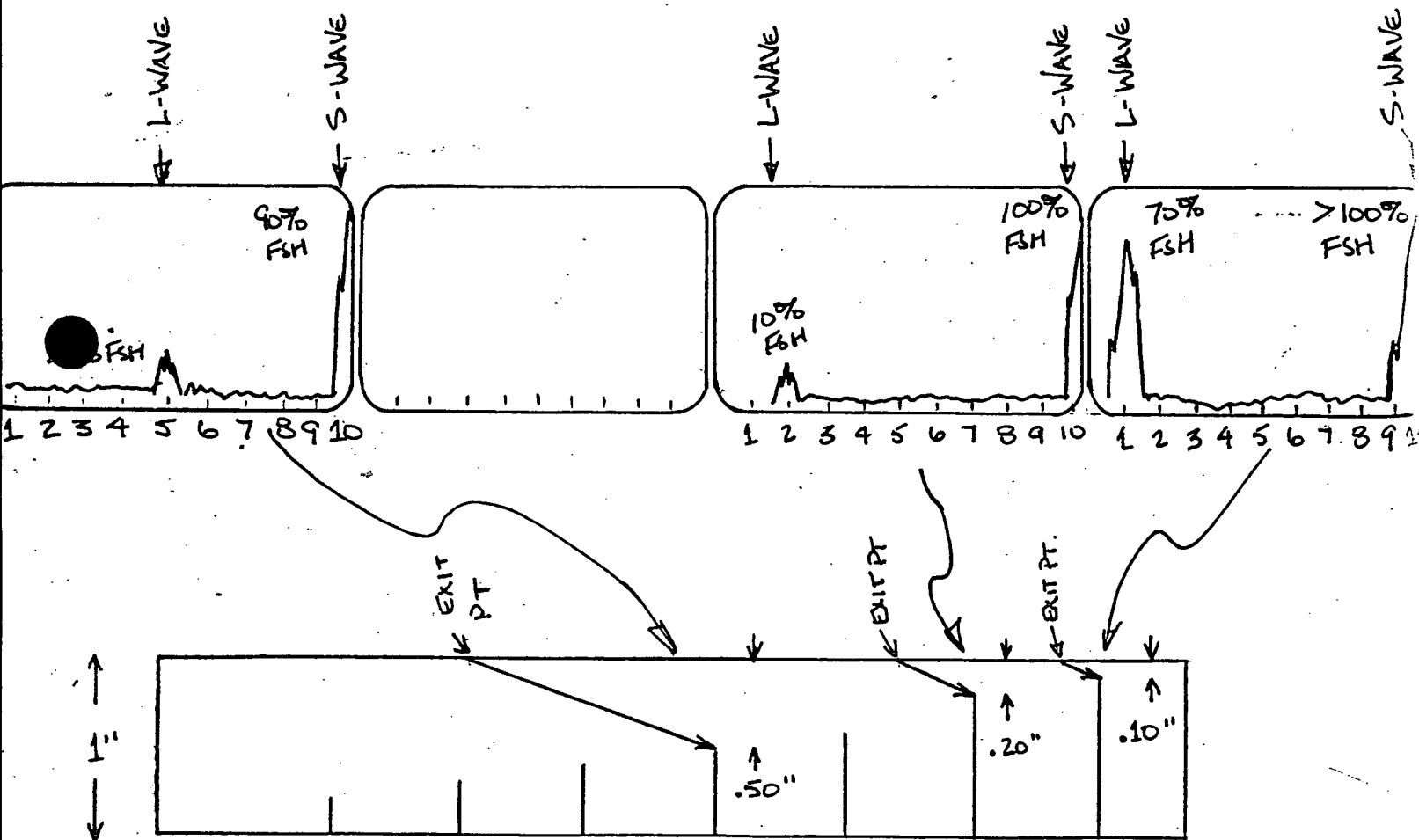


- ① 32° SHEAR COMPONENT PEAKS AT 1" IN FROM 70° L
- ② EACH SCREEN DIVISION = .100" FM OD. SURFACE.
- ③ REFLECTORS = 1/16" DIA. SIDE DRILLED HOLES

duBlack
 LEVEL II, 5/20/92

SCREEN PRESENTATIONS RELATIVE TO TRANSDUCER PLACEMENT

At 52 dB



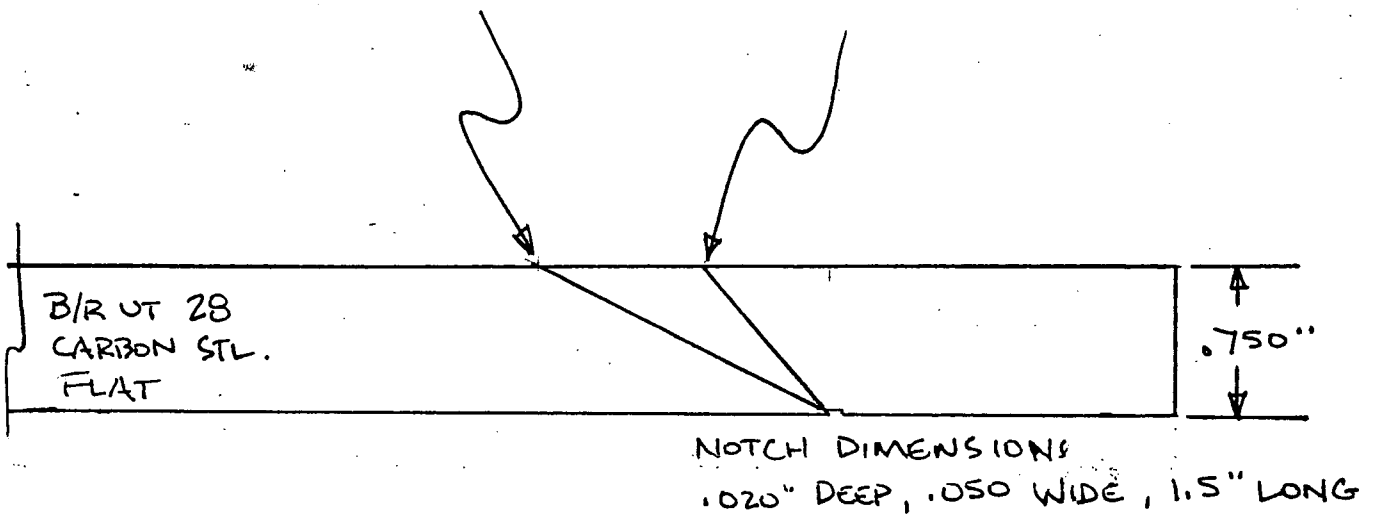
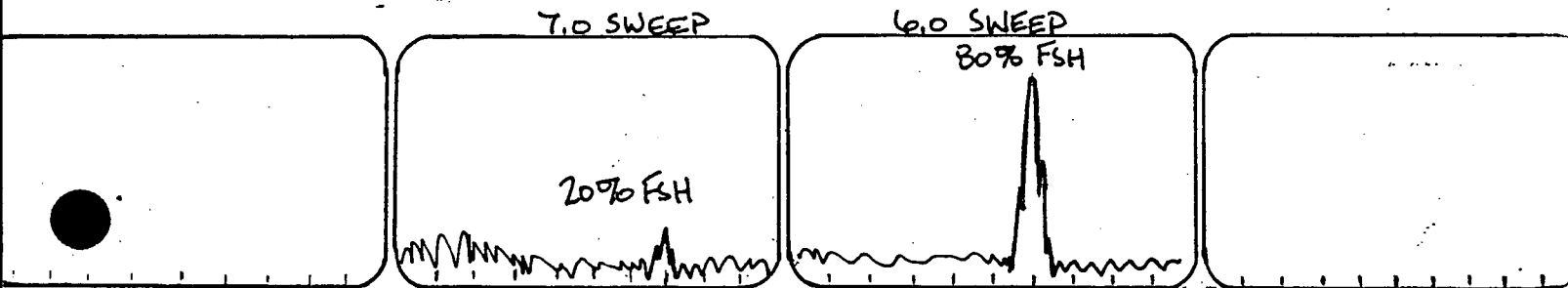
① REFLECTORS = NOTCHES

2. FOR L-WAVE : EACH SCREEN DIV = .100" FM. O.D. SURFACE

Jim Blum
LEVEL II, 5/20/92

SCREEN PRESENTATIONS RELATIVE TO TRANSDUCER PLACEMENT
FOR 70° REFRACTED LONGITUDINAL AND TRAILING 32° SHEAR
COMPONENT.

At 58 dB



John Black
LEVEL II, 5/20/92

CP&L
Carolina Power & Light Company
NDE DRAWING ATTACHMENT

P6 of 6

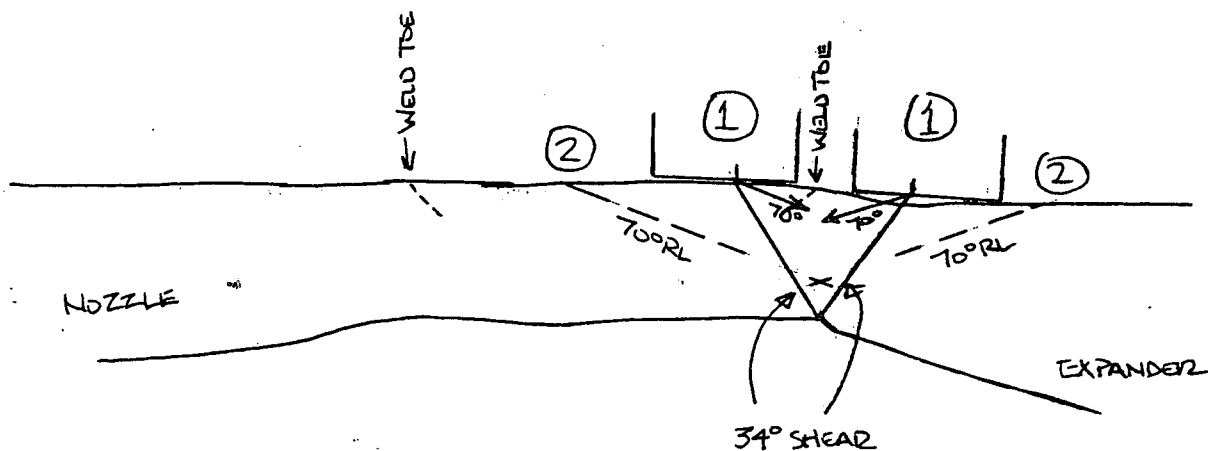
PAGE OF

PROJECT H.B. ROBINSON JOB NO.

UNIT 1 ☐ 2 ☒ 3 ☐ 4 ☐

DATE 5/20/92

DRAWING <u>S/C 'C'</u>	SYSTEM <u>FEEDWATER NOZZLE</u>	LINE <u>TO EXPANDER</u>	WELD/ITEM NUMBER <u>WELD #1</u>
---------------------------	-----------------------------------	----------------------------	------------------------------------



- ① APPROXIMATE LOCATIONS OF PROBE DURING 5/14 EXAM.
- ② EXIT POINT LOCATION REQUIRED TO SEE FLAW TIP THAT WAS REPORTED 5/13.

INTRODUCTION:

PERFORMED BT EXAMINATION OF THIS WELD AND ADJACENT BASE MATERIAL FROM $2\frac{1}{2}$ " UPSTREAM OF WELD #2 TO $2\frac{1}{2}$ " DOWNSTREAM OF WELD #1 ON 5-13-92 WITH JIM COLEY (NRC INSPECTOR). A 45° SHEAR WAVE AXIAL EXAMINATION DETECTED AN INDICATION ORIGINATING FROM THE UPSTREAM COUNTER BORE AT 16° CLOCKWISE AND TERMINATING AT 32½° CLOCKWISE.

ON 5-14-92 THE INDICATION AREA WAS REINVESTIGATED BY MYSELF AND E. M. BLACK (CPL) TO VERIFY THE INDICATION AND ITS SIZE.

EXAMINATION:

ON 5-13 FOLLOWING EXAMINATIONS WERE PERFORMED.

- ① 45 SHEAR WAVE AXIAL (DETECTION TECHNIQUE) EXAMINATION WAS PERFORMED AT 12 DB ABOVE REFERENCE AND IN THE UPSTREAM AND DOWNSTREAM DIRECTIONS. SINCE THE INDICATION DID NOT EXCEED 50% DAC, SIZE THROUGH WALL WAS DETERMINED AT 50% OF MAX AMPLITUDE. LENGTH WAS DETERMINED AT COMPLETE LOSS OF SIGNAL.

② AN ID CREEPING WAVE, USING A WSY-70-2, WAS UTILIZED TO VERIFY A FLAW BREAKING THE ID SURFACE. A SIGNAL WAS SEEN, HOWEVER, SINCE THE OA AND IA SURFACES WERE NOT PARALLEL THIS DETECTION/SIZING TECHNIQUE WOULD NOT PRODUCE VALID RESULTS.

③ AN RTD 70° RL (TIP DETECTION TECHNIQUE) WAS UTILIZED FROM THE REDUCED SIDE. A REFLECTOR WAS RECEIVED AT 400" BELOW THE SURFACE.

④ A 0° LONGITUDINAL (THICKNESS TECHNIQUE) WAS UTILIZED TO DETERMINE A THICKNESS PROFILE FOR PLOTTING THE INDICATION.

ON 5-14 THE FOLLOWING EXAMINATIONS WERE PERFORMED

① 45 SHEAR WAVE COULD EASILY DETECT THE INDICATION FROM REDUCED. AN ADDITIONAL 20 DB WAS REQUIRED TO OBSERVE A 20% FSH REFLECTOR WITH THE SEARCH UNIT ON THE WELD CROWN.

② 45 SHEAR WAVE (TIP DIFFRACTION TECHNIQUE) PRODUCED A TIP SIGNAL FROM THE REDUCED SIDE OF .100" TO .150" THROUGH WALL FROM THE ID SURFACE.

- (3) 45 DEGREE RL (TIP DETECTION TECHNIQUE) PRODUCED A SIGNAL AT .600" FROM THE O.D. SURFACE,
- (4) 60 DEGREE RL (TIP DETECTION TECHNIQUE) PRODUCED NO MEANINGFUL RESULTS.
- (5) 70 DEGREE RL RTD (TIP DETECTION TECHNIQUE) PRODUCED A REFLECTOR AT .450" FROM THE OD SURFACE WHEN SCANNED FROM THE REDUCER SIDE. WHEN SCANNED FROM THE WELD CROWN THE REFLECTOR WAS DETECTED AT .500" FROM THE OD SURFACE.
- (6) 0 DEGREE LONGITUDINAL (THICKNESS TECHNIQUE) A THICKNESS OF .645" WAS DETECTED AT THE WELD EDGE IN THE AREA OF THE INJECTION. THICKNESS INCREASED TO OVER 1" ON THE REDUCER AND WERE VARIABLE ON THE WELD CROWN TO .800". A COUNTERBORE WAS DETECTED BELOW THE WELD EDGE.
- (7) A WSY 70-2 CREEPING WAVE (DETECTION/SIZING TECHNIQUE) WAS UTILIZED. REFLECTORS (MULTIPLE) INDICATED THE PRESENCE OF NON PARALLEL SURFACES ON THE REDUCER SIDE AND WOULD NOT GENERATE THE DESIRED CREEPING WAVE. A SCAN FROM THE WELD SIDE PRODUCED A FLAW BASE SIGNAL BUT COULD NOT DETECT REFLECTOR

FROM THE TOP / SIDE OF THE FLAW.

CONCLUSION :

THIS REFLECTOR APPEARS TO BE A SMALL CRACK ORIGINATING FROM THE JUNCTION OF COUNTERBORE AND TRANSITION SURFACES. THE DEPTH FROM THE ID SURFACE APPEARS TO BE $\approx 1.50"$ THIS CONCLUSION WAS BASED ON THE EXAMINATION RESULTS OF 5-13 AND 5-14. IN ADDITION THE CRACK IS CONSISTENT WITH THE LOCATION OF KNOWN CRACKS FOUND IN THIS AND OTHER PLANTS.

Clet R. [Signature] UT LEVEL III
5-15-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-232-Y

Visual Exam Report No. 1097-13
4 1097-307

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [X] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE U-BOLT.

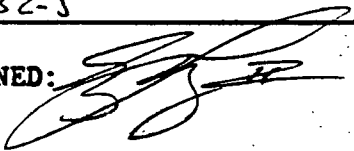
Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC' DEAD WEIGHT SUPPORT. U-BOLT WOULD CREATE AN UN-ANALYZED CONDITION DURING A SEISMIC EVENT. SINCE THERMAL MOVEMENT IS VERY SMALL AT THIS LOCATION, EFFECT OF THIS RESTRAINT ON THE PIPING SYSTEM IS INSIGNIFICANT. ALSO GROUT HAS BEEN REPAIRED. DAMAGED GROUT IS MINOR AND WOULD NOT IMPACT LOAD CARRYING CAPABILITY OF BASEPLATE.

Clement Rajendra 5-21-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>EA JONES / CLEMENT RAJENDRA</u>		<u>TSE-92-1R</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF <u>1</u>
<u>ATTACHED ARE ISI visual Reports AND SKETCHS</u>		MOD <u>M-</u>
<u>Requiring NED Disposition - Component IDs:</u>		PCN
<u>ISI CPL 326-C (C-WS)</u>		RET-R-6X92-BX
<u>326-O (NOTE inspection is For 1/2 of support only) CCW</u>		
<u>329-B (No Dug) 233-F (No Dug)</u>		
<u>329-D (No Dug) 234A-I (No Dug)</u>		
<u>329-E (No Dug) 234A-J (No Dug)</u>		
<u>241-F (No Dug) 239-E (No Dug)</u>		
<u>241-H (No Dug) 239-G (No Dug)</u>		
<u>232-I</u>		
<u>232-J</u>		
SIGNED:  <u>EX 1888 4-16-92</u>		DISTRIBUTION
		RESPOND BY: <u>4/30/92</u>

*RELEASING AUTHORITY: _____ DATE: 4/16/92

RESPONSE:

ATTACHED ARE THE DISPOSITIONS FOR THE FOLLOWING COMPONENTS:

<u>CPL-232-J, CPL-301-JACKET COOLER A</u>	DISTRIBUTION
<u>CPL-221B-A, CPL-232-Y, CPL-331B-G</u>	
<u>CPL-231-B-WS, CPL-231-B</u>	

SIGNED: Clement Rajendra*RELEASING AUTHORITY: L. M. Jones DATE: 5/22/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-120

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [] ISI [X]

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-232-J</u>
---------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-232 Rev 1 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CN 4-11-92
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER <u> </u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			Light debris on all horizontal surfaces
EROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			See page #2 for details
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Cliff Mass CN LEVEL: II DATE: 4-11-92

REVIEWER: Edmund Donoran JR LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92 FOR INFORMATION ONLY

REVIEWERS COMMENTS:

ANII REVIEW:

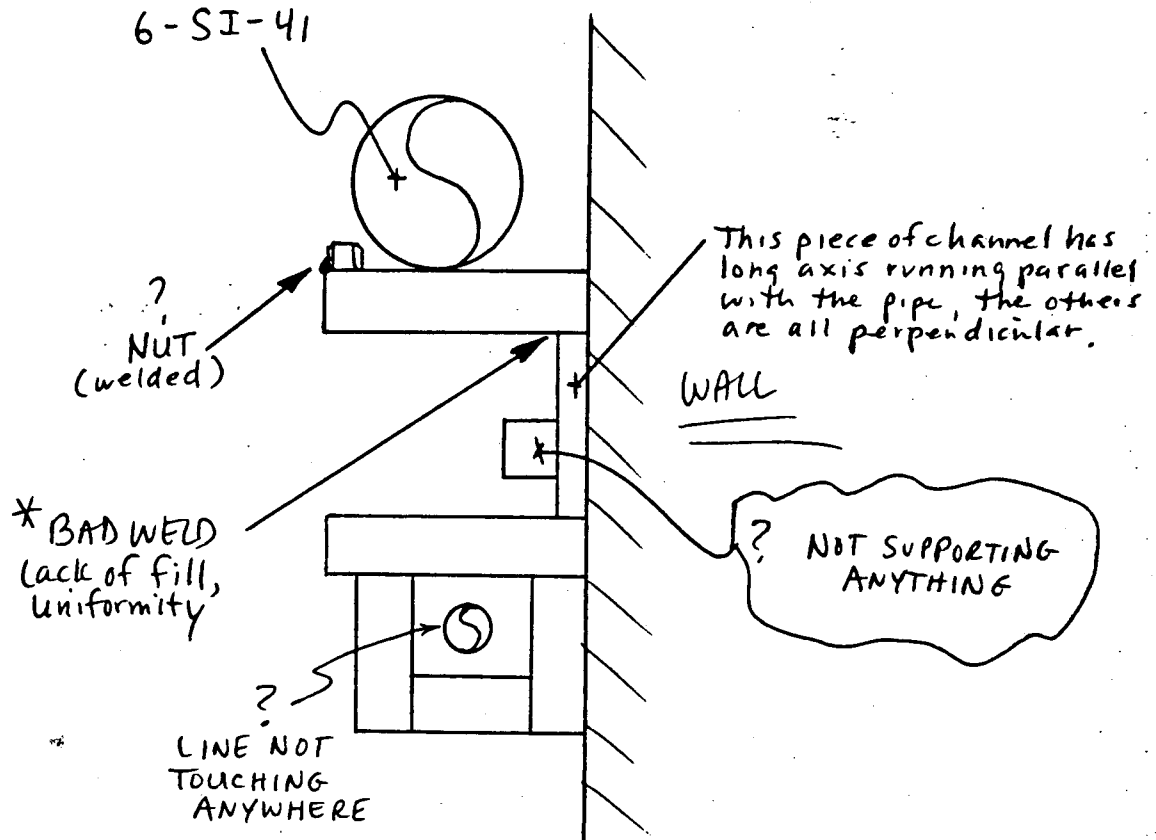
DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-120
EXAM ITEM CPL-232-J
ISO DWG. NO. CPL-232 REV. 1

SKETCH SHEET

LOOKING IN DIRECTION OF
CONTAINMENT



FOR INFORMATION SEE

EXAMINER Chff Moss
EXAMINER N/A
REVIEWER Edmund R. Dorian
REVIEWER Richard B. Weber
REVIEWER RM

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/15/92
DATE

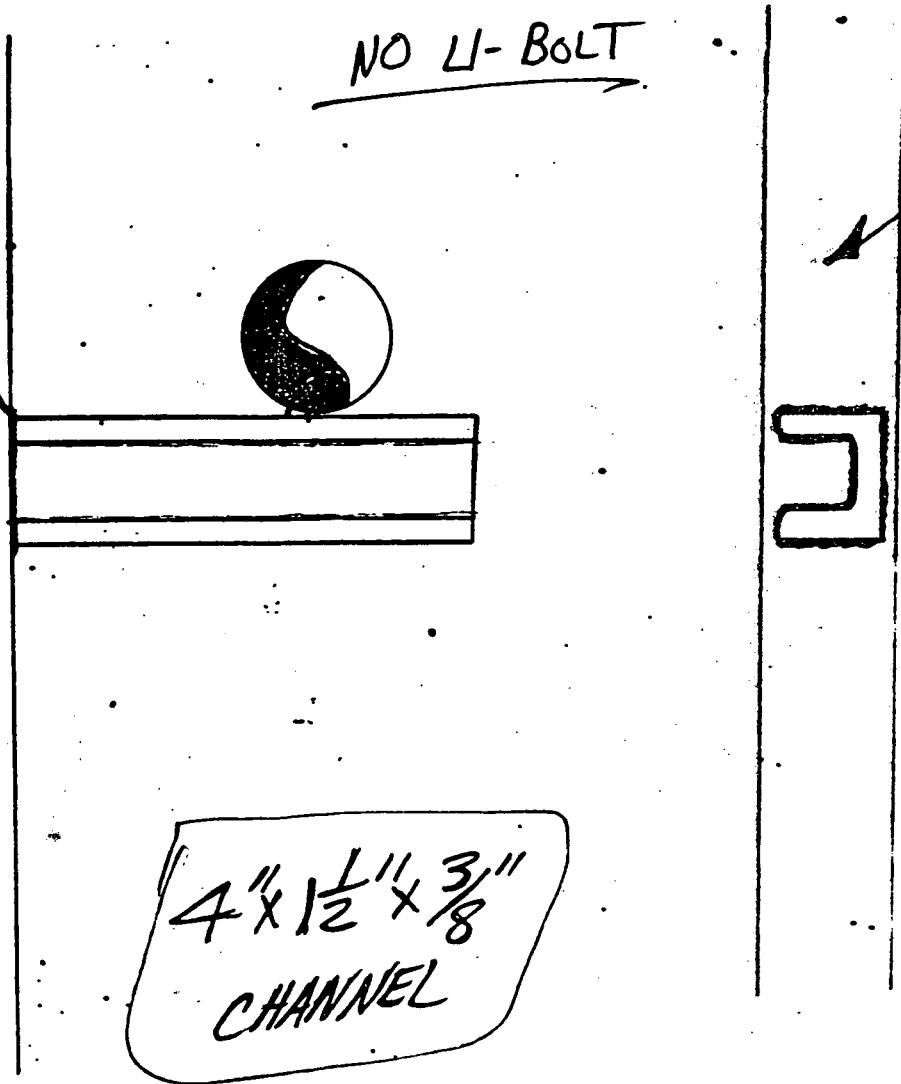
DATE 4-11-92
DATE N/A
DATE 4-14-92

132
SUPPORT "J" $B_{MAX} = 5\frac{1}{2}"$
PT #28

NO U-BOLT

EMBEDDED
PLATE

EMBEDDED
PLATE



4" x 1 1/2" x 3/8"
CHANNEL

FOR INFORMATION ONLY

Inspected By *A. Wiley*

Date 1/25/80

SKETCH #2

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-232-J

Visual Exam Report No. 1097-120

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC' DEAD WEIGHT SUPPORT. DEBRIS DOES NOT AFFECT THE STRUCTURAL INTEGRITY OF A SUPPORT. PER SAMPLING PERFORMED BY EBASCO ALL EXISTING WELDS ARE CONSIDERED ACCEPTABLE. THE 2" LINE RUNNING BELOW WAS INVESTIGATED AND DETERMINED TO BE 2-AC-151R-67 BETWEEN VALVES SEPC-818 AND SI-8976. THIS PORTION OF THE LINE IS NON-Q, NON-SAFETY RELATED AND IS OUTSIDE THE SCOPE OF THIS EVALUATION.

Clement Rajendra 5-22-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-165

WR&A # N/A

PAGE 1 OF 23

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>DG-A</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 301 - JACKET COOLER A</u>
---------------------	--------------------------------	--

DWG./LOC.: CPL 301 REV 0 / A - DIESEL GENERATOR ROOM

[X] VT-3 PROCEDURE: ^{SP 1097 Rev 4-18-92} ~~NDEP 613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		N/A
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Carl Purnace LEVEL: II DATE: 4-18-92

REVIEWER: Chf Moss LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber #25/92

REVIEWERS COMMENTS:

FOR INFORMATION

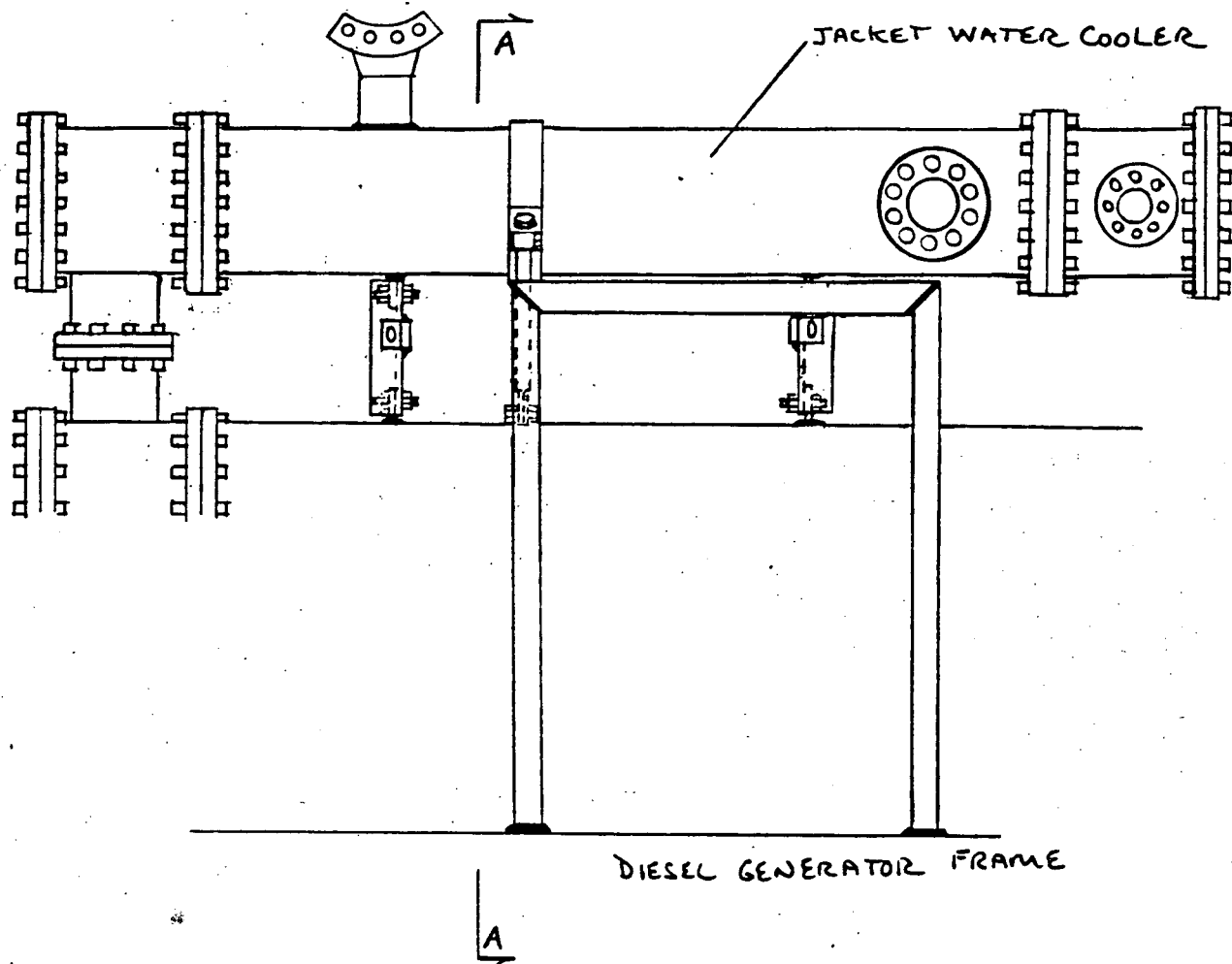
ANII REVIEW: AP Valladanes

DATE: 4-28-92

1125

PAGE 2 OF 3DATA SHEET NO. 1297-165EXAM ITEM CPL 301 - JACKET COOLER AISO DWG. NO. CPL 301 REV. 0

SKETCH SHEET



FOR INFORMATION OF

EXAMINER *Dr. P. P. P.*
EXAMINER *NH*
REVIEWER *Cliff Moss*
REVIEWER *Richard B. Weber*
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/25/92
DATE _____

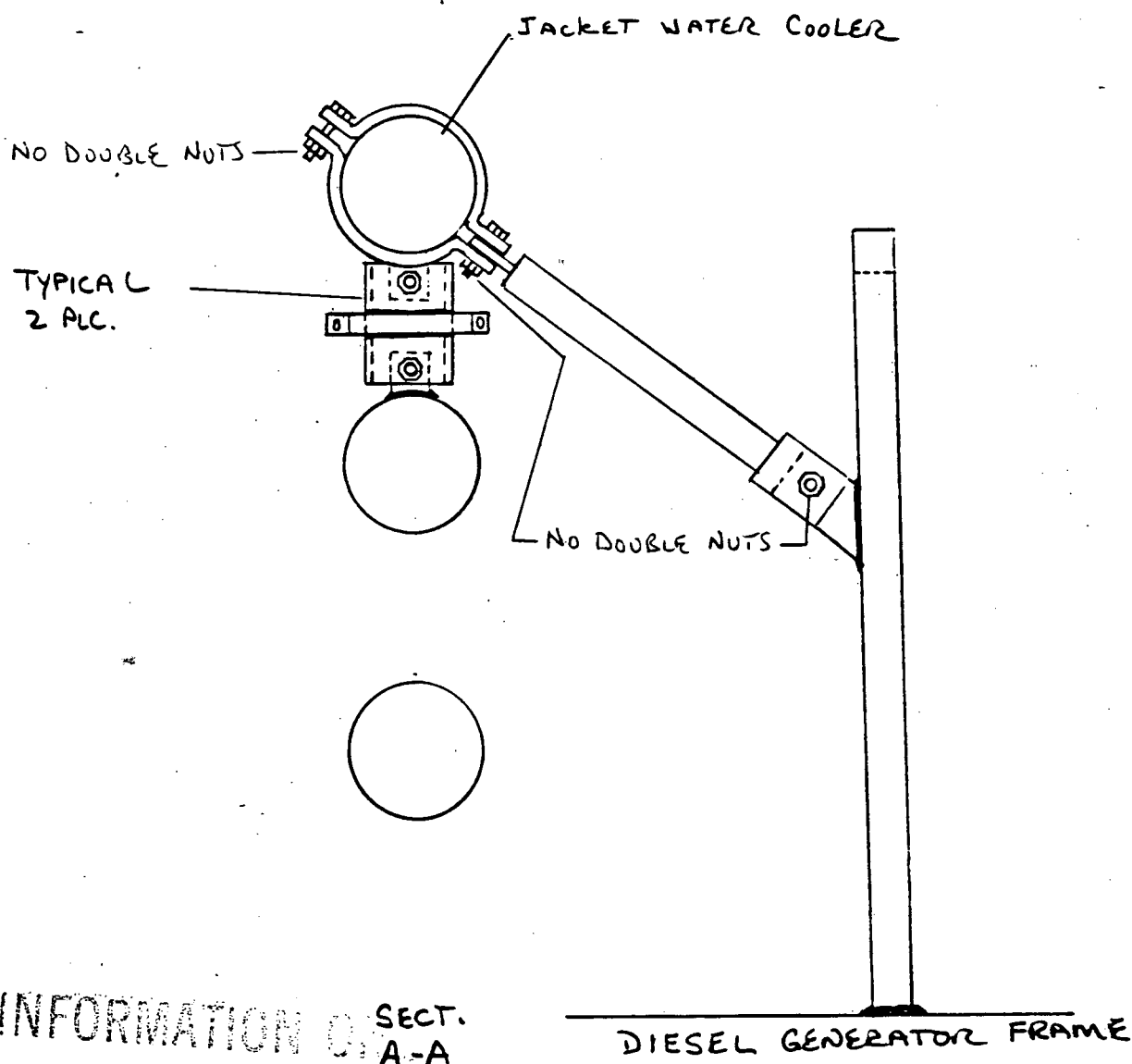
DATE 4-18-92
DATE N/A
DATE 4-20-92

(A)

1125

PAGE 3 OF 3DATA SHEET NO. 1097-165EXAM ITEM CPL 301 - JACKET COOLER AISO DWG. NO. CPL 301 REV. 0

SKETCH SHEET



FOR INFORMATION OF SECT. A-A

DIESEL GENERATOR FRAME

EXAMINER Art Purnan
EXAMINER N/A
REVIEWER Chet Moss
REVIEWER Richard B. Weber
REVIEWER GM

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/25/92
DATE _____

DATE 4-18-92
DATE N/A
DATE 4-20-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-301-JACKET COOLER A

Visual Exam Report No. 1097-165

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS PART OF THE EQUIPMENT SUPPLIED BY THE VENDOR. LOCKNUTS WERE NOT ORIGINALLY FURNISHED. LOCKNUTS ARE NOT REQUIRED FOR STRUCTURAL INTEGRITY. SINCE THIS EQUIPMENT HAS OPERATED FOR APPROX. 20 YEARS WITHOUT THIS SUPPORT DEGRADING WITHOUT LOCKNUTS, THEREFORE MISSING LOCKNUTS ARE ACCEPTABLE. ALSO LOCKNUTS CANNOT BE INSTALLED W/ BECAUSE BOLTS ARE NOT LONG ENOUGH.

C&R 5/24/92

Clement Rajendra 15-22-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 1

PLANT: H/SR UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>Support</u>	COMPONENT ID NO.: <u>CPL-232-Y</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 232 REV 0 / SI Pump Rm

☒ VT-3 PROCEDURE: ^{SP1097} NDEP-613 REV.: 0 ^{N/A} ☐ VT-4 PROCEDURE: 614 REV.: _____

DIRECT <input checked="" type="checkbox"/> REMOTE <input type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			<u>1/2 Bolt around weld clearance O-top and Bottom of Pipe</u>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

FOR INFORMATION ONLY

COMMENTS: Reinspection PER NED Request - Grant repair around Base of support (new) Recordable Indication

EXAMINER: <u>[Signature]</u>	LEVEL: <u>II</u>	DATE: <u>5-22-92</u>
REVIEWER: <u>[Signature]</u>	LEVEL: <u>II</u>	DATE: <u>5-22-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

VIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 1

PLANT: HBR

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

SI

COMPONENT

NAME: Support

COMPONENT

ID NO.: 221B-A

DWG./LOC.: CPH-221B-R/O / PIPE ALLEY

☒ VT-3 PROCEDURE: ^{SP-1097}~~NDEP-613~~ REV.: 0

☐ VT-4 PROCEDURE: ^{N/A}614 REV.: _____

DIRECT ☒ REMOTE ☐

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☐ MIRROR

☒ OTHER 6' SCALE

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION
Present

YES

NO

N/A

COMMENTS

FASTENING DEVICES

☒

MISALIGNMENT

☒

DEBRIS

☒

CORROSION/EROSION

☒

STRUCTURAL INTEGRITY

☒

RESISTANCE TO MOVEMENT

☒

CLEARANCES OF MOVING PARTS

☒

ARC STRIKES/GOUGES

☒

VARIABLE/CONSTANT SUPPORT

ACTUAL: N/A

SNUBBER

N/A

ACTUAL: N/A

STROKE: N/A

S/N N/A

COMMENTS: Reinspection For CLEARANCES Top 3/8" Bottom 0" PER N/A
Recordable Indication

EXAMINER:

LEVEL: 5cc II

DATE: 5-22-92

REVIEWER:

LEVEL: 52cc II

DATE: 5-22-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEETREPORT NO. 1097-7WR&A # N/APAGE 1 OF 1PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221B-A</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL-221B REV 0 / PIPE ALLEY

<u>[X] VT-3 PROCEDURE: NDEP-613 REV.: 0</u>	<u>[] VT-4 PROCEDURE: 614 REV.: 0</u>
--	--

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <u>[X] FLASHLIGHT</u> <u>[X] MIRROR</u> <u>[X] OTHER GRAY CARD 4-3-92</u>	TYPE OF COMPONENT SUPPORT: <u>[] HYDRAULIC SNUBBER</u> <u>[] CONSTANT SUPPORT</u> <u>[] MECHANICAL SNUBBER</u> <u>[] VARIABLE SUPPORT</u> <u>[X] SUPPORT/HANGER</u>
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			INSULATION DEBRIS LOCATED ON TOP OF SUPPORT DOES NOT AFFECT STRUCTURAL INTEGRITY.
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/AEXAMINER: Art Purnan LEVEL: II DATE: 4-1-92REVIEWER: Edmund R. Donovan LEVEL: II DATE: 4-4-92COMPONENT CONDITION: [X] SATISFACTORY [] UNSATISFACTORYREVIEWED BY: Richard B. Weber 4/3/92

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW: DATE:

QA NDE ISI 5, Revision 5 11/88

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221B-A

Visual Exam Report No. 1097-7
4(1097-75)

- [X] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

INSULATION DEBRIS DOES NOT AFFECT STRUCTURAL INTEGRITY OF A
SUPPORT. THIS SUPPORT IS A SAFETY-RELATED, SEISMIC SUPPORT
WITH VERTICAL RESTRAINTS. REF. ISO SI-20, Sht. 10 DP 252.
THE CLEARANCES ARE ACCEPTABLE GIVEN THE TOLERANCES AND
METHODOLOGY USED TO VERIFY THESE CLEARANCES.

Clement Rajendra 5-22-92
NED Engineer Date

CP&L
 Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-13

WR&A # N/A

PAGE 1 OF 1

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-232-Y</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 232 REVO / SI PUMP RM

[X] VT-3 PROCEDURE: SP1097 AP4442 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: GROUT MISSING FROM CORNER OF BASE PLATE.
NO RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-3-92

REVIEWER: Edmund R. Doreman LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW: _____ DATE: _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-232-y

Visual Exam Report No. 1097-13
* (1097-13S)

- ☐ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☒ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE U-BOLT.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED,
NON-SEISMIC' DEAD WEIGHT SUPPORT. U-BOLT WOULD CREATE
AN UN-ANALYZED CONDITION DURING A SEISMIC EVENT. SINCE
THERMAL MOVEMENT IS VERY SMALL AT THIS LOCATION, EFFECT
OF THIS RESTRAINT ON THE PIPING SYSTEM IS INSIGNIFICANT.
ALSO GROUT HAS BEEN REPAIRED. DAMAGED GROUT IS MINOR
AND WOULD NOT IMPACT LOAD CARRYING CAPABILITY OF
BASE PLATE.
REF. IRR-RS-92-HL

Clement Rajendra 15-21-92
NED Engineer Date



Caroline Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-209

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>AFW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 331 B-G</u>
--------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 331 B REV 0 / CCW HEAT EXCHANGER ROOM

[X] VT-3 PROCEDURE: SP1097 AP4-21-92 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
[X] FLASHLIGHT [X] MIRROR	[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] OTHER	[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
	[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS	✓			SEE ATTACHMENT
CORROSION/EROSION		✓		N/A
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A FOR INFORMATION ONLY

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS
COMPONENT INSULATED
EXPANDED SCOPE

EXAMINER: Art. Purnan LEVEL: II DATE: 4-21-92

REVIEWER: Edmund R. Dawson LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

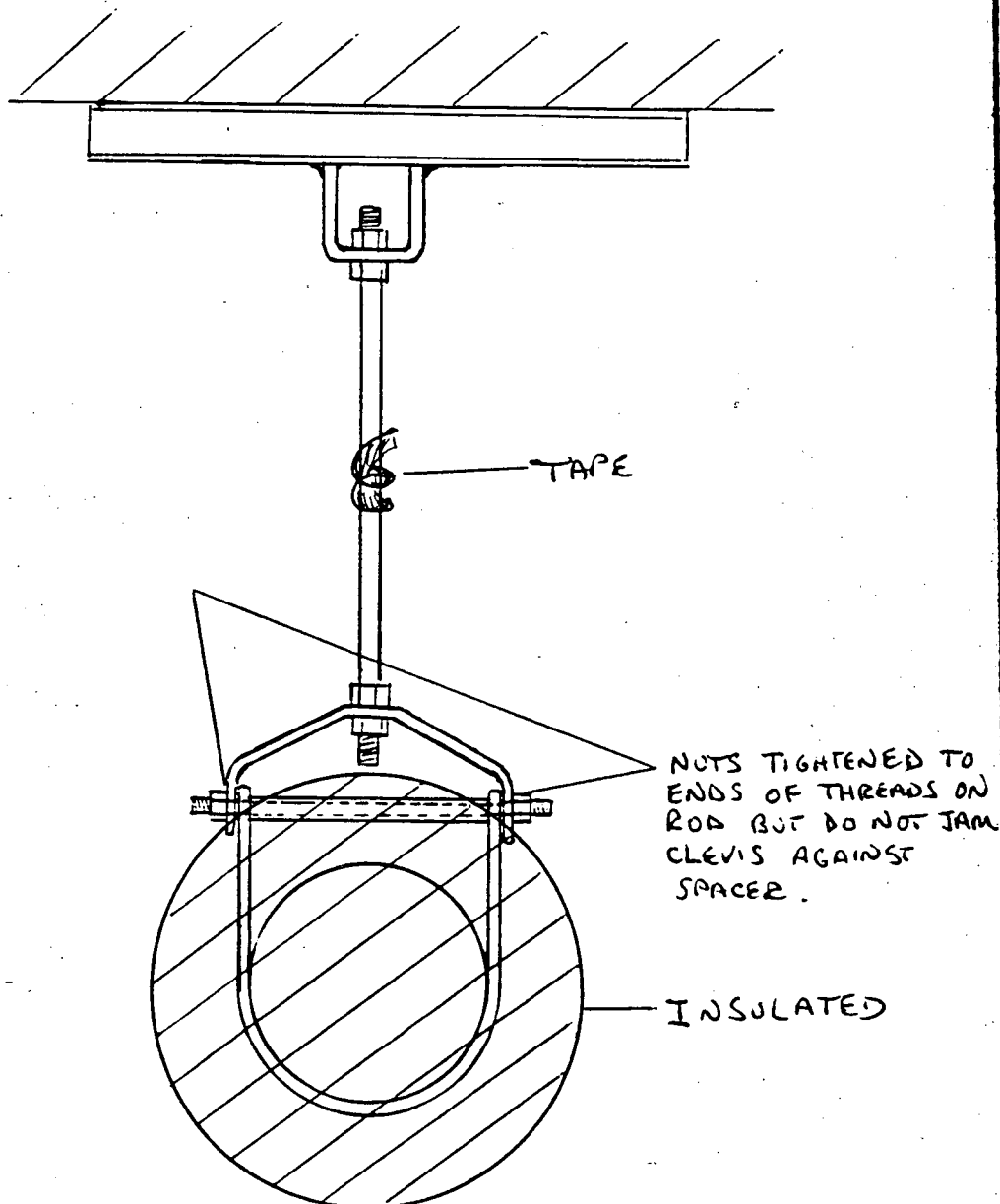
DATA SHEET NO.

EXAM ITEM

ISO DWG. NO.

REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER

EXAMINER

REVIEWER

REVIEWER

REVIEWER

LEVEL II

LEVEL N64

LEVEL II

DATE 4/25/92

DATE _____

DATE 4-21-92

DATE 2/18

DATE 4-22-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-G

Visual Exam Report No. 1097-209

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC',
DEAD WEIGHT SUPPORT. DEBRIS DOES NOT AFFECT THE STRUCTURAL
INTEGRITY OF PIPING. THE CONDITION OF THE NUT NOT JAMMING
CLEVIS STRAPS AGAINST THE SPACER WAS REVIEWED IN THE FIELD.
NUT CANNOT BE TIGHTENED ANYMORE SINCE THERE NOT SUFFICIENT
THREADS ON CLEVIS BOLT. HOWEVER THE CLEVIS STRAPS (BOTTOM &
TOP) ARE CLOSE TOGETHER. THEREFORE THERE IS NOT ADDITIONAL
BENDING INDUCED IN THE CLEVIS BOLT DUE TO THIS CONDITION.
SINCE THE ^{NUT} ^{IS} TIGHT, IT WILL NOT BECOME LOOSENE DUE TO VIBRATION.

Clement Rajendra 5-22-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097486

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: PUMP COMPONENT INTEGRAL WELD COMPONENT
SI CS SUCTION NAME: SUPPORT ID NO.: CPL-231-B-WS

DWG./LOC.: CPL-231 Rev 1 / SI Pump Rm.

X VT-3 PROCEDURE: SP-497 CR 4-20-92 NDP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR TYPE OF COMPONENT SUPPORT:
1 HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT
1 SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	
MISALIGNMENT		<u>X</u>		<u>N/A</u>
DEBRIS		<u>X</u>		
CORROSION/EROSION		<u>X</u>		
STRUCTURAL INTEGRITY	<u>X</u>			<u>See page #2 - weld missing</u>
RESISTANCE TO MOVEMENT			<u>X</u>	<u>N/A</u>
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES	<u>X</u>			<u>See page #2 - gouges</u>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Cliff Moss CR LEVEL: II DATE: 4-20-92

REVIEWER: Edmund P. D... CR LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY: Richard B. Velez 4/25/92

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

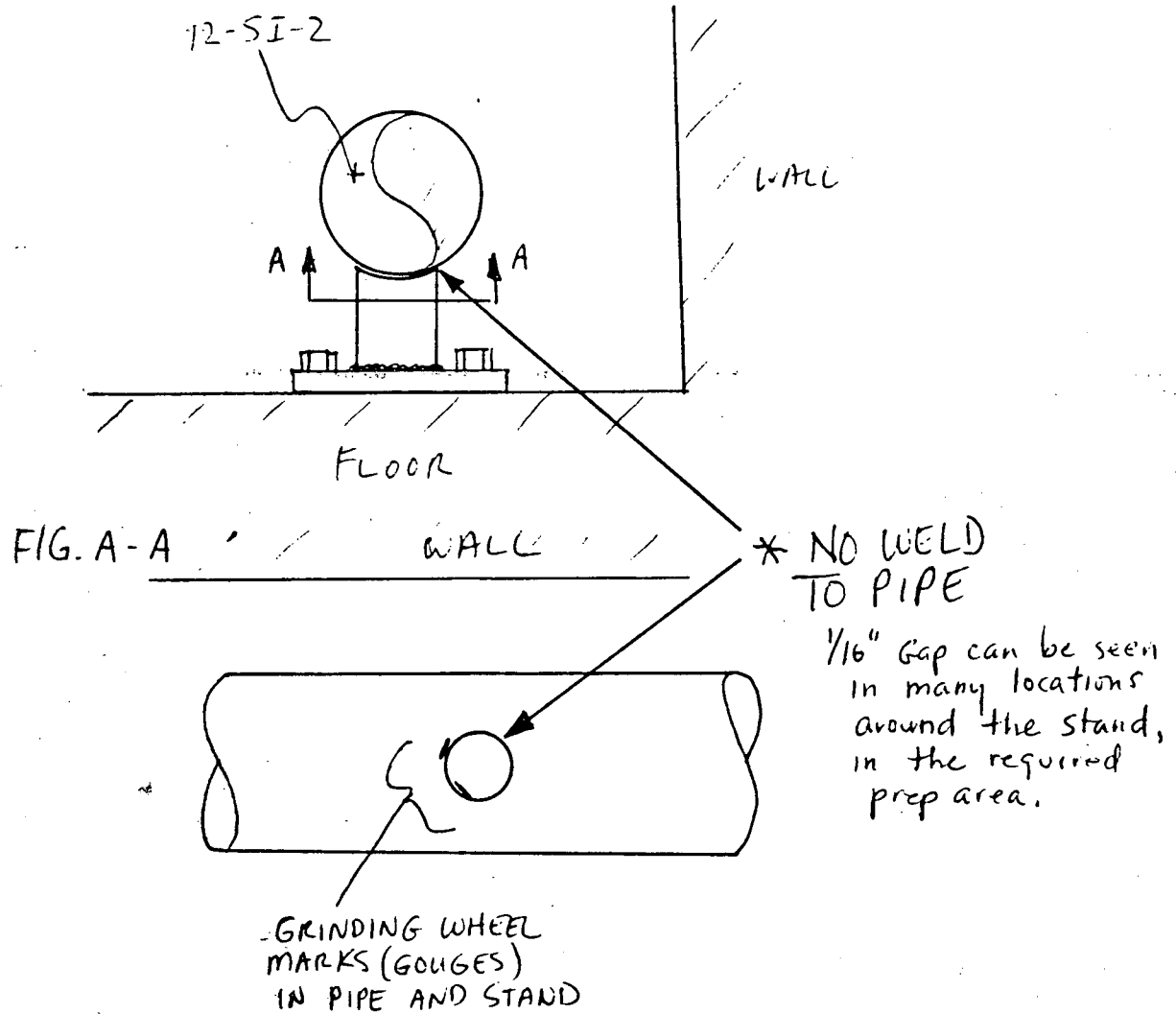
ANII REVIEW: R. Valladares

DATE: 4-28-92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097786
EXAM ITEM CPL-231-B-WS
ISO DWG. NO. CPL-231 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Cliff Moss
EXAMINER N/A
REVIEWER Edward R. Dorman
REVIEWER Richard B. Heiber
REVIEWER [Signature]

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/25/92
DATE _____

DATE 4-20-92
DATE N/A
DATE 4-22-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-245

WR&A # NA

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 ☒ 12 ☐ PSI ☒ ISI

SYSTEM: SI + CS COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-231-B

DWG./LOC.: CPL-231 REV.-1 / SI PUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 5-192 NOEP-613 REV.:0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
☒ OTHER 6" Scale

TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edward R. Donovan LEVEL: II DATE: 5-1-92

REVIEWER: Pat Kenna LEVEL: II DATE: 5-2-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

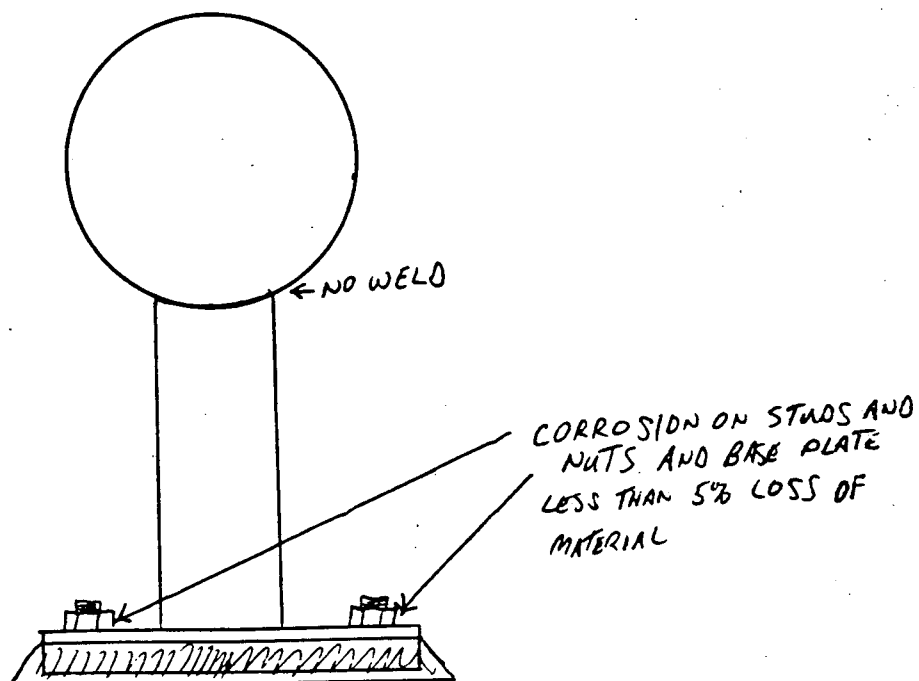
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-245
EXAM ITEM CPL-231-B
ISO DWG. NO. CPL-231 REV. 1

SKETCH SHEET



Info
only

EXAMINER Edward D. Moore
EXAMINER NA
REVIEWER Carl R. Moore
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 5-1-92
DATE NA
DATE 5-2-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-231-B-WS
4CPL-231-B

Visual Exam Report No. 1097-186
1097-245

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not APPLICABLE.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. WELD BETWEEN PIPE AND TRUNNION WAS
REMOVED TO AVOID THIS SUPPORT PROVIDING SEISMIC OR THERMAL
RESTRAINTS TO PIPING. GRINDING MARKS ON THE PIPING IS
MINOR AND ESTIMATED NOT TO AFFECT MINIMUM WALL THICKNESS
OF PIPING. SMALL AMOUNT OF RUST DOES NOT AFFECT THE STRUCTURAL
INTEGRITY OF PIPING. DEPENDING ON ENVIRONMENTAL CONDITIONS, RUST
CAN IN FACT FORM A PROTECTIVE LAYER. CLEANING THE RUST AND
RE-PAINTING THE SUPPORT DOES NOT NECESSARILY STOP CORROSION
UNLESS THE CLEANING IS DONE VERY CAREFULLY TO ENSURE THAT
ALL RUST IS REMOVED BEFORE RE-PAINTING.

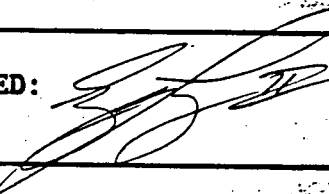
Clement Rajendran / 5-22-92
NED Engineer Date

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>CA Jones / CLERANT RATENDRA</u>		<u>TSE 92-DX</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u> </u> OF <u> </u>
<u>ATTACHED ARE ISI VISUAL REPORTS AND SKETCHES</u>		MOD <u>M-</u>
<u>REQUIRING NED DISPOSITION. COMPONENT IDS:</u>		PCN
<u>CPL-326-B1 (NO Dwg) CCW</u>		RET-R-G*92-BX

<u>331A-T</u>	DISTRIBUTION
<u>331A-U</u>	
<u>331A-V</u>	
<u>331A-W</u>	
<u>331A-X</u>	
<u>331A-Y</u>	RESPOND BY:
<u>328-CC CCW</u>	
SIGNED:  <u>4-28-92 Ex 1888</u>	<u>5/8/92</u>

*RELEASING AUTHORITY: _____ DATE: 4/28/92

RESPONSE:

ATTACHED ARE DISPOSITIONS FOR THE FOLLOWING COMPONENTS:

<u>CPL-331A-Y</u>	<u>CPL-331A-W</u>	<u>CPL-331A-U</u>	DISTRIBUTION

SIGNED: 	DATE: <u>5/21/92</u>
---	----------------------

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT AVAILABLE.

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-230

WR&A # N/A

PAGE 1 OF 2

PLANT: H.B. Robinson UNIT 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>AFW</u>	COMPONENT NAME: <u>Support</u>	COMPONENT ID NO.: <u>CPL 331A-4</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL 331A REV 1 / TURBINE OILG.

☒ VT-3 PROCEDURE: SP 1097 Rev 23-92 NOEP 613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u></u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			SEE ATTACHMENT
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		N/A
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER: Art Pinner LEVEL: II DATE: 4-22-92 MARKED SS-46

REVIEWER: Edmund R. Danner LEVEL: II DATE: 4-27-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

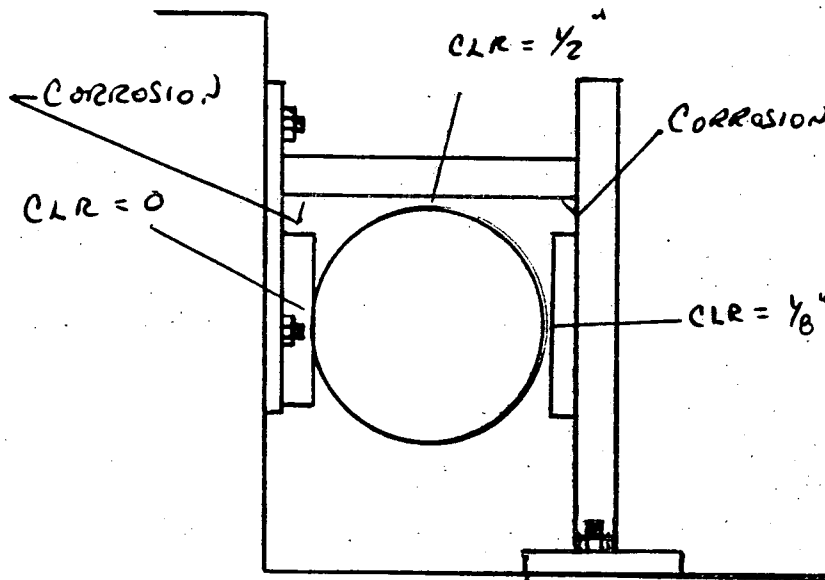
FOR INFORMATION ONLY

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. (09)-230EXAM ITEM CPL 331A-4ISO DWG. NO. CPL 331A REV. 1

SKETCH SHEET



CORROSION MODERATE FLAKING
< 10% METAL LOSS.

EXAMINER Q. J. P. [Signature]
EXAMINER N/A
REVIEWER Edmund R. Darrow
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-22-92
DATE N/A
DATE 4-27-92

FOR INFORMATION ONLY

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL - 331A-Y

Visual Exam Report No. 1097-230

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed, ~~prior to return to service.~~ CSR 5/20/92
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE ALL CORROSION AND CORROSION PRODUCTS AND REPAINT
SUPPORT. THIS SHOULD BE DONE FOR ALL SUPPORTS AND ALL
PIPING IN TRENCH AFTER AREA, SYSTEM WIDE INSPECTION.

Basis:

SMALL AMOUNT OF CORROSION, DOES NOT AFFECT STRUCTURAL
INTEGRITY. THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH
ONE-WAY HORIZONTAL RESTRAINT. REF. STRESS ISO C-1, SAT. 4 DP 1340
CLEARANCES ARE WITHIN TOLERANCES OF SPEC. CPL-HBR2-C-011.

Clement Rajendra / 5-20-92
NED Engineer Date



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-248

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT 1 1 1 2 1 PSI 1 ISI

SYSTEM: <u>AFW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 331A-W</u>
-----------------------	-----------------------------------	--

DWG./LOC.: CPL 331A REV 1 / TURBINE BLDG

[X] VT-3 PROCEDURE: SP 1097 AA 4-23-92 ~~NOEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] MECHANICAL SNUBBER [X] SUPPORT/HANGER	[] CONSTANT SUPPORT [] VARIABLE SUPPORT
---	---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			✓	N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION	✓			SEE ATTACHMENT
STRUCTURAL INTEGRITY		✓		N/A
RESISTANCE TO MOVEMENT		✓		
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER: AT P LEVEL: II DATE: 4-22-92 MARKED SS-45

REVIEWER: Edmund R. Donovan LEVEL: II DATE: 4-27-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

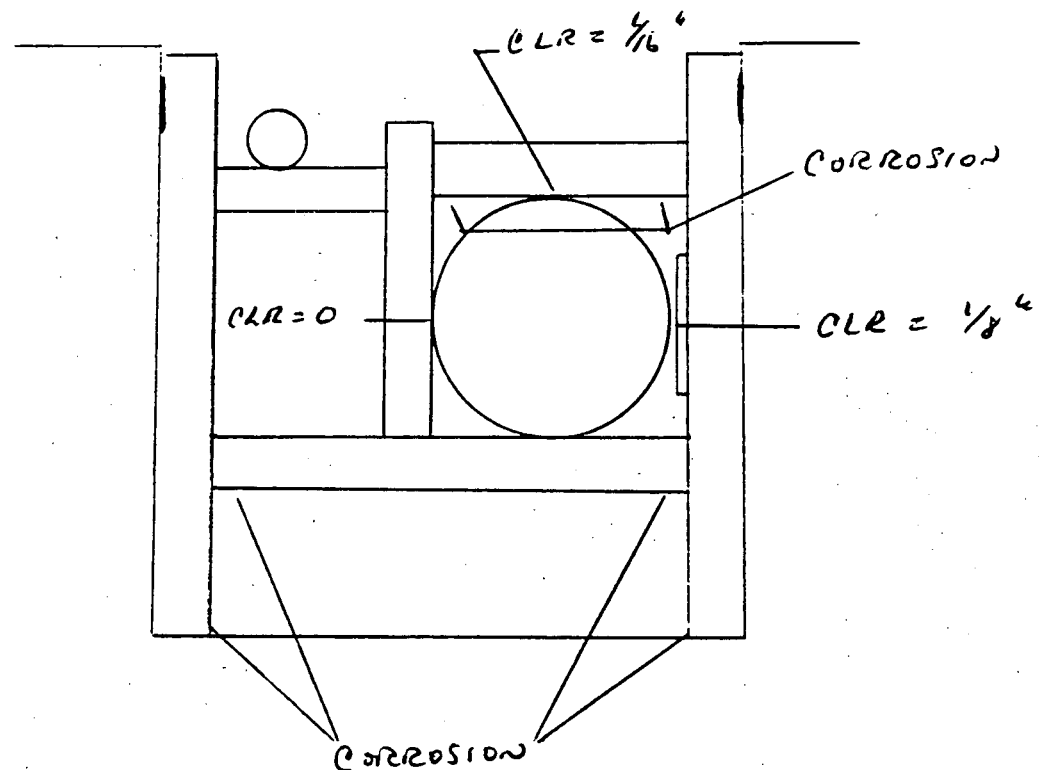
REVIEWERS COMMENTS: FOR INFORMATION ONLY

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1047-228EXAM ITEM CPL 331A-WISO DWG. NO. CPL 331A REV. 1

SKETCH SHEET



CORROSION MODERATE FLAKING
< 10% METAL LOSS

FOR INFORMATION ONLY

EXAMINER Art PearsonLEVEL IIDATE 4-22-92EXAMINER N/ALEVEL N/ADATE 4/2REVIEWER Edward R. DownumLEVEL IIDATE 4-27-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

6/20

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-W

Visual Exam Report No. 1097-228

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed, ~~prior to return to service~~: CAR 5/20/92
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE ALL CORROSION AND CORROSION PRODUCTS AND RE-PAINT
SUPPORT. THIS SHOULD BE DONE FOR ALL SUPPORTS AND ALL
PIPING IN TRENCH AFTER AREA, SYSTEM WIDE INSPECTION.

Basis:

SMALL AMOUNT OF CORROSION DOES NOT AFFECT STRUCTURAL INTEGRITY.
THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH HORIZONTAL
AND VERTICAL RESTRAINTS. REF. STRESS ISO C-1, Sh.4 DP 1330.
CLEARANCES ARE WITHIN TOLERANCES OF SPEC. CPL-HBR2-C-011.

Clement Rajendra 5-20-92
NED Engineer Date



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-226

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT 1 ☒ 2 ☐ PSI ☐ ISI

SYSTEM: <u>AFW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 331A - U</u>
-----------------------	-----------------------------------	--

DWG./LOC.: CPL 331A REV 1 / TURBINE BLDG.

☒ VT-3 PROCEDURE: SP 1097 AP 4-22-92 NOEP 613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			SEE ATTACHMENT
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATION

MARKED SS-44

EXAMINER: Art P... LEVEL: II DATE: 4-22-92

REVIEWER: Edmund R. D... LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

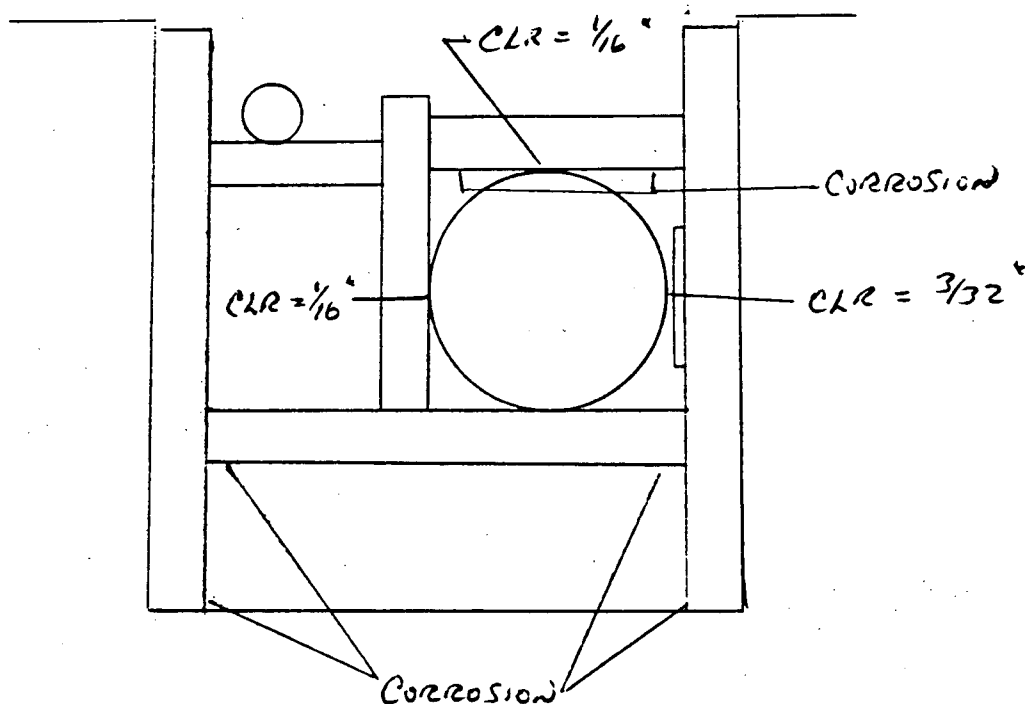
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-226EXAM ITEM ^{AP 4-22-92} CPL 331A-UISO DWG. NO. CPL 331 REV. 1

SKETCH SHEET



CORROSION MODERATE FLAKING
< 10% METAL LOSS

FOR INFORMATION

EXAMINER W. P. Pinner
EXAMINER N/A
REVIEWER Charles R. Darrow
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-22-92
DATE N/A
DATE 4-27-92

END

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-U

Visual Exam Report No. 1097-226

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed, ~~prior to return to service.~~ CSR 5/20/92
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE ALL CORROSION AND CORROSION PRODUCTS AND RE-PAINT
SUPPORT. THIS SHOULD BE DONE FOR ALL SUPPORTS AND ALL
PIPING IN TRENCH AFTER AREA, SYSTEM WIDE INSPECTION.

Basis:

SMALL AMOUNT OF CORROSION DOES NOT AFFECT STRUCTURAL
INTEGRITY. THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT
WITH TWO-WAY (HORIZONTAL & VERTICAL) RESTRAINT. REF STRESS
ISO C-1, Sht. 4 DP 1325. CLEARANCES ARE ACCEPTABLE GIVEN
THE TOLERANCE AND METHODOLOGY USED TO VERIFY THESE
CLEARANCES.

Clement Rajendran 5-20-92
NED Engineer Date

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C.A. Jones / CLEMENT RAJENDRA</u>		<u>TSE-92 - FN</u>
SUBJECT: <u>Resolution of ISI Indication</u>		SHEET OF
<u>As Attached is a copy of support</u>		MOD M-
<u>CPL-329-I Reinspection After Repair.</u>		PCN
<u>Indication Requires NED Disposition</u>		RET-R-G*92-Bx

Also Attached in 241-G gap inspection

	DISTRIBUTION
SIGNED: <u>[Signature]</u> <u>5-16-92</u> <u>X1888</u>	RESPOND BY:
	<u>5-22-92</u>

*RELEASING AUTHORITY: Van P. Simpson X1888 DATE: 5/16/92

RESPONSE:

<u>COMPONENT CPL-329-I IS ACCEPTABLE</u>	DISTRIBUTION
<u>"AS IS" ATTACHED IS THE EVALUATION.</u>	

SIGNED: Clement Rajendra

*RELEASING AUTHORITY: [Signature] DATE: 5/12/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.



Control Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. _____

WR&A # _____

PAGE 1 OF 2

PLANT: HBR

UNIT 1 1 1 2 1 PSI ISI

SYSTEM:

COMPONENT

COMPONENT

COMPONENT COOLANT

NAME: ROD HANGER

ID NO.: CPH-329-I

DWG./LOC.: CPH-329 REV 0 CONTAINMENT 1ST level

☒ VT-3 PROCEDURE: SP 1097 NDEP-615 REV.: 0

N/A ☐ VT-4 PROCEDURE: 614 REV.: _____

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

TYPE OF COMPONENT SUPPORT:

☒ FLASHLIGHT ☐ MIRROR

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ OTHER _____

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION
Present

YES

NO

N/A

COMMENTS

FASTENING DEVICES

☒

WASHERS ADD TO CLEVIS ROD TIGHTEN AND BENT IN
CLEVIS SEE ATTACHED SKETCH

MISALIGNMENT

☒

DEBRIS

☒

CORROSION/EROSION

☒

STRUCTURAL INTEGRITY

☒

RESISTANCE TO MOVEMENT

☒

CLEARANCES OF MOVING PARTS

☒

ARC STRIKES/GOUGES

☒

VARIABLE/CONSTANT SUPPORT

ACTUAL:

N/A

SNUBBER

N/A

ACTUAL:

N/A

STROKE:

N/A

S/N

N/A

COMMENTS: RECORDABLE INDICATION

REF Report 1097-236

PIPE INSULATED

WR/JO 92-AGCL1

REINSPECTED AFTER REPAIR

EXAMINER:

LEVEL:

II

DATE:

5-16-92

REVIEWER:

Edmund R. Dawson

LEVEL:

II

DATE:

5-16-92

COMPONENT CONDITION:

☐

SATISFACTORY

☐

UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

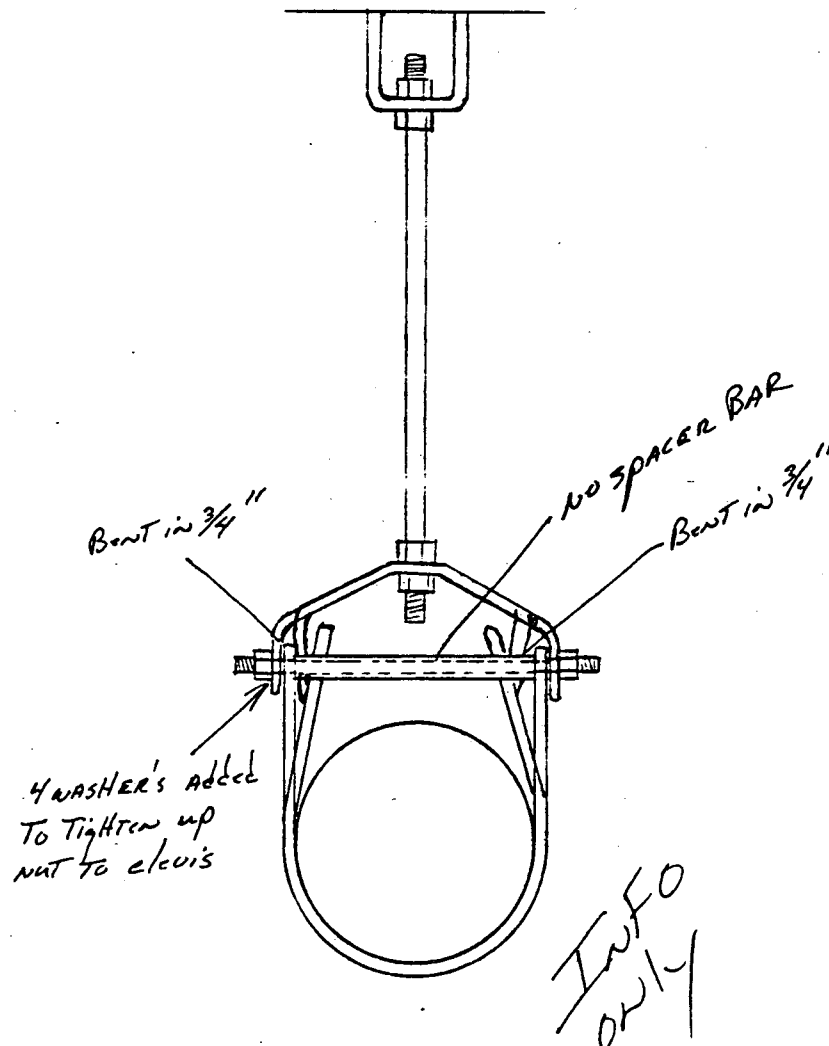
1725

PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CPL-329-IISO DWG. NO. CPL-329REV. 0

SKETCH SHEET



EXAMINER _____

EXAMINER N/AREVIEWER Edmund R. Hansen

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL N/ALEVEL II

DATE _____

DATE _____

DATE 5-16-92DATE N/ADATE 5-16-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-329-I

Visual Exam Report No. [1097-2365]
DATED: 5/16/92

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED,
NON-SEISMIC' DEAD WEIGHT SUPPORT. THIS WAS REVIEWED IN
THE FIELD. THE LOWER STRAP (3/16" THK) IS SLIGHTLY BENT, FROM
VERTICAL POSITION. THIS COLD BENDING DOES NOT AFFECT THE LOAD
CARRYING CAPACITY OF THE STRAP SINCE THE STRAP CARRIES THE LOAD
BY TENSION. WASHERS WERE ADDED SINCE THE CLEVIS BOLT DID NOT
HAVE SUFFICIENT NUMBER OF THREADS. IT DOES NOT HAVE ANY
IMPACT ON STRUCTURAL INTEGRITY.

Clement Rajendra 15-21-92
NED Engineer Date

ATTACHMENT 1
PAGE 1 OF 2

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>CLEMENT RAJENDRA</u>		<u>TSE-92-FO</u>
SUBJECT: <u>Resolution of ISI Indications: Attached</u>		SHEET <u>OF</u>
<u>ARE COPIES OF ISI inspection Reports and SKETCHES</u>		MOD <u>M-</u>
<u>Requiring NED Dispositions</u>		PCN
<u>CPL-333-F</u>		RET-R-6x92-Bx
<u>333-I</u>		

<u>244-D</u> Supp. 10-1995	DISTRIBUTION

SIGNED: Sgt. George Linniger III

RESPOND BY: 5/22/92

*RELEASING AUTHORITY: _____ DATE: 5/19/92

RESPONSE:

<u>ATTACHED ARE THE DISPOSITIONS FOR THE</u>	DISTRIBUTION
<u>FOLLOWING SUPPORTS:</u>	
<u>CPL-333-F ; CPL-333-I ; CPL-244D</u>	

SIGNED: Clement Rajendra

*RELEASING AUTHORITY: J. M. Jones DATE: 5/12/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM:	COMPONENT	COMPONENT
FEED WATER	NAME: SUPPORT/SNUBBER	ID NO.: CPL-333-F

DWG./LOC.: CPL 333 REV-0 / TURBINE BLDG

<input checked="" type="checkbox"/> VT-3 PROCEDURE: NOEP-613	SP 1097 ERO 5-1692 REV.: 0	<input type="checkbox"/> VT-4 PROCEDURE: 614 REV.:
---	-------------------------------	--

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input checked="" type="checkbox"/> MIRROR	<input checked="" type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION	YES	NO	N/A	COMMENTS
Present				

FASTENING DEVICES

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

RESISTANCE TO MOVEMENT

SEE ATTACHED SKETCH

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

VARIABLE/CONSTANT SUPPORT	ACTUAL: $\frac{N}{A}$
---------------------------	-----------------------

SNUBBER	ACTUAL: 2.85"	STROKE: 5"	S/N 30085
---------	---------------	------------	-----------

COMMENTS: RECORDABLE INDICATIONS SIZE 2.5, COLO SET: 2.5"
EXAM REQUESTED BY NEO HOT SET: NOT LISTED
~~EXAMINED SCORE~~ ^{ERA} FLUID RESERVOIR $\frac{3}{4}$ FULL ON TAG

EXAMINER: *Cliff R. Brown* LEVEL: *II* DATE: *5-16-92*

REVIEWER: *C. L. P. a.* LEVEL: *II* DATE: *5-18-92*

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

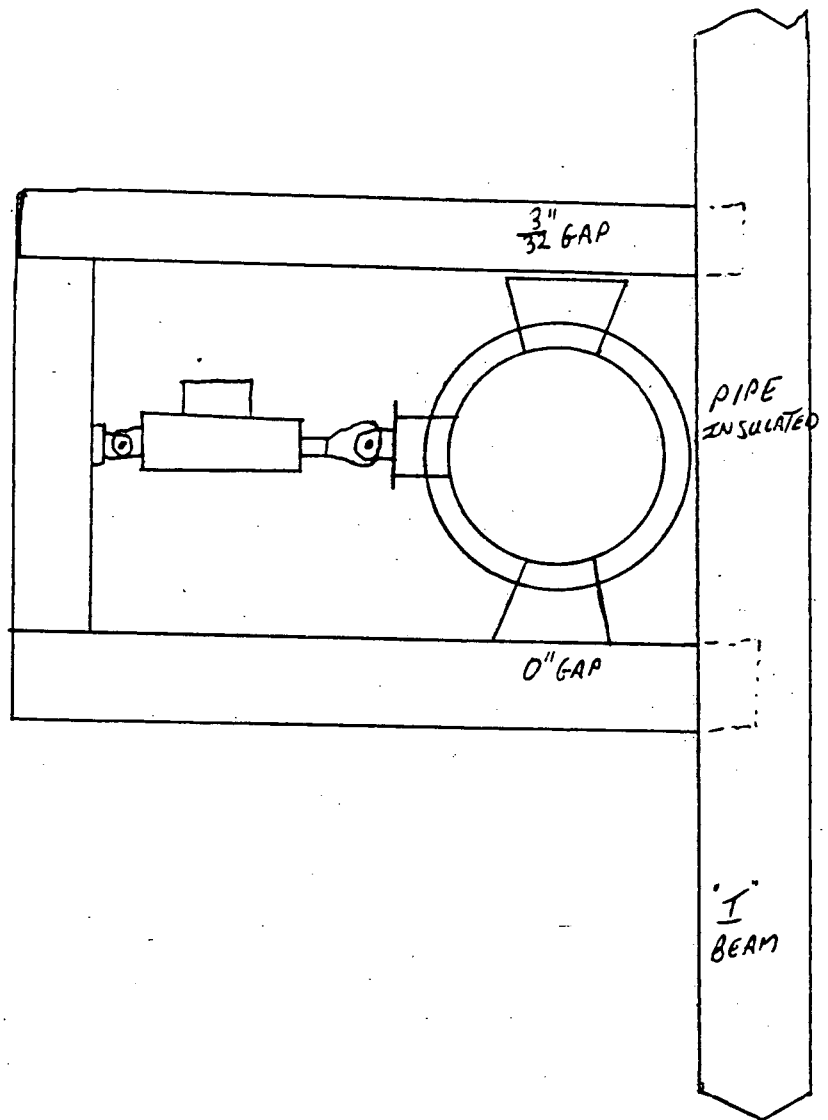
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-309
EXAM ITEM CPL-333-F
ISO DWG. NO. CPC 333 REV. 0

SKETCH SHEET



EXAMINER Edward L. Davon
EXAMINER NA
REVIEWER Art P. ...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 5-16-92
DATE NA
DATE 5-18-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-333-F

Visual Exam Report No. 1097-301

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS A SAFETY-RELATED, SEISMIC SUPPORT WITH
VERTICAL AND HORIZONTAL RESTRAINTS. REF. STRESS ISO FW-GB,
Sht.5 DP44. THE CLEARANCES ARE WITHIN ACCEPTABLE
TOLERANCES PER SPEC. CPL-HBR2-C-011.

Clement Rajendra / 5-20-92
NED Engineer Date



Chemical Process & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-302

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 2 1 PSI ISI

SYSTEM: FEEDWATER COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-333-I

DWG./LOC.: CPL-333 REV-0 / TURBINE BLDG

☒ VT-3 PROCEDURE: SP1097 ERD 5-16-92 NOE7-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☒ OTHER 6" SCALE
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS	<u>ERD 5/16/92</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS
ERD 5/16/92 EXPANDED SCOPE EXAM REQUESTED BY NEO

EXAMINER: Edward F. Donovan LEVEL: II DATE: 5-16-92

REVIEWER: Let Runc LEVEL: II DATE: 5-18-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

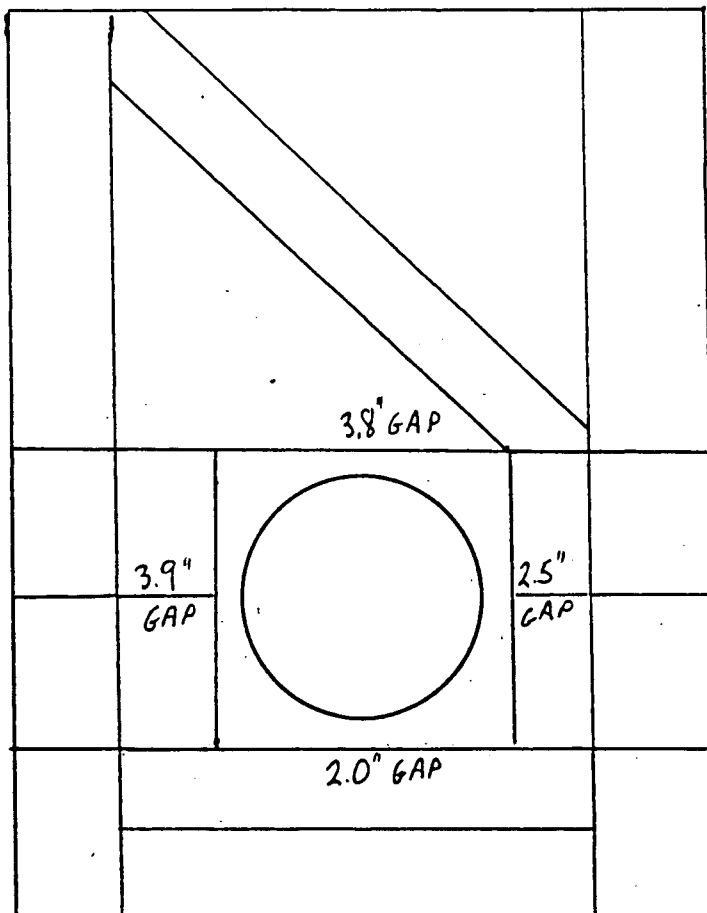
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-302
EXAM ITEM CPL-333-I
ISO DWG. NO. CPL 333 REV. 0

SKETCH SHEET



EXAMINER Edmund R. Donovan
EXAMINER NA
REVIEWER Art R...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 5-16-92
DATE NA
DATE 5-18-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-333-I

Visual Exam Report No. 1097-302

N/A

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS COMPONENT IS A PIPE WHIP RESTRAINT AND IS NOT
CONSIDERED TO SUPPORT THE PIPE.

Clement Rajendra 15-20-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097780

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>HP SIS</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-244-B</u>
-----------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-244 REV-0 / PIPE ALLEY

SP 1097 ERO 44692
☒ VT-3 PROCEDURE: NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edward R. Darrow LEVEL: II DATE: 4-16-92

REVIEWER: Art Puma an LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/28/92

REVIEWERS COMMENTS: FOR INFORMATION ONLY

ANII REVIEW: W. Valadane DATE: 4-28-92

1125

PAGE 2 OF 2

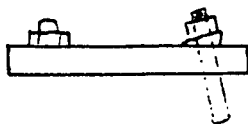
DATA SHEET NO. 1097-290

EXAM ITEM CPL-244-B

ISO DWG. NO. CPL 244 REV. 0

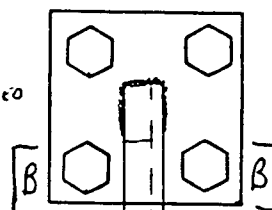
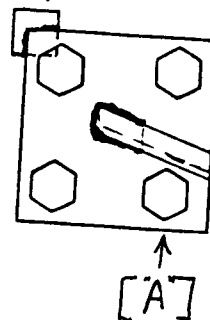
SKETCH SHEET

SECT "A"

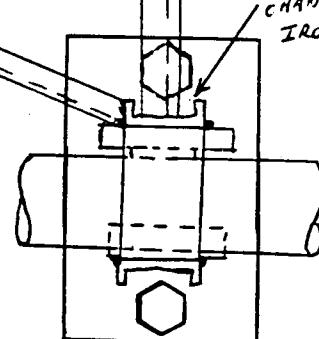


ANCHOR BOLT HAS STEEL WEDGE
USED AS WASHER BOLT IS
PLACED IN AT AN ANGLE

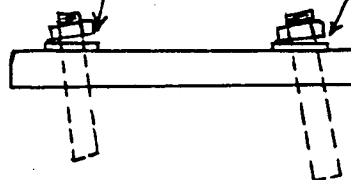
PIECE OF PLATE WELDED
UNDER BASE PLATE 1/4"
HOLD BASE PLATE 1/4"
FROM WALL



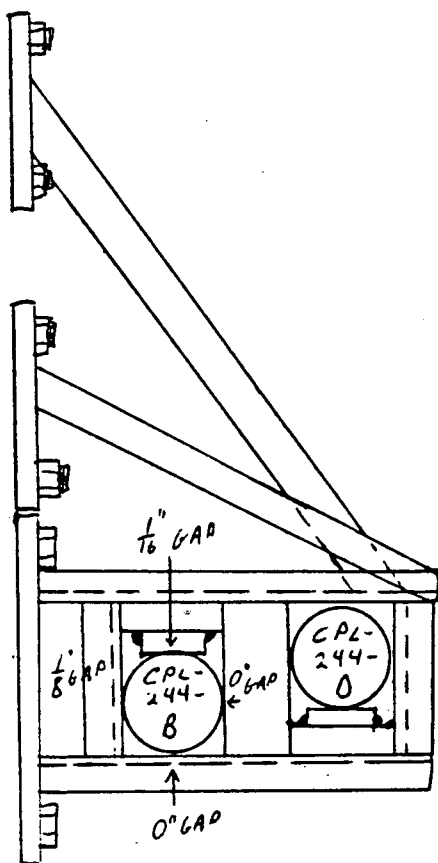
DEBRIS
INSIDE
CHANNEL
IRON



ANCHOR BOLT IS
PLACED IN AT AN ANGLE
WITH 1/8" SPACE UNDER NUT



ANCHOR BOLT IS PLACED
IN AT AN ANGLE
WITH 1/8" SPACE UNDER
NUT



FOR INFORMATION ONLY

EXAMINER Edward R. Dawson

EXAMINER NA

REVIEWER Art P...

REVIEWER _____

REVIEWER _____

BN

LEVEL II

LEVEL NA

LEVEL II

DATE _____

DATE _____

DATE 4-16-92

DATE NA

DATE 4-22-92

PLANT: H B ROBINSON UNIT 1 ☒ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: HPSIS	COMPONENT NAME: SUPPORT	COMPONENT ID NO.: CPL-244-D
------------------	----------------------------	--------------------------------

DWG./LOC.: CPL-244 REV-0 / PIPE ALLEY

<input checked="" type="checkbox"/> VT-3 PROCEDURE:	SA 1097 ERO 5-892 NOEF-613 REV.: 0	<input type="checkbox"/> VT-4 PROCEDURE: 614 REV.:
---	--	--

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> OTHER _____		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION
Present

YES	NO	N/A
-----	----	-----

COMMENTS

FASTENING DEVICES

SEE ATTACHED SKETCH

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

SEE ATTACHED SKETCH

RESISTANCE TO MOVEMENT

SEE ATTACHED SKETCH

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

VARIABLE/CONSTANT SUPPORT	ACTUAL: $\frac{N}{S}$
---------------------------	-----------------------

SNUBBER	ACTUAL: $\frac{V}{S}$	STROKE: $\frac{V}{A}$	S/N $\frac{V}{A}$
---------	-----------------------	-----------------------	-------------------

COMMENTS: RECORDABLE INDICATIONS / ALL INFORMATION LISTED ON PAGE 2 IS ALSO SHOWN
EXPANDED SCROLL / ON VT DATA SHEET 1097-190 EXCEPTS GAPS FOR
CPL-244-D

EXAMINER: *Edward R. Donovan* LEVEL: *II* DATE: *5-9-92*

REVIEWER: Atkinson LEVEL: II DATE: 5-15-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/18/92

REVIEWERS COMMENTS:

ANII REVIEW: *RP Waller*

DATE: 5-18-92

1105

PAGE 2 OF 2

DATA SHEET NO. 1097-L80

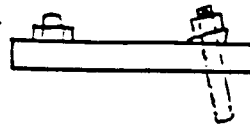
EXAM ITEM CPL-244-D

ISO DWG. NO. CPL 244 REV. 0

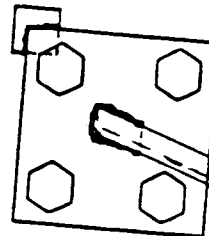
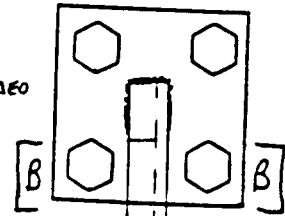
SKETCH SHEET

SECT 'A'

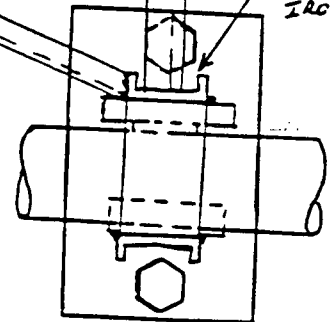
ANCHOR BOLT HAS STEEL WEDGE
USED AS WASHER BOLT IS
PLACED IN AT AN ANGLE



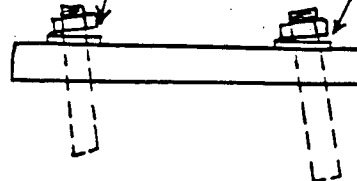
PIECE OF PLATE WELDED
UNDER BASE PLATE " "
HOLD BASE PLATE 1/4
FROM WALL



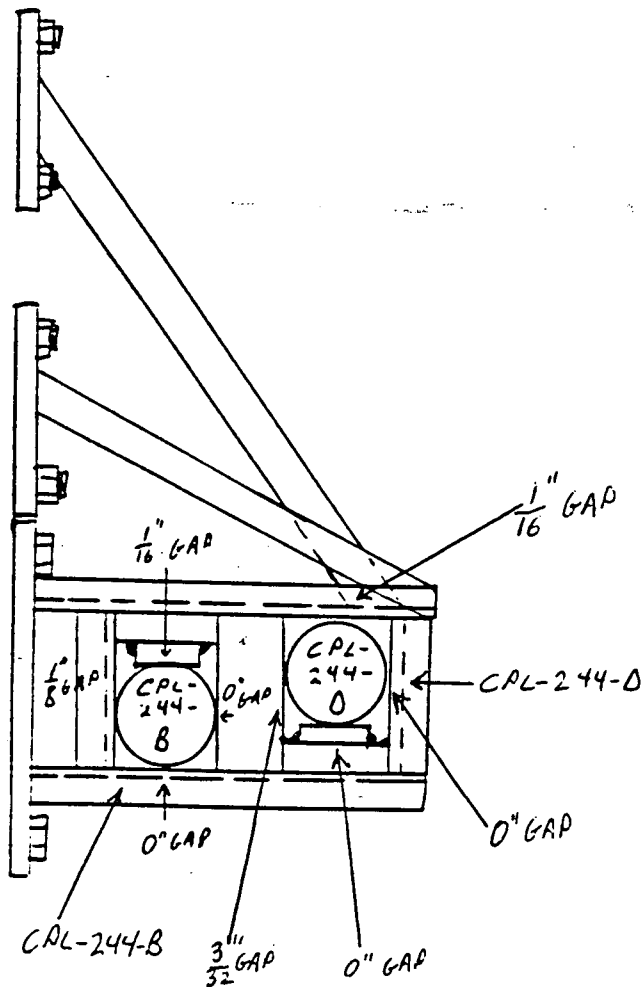
DEBRIS
INSIDE
CHANNEL
IRON



ANCHOR BOLT IS
PLACED IN AT AN ANGLE
WITH 1/8" SPACE UNDER NUT



ANCHOR BOLT IS PLACED
IN AT AN ANGLE
WITH 1/16" SPACE UNDER
NUT

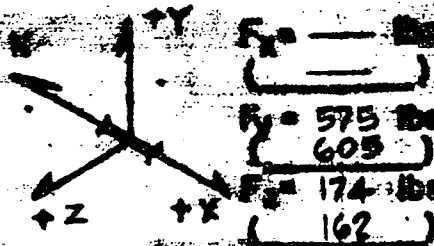


EXAMINER Edward F. Donovan
EXAMINER N/A
REVIEWER Ed. Donovan
REVIEWER Richard B. Weber
REVIEWER Arnelladon ANH

LEVEL II
LEVEL N/A
LEVEL II
DATE 5/18/92
DATE 5/18/92

DATE 5-9-92
DATE N/A
DATE 5-15-92

4-SI-16-CW-10



RESTRAINT LOCATION:
 SEE ISO NO. 31-2
 PT NO. 30(10)
 RAB - PIPE ALLEY

BASE PLATE
 IDENTIFICATION

LOAD CASE THREE JOBE
 (THREE JOBE)

EBASCO CMPTER RUN

DATE: 8-22-64 TIME: 11:29 AM

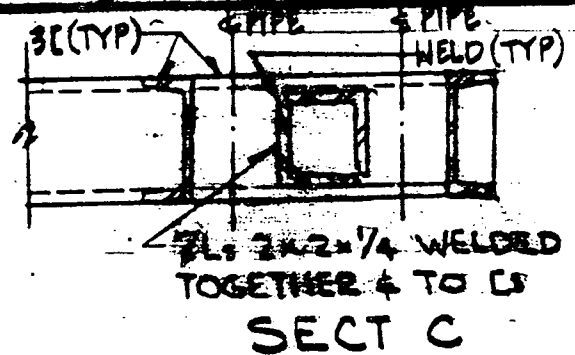
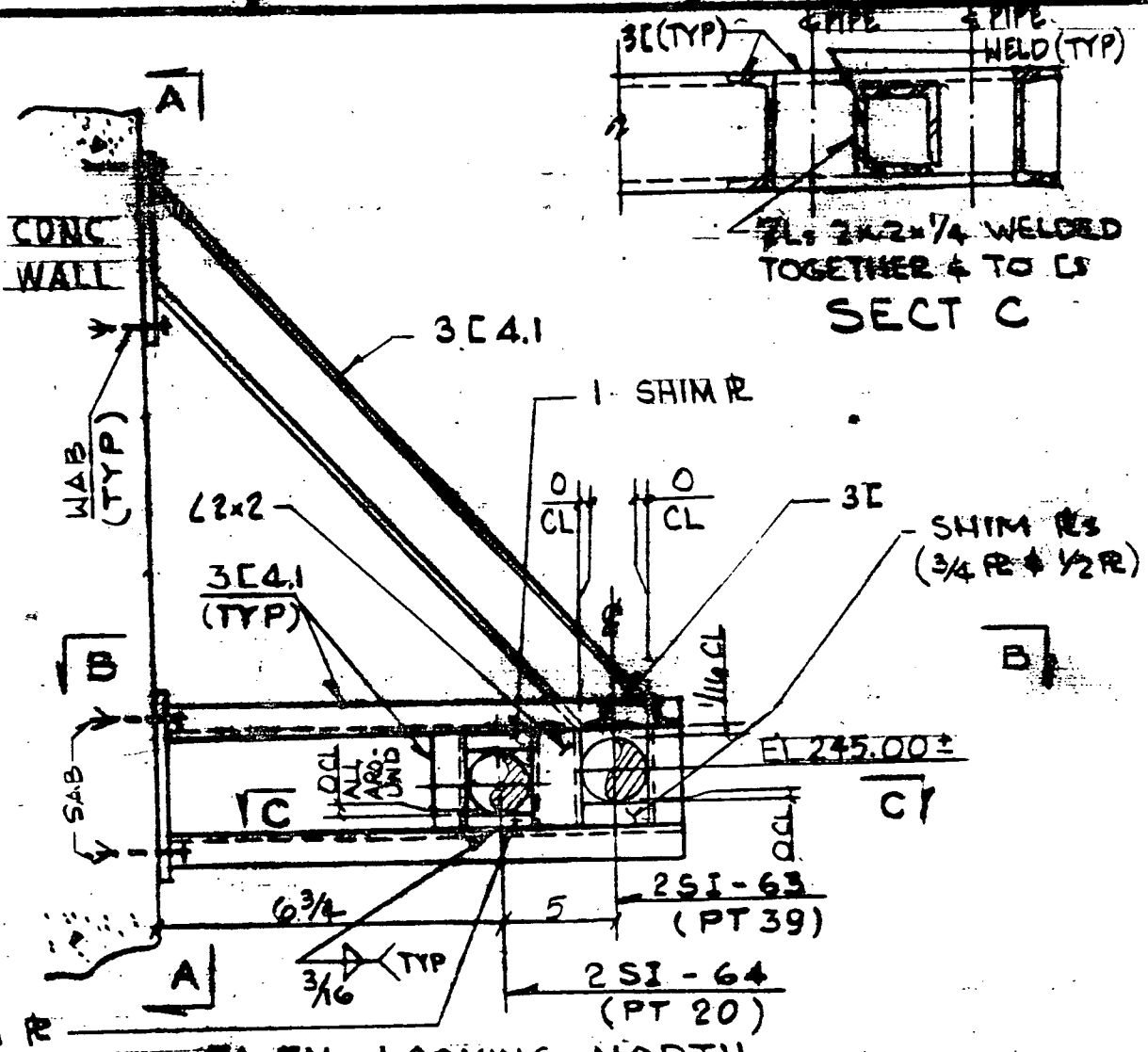
RESTRAINT LOADS

REST CALC NO. SI-5-20

MOD. NO. M492-REV 3

PMR NO. 1

NUCLEAR SAFETY RELATED



REV INCORPORATES "AS-BUILT" CONDITION

REV	DATE	BY	CHK	APP
1	4/20/65	TN	WAN	AB

EBASCO SERVICES INCORPORATED

H.B. ROBINSON - UNIT 2

DIV. DR. 80

AS-BUILT RESTRAINT SKETCH

AB-CAP

DATE: 8/22/64

SCALE: 1/4" = 1'-0"

UP

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-244-B
CPL-244-D

Visual Exam Report No. 1097-190
& 1097-280

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NA

Basis:

THIS SUPPORT IS A SAFETY-RELATED, SEISMIC SUPPORT WITH VERTICAL
AND HORIZONTAL RESTRAINTS. REF. STRESS ISO SI-5, DP 20439.
THE CLEARANCES MEET THE TOLERANCES PER SPEC. CPL-HBR2-C-011.

Clement Rajendran 15-20-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C. A. JONES / Clement Rajendra</u>		<u>TSE -92-CD</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF <u>1</u>
<u>ATTACHED ARE ISI VISUAL REPORTS AND SKETCHS</u>		MOD M-
<u>Requiring NED Disposition</u>		PCN
<u>COMPONENT IDS:</u>		RET-R-GX92-BX
<u>CPL-241-D</u>	<u>314-B</u>	<u>315-B AND B1 Drawings Don't match the Hanger Pags</u>
<u>241-A</u>	<u>314-A</u>	<u>THAT WE HAVE NOW ALSO CLEARANCES ARE DIFF.</u>
<u>241-C</u>	<u>241-B</u>	
<u>241-E</u>	<u>239-B</u>	
<u>239-A</u>	<u>239-C</u>	
<u>220A-J</u>	<u>239-D</u>	
<u>220A-K</u>	<u>229-A: Drawing Does not match the Hanger</u>	
<u>314-J</u>	<u>THAT WE HAVE</u>	
SIGNED: <u>Sanjiv Supto x1888 4/10/92</u>		RESPOND BY: <u>4/23/92</u>

*RELEASING AUTHORITY: _____ DATE: 1 1

RESPONSE:

ATTACHED ARE THE DISPOSITIONS FOR THE FOLLOWING COMPONENTS:

<u>CPL-241-E</u>	<u>CPL-335-PUMP A</u>	DISTRIBUTION
<u>CPL-331-FC</u>	<u>CPL-209-1-1-WS-1</u>	

SIGNED: Clement Rajendra*RELEASING AUTHORITY: E. A. Jones DATE: 5 12 1992

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-40

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: SI COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 241-E

DWG./LOC.: CPL 241 REV0 / SI PUMP RM.

[X] VT-3 PROCEDURE: SP1097 APR 4-92 ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____
TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [X] VARIABLE SUPPORT
[] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: $1\frac{1}{4}$ " DEFLECTION, 260° HOT AND COLD SET POINTS NOT VISIBLE.			
SNUBBER	ACTUAL: N/A	STROKE: N/A	S/N N/A	

COMMENTS: GRINNELL FIG. 98 SIZE 5 TYPE C

RECORDABLE INDICATIONS

EXAMINER: Geo. Ryan LEVEL: II DATE: 4-6-92

REVIEWER: Chiff Mass FOR INFORMATION ONLY DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-40
EXAM ITEM CPL 241 -E
ISO DWG. NO. CPL 241 REV. 0

SKETCH SHEET

NO DOUBLE
NUT

GRINWELL
FIG. 98
SIZE 5
TYPE C

NO DOUBLE
NUTS

FOR INFORMATION ONLY

EXAMINER Art Pinner
EXAMINER N/A
REVIEWER Edward R. Dorman
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-6-92
DATE N/A
DATE 4-7-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-241-E

Visual Exam Report No. 1097-40

- [X] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

THIS SPRING IS A SIZE 5 WITH A WORKING RANGE FROM
221 LBS. - 378 LBS. IT IS CURRENTLY READING 260 *.
THE THERMAL MOVEMENT IS .031" UP. UNDER OPERATING
CONDITIONS THE LOADING WILL CHANGE TO $260 - .031 \times 31^* = 259 \text{ LBS.}$
WHICH IS WITHIN THE WORKING RANGE OF THE SPRING CAN.
VENDOR CATALOG DOES NOT SHOW LOCK NUTS FOR CLAMP BOLTS
AND BOLT THROUGH TOP OF SPRING CAN.

(* SPRING
STIFFNESS)

REF. IRR-RS-92-HL

Clement Rajendra / 5-21-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-176

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SW</u>	COMPONENT NAME: <u>PUMP SUPPORT</u>	COMPONENT ID NO.: <u>CPL 335 - PUMPA</u>
-------------------	-------------------------------------	--

DWG./LOC.: CPL 335 REV 0 / INTAKE STRUCTURE

[X] VT-3 PROCEDURE: ^{SP 1097 AP 4-16-92} ~~NOEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT <u>[X]</u> REMOTE <u>[X]</u>	VIDEO RECORDING NO: <u>[X] N/A</u>
EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[X]</u> MIRROR <u>[]</u> OTHER _____	TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[X]</u> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS	✓			SEE ATTACHMENT
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art P... LEVEL: II DATE: 4-16-92

REVIEWER: Chf Most W LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

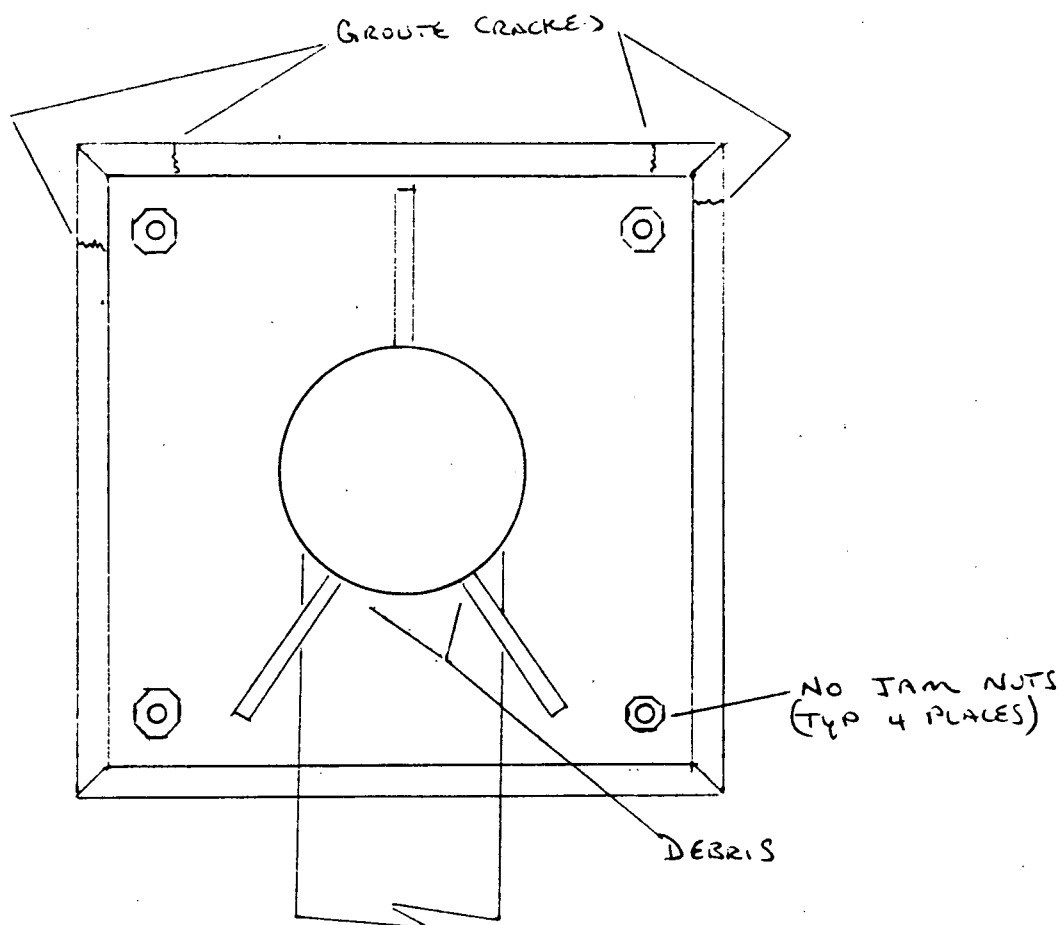
ANII REVIEW: PR Valladane

DATE: 4-23-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-176EXAM ITEM CPL 335 - PUMP AISO DWG. NO. CPL 335 REV. 0

SKETCH SHEET



SW Pump A

EXAMINER Get RunumLEVEL IIDATE 4-16-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER C. J. MooreLEVEL IIDATE 4-18-92REVIEWER Richard S. WeberDATE 4/21/92REVIEWER SADATE

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-335- Pump A

Visual Exam Report No. 1097-176

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

ANCHOR BOLTS / WEDGE ANCHOR BOLTS ARE NOT PROVIDED WITH LOCKNUTS
DUE TO PRE-LOAD WHICH WILL PREVENT VIBRATION LOOSENING.
GROUT OUTSIDE BASE PLATE SERVES ONLY A COSMETIC FUNCTION,
THUS CRACK ON THIS PORTION DOES NOT AFFECT STRUCTURAL
INTEGRITY.

Clement Rajendra / 5-20-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-175

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AFW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 331-C</u>
--------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 331 REV 0 / TURBINE BLDG.

[X] VT-3 PROCEDURE: SP 1097 AP 4-19-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [X] VARIABLE SUPPORT [] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		N/A
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: AT COLD SET, 616", 1" DEFLECTION			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Purnum LEVEL: II DATE: 4-19-92

REVIEWER: Cliff Moss SM LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/20/92

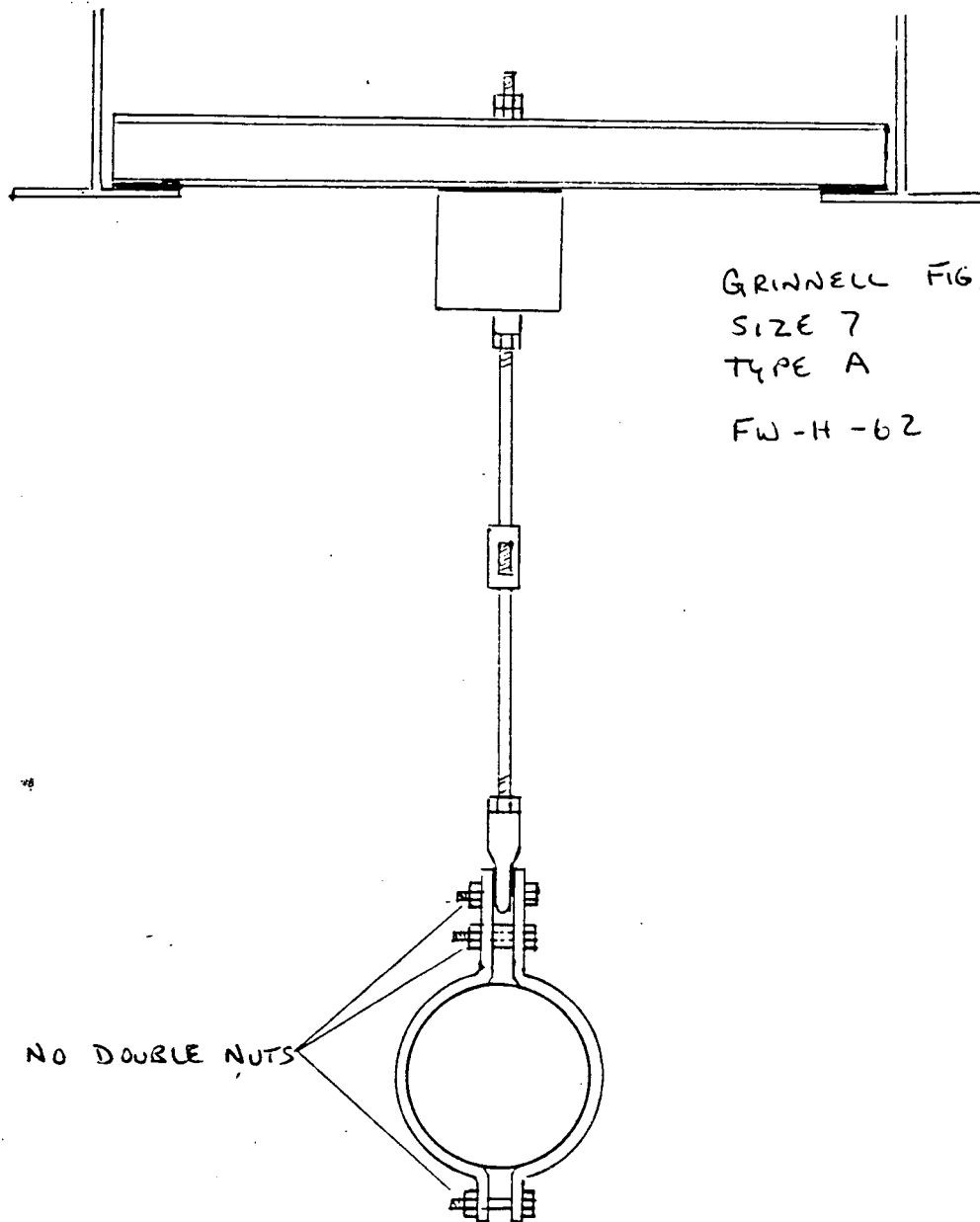
REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4.23.92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-175EXAM ITEM CPL 331-CISO DWG. NO. CPL 331 REV. 0

SKETCH SHEET



GRINNELL FIG. 82

SIZE 7

TYPE A

FW-H-62

NO DOUBLE NUTS

EXAMINER Att. P. R. R.EXAMINER N/AREVIEWER Cliff MossREVIEWER Richard B. Weber

REVIEWER _____

LEVEL IILEVEL N/ALEVEL IIDATE 4/21/92

DATE _____

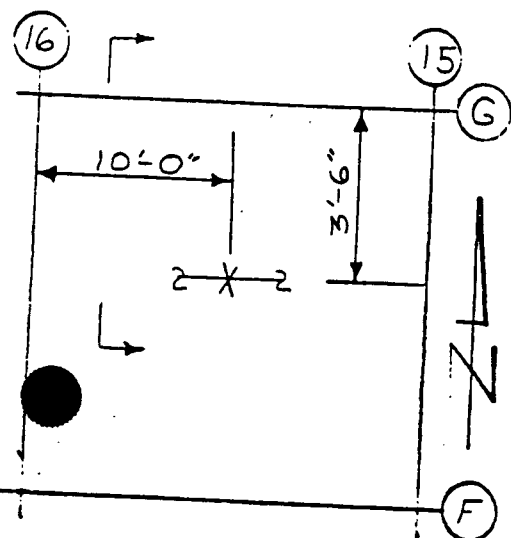
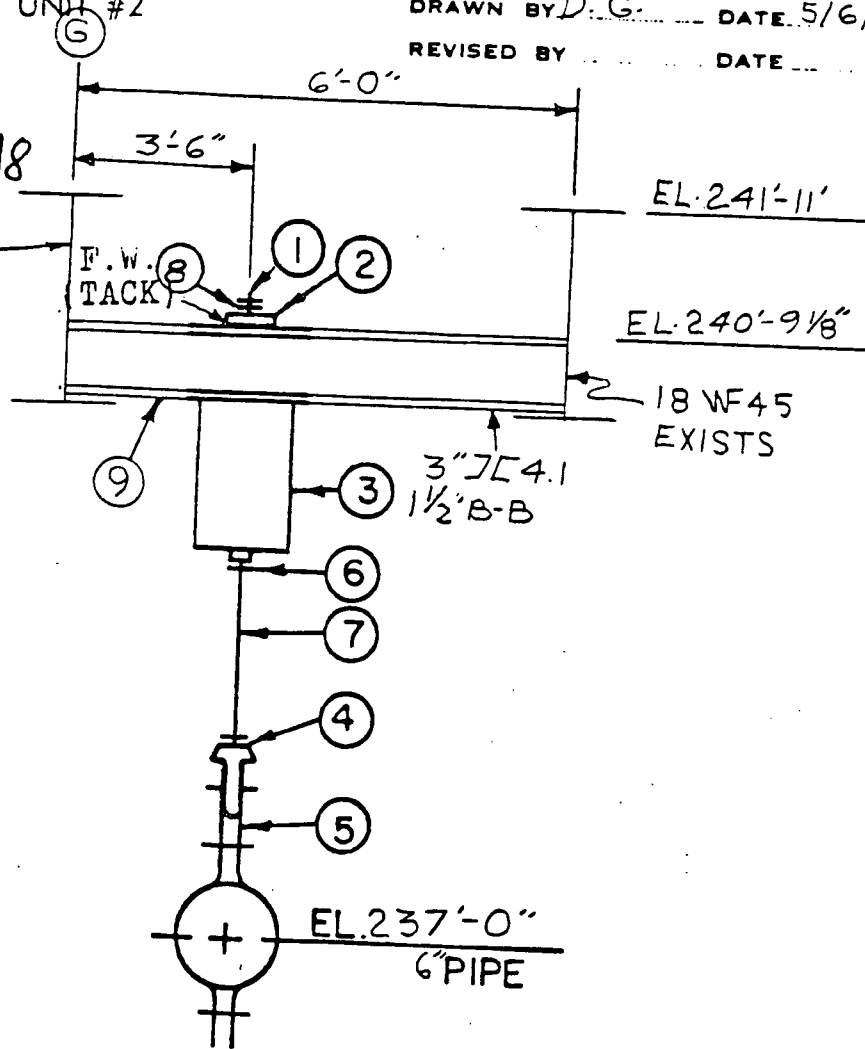
DATE 4-19-92DATE N/ADATE 4-20-92

F. SHAW
P. O. D-5930; D-5931
H. B. ROBINSON STATION UNIT #2

PIPE HANGER DEPARTMENT
DRAWN BY D. G. DATE 5/6/69
REVISED BY DATE

L-331 Line No. 6-FW-18
Spr. Loc. - C
PT# 6217

18WF45
EXISTS



LOCATION PLAN

ITEM NO.		MATERIALS AND OPERATIONS				QUAN.	SHIP
HANGER ASSEMBLY		CONSISTING OF:				ONE	
1	5/8	"x	0	'-	6	" Fig. 146	1
2	5/8	" Fig. 60					1
3	# 7	"A" Fig. 82					1
4	# 1	Fig. 290 w/	HL-	630	#, CL-	616 #	1
5	6	" Fig. 295	5/8	" Tap			1
6	5/8	" JAM Nuts					1
7	ROD ASSEMBLY CONSISTING OF:						3
	5/8"	x 1'-0"	Fig. 146				ONE
	5/8"	x 1'-2"	Fig. 146				1
	5/8"	Fig. 136					1
	5/8"	Hex Nut					1
	3"	Channels @ 4.1#/ft,	5'-11" Long,		t.w.-48#		1
	Bundle & Tag						2
							1
FOR INFORMATION							
APPLY COAT OF RED CHROMATE PRIMER TO ABOVE							
MATERIAL EXCEPT THREADS WHICH SHALL BE GREASED							
Mark: FWH-63							
PIPE 6-190207-8							
EFF. DRW'G. NOS.							

FOR INFORMATION

APPLY COAT OF RED CHROMATE PRIMER TO ABOVE
MATERIAL EXCEPT THREADS WHICH SHALL BE GREASED.

PIPE G-190207-8
STEEL G-190532-7
MARK NO. FWH-63
SKETCH No. 582

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331-C

Visual Exam Report No. 1097-175

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

PER VENDOR CATALOG CLAMP BOLTS ARE NOT PROVIDED WITH
LOCK NUTS. THIS CONDITION IS ACCEPTABLE 'AS IS'.

Clement Rajendra 15-20-92
NED Engineer Date

CP&L

Cable Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-216

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: SEAL WATER INS FILTER COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-209-1-1W51 SUPPORT

DWG./LOC.: CPL-209 REV: 0

☒ VT-3 PROCEDURE: SP 1097 ERG 423-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☐ MIRROR ☐ OTHER _____

TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <u>ERG 4-24-92</u>	<u>N</u>
STRUCTURAL INTEGRITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>A</u>
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edward R. Donovan LEVEL: II DATE: 4-23-92

REVIEWER: Art P... LEVEL: II DATE: 4-25-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

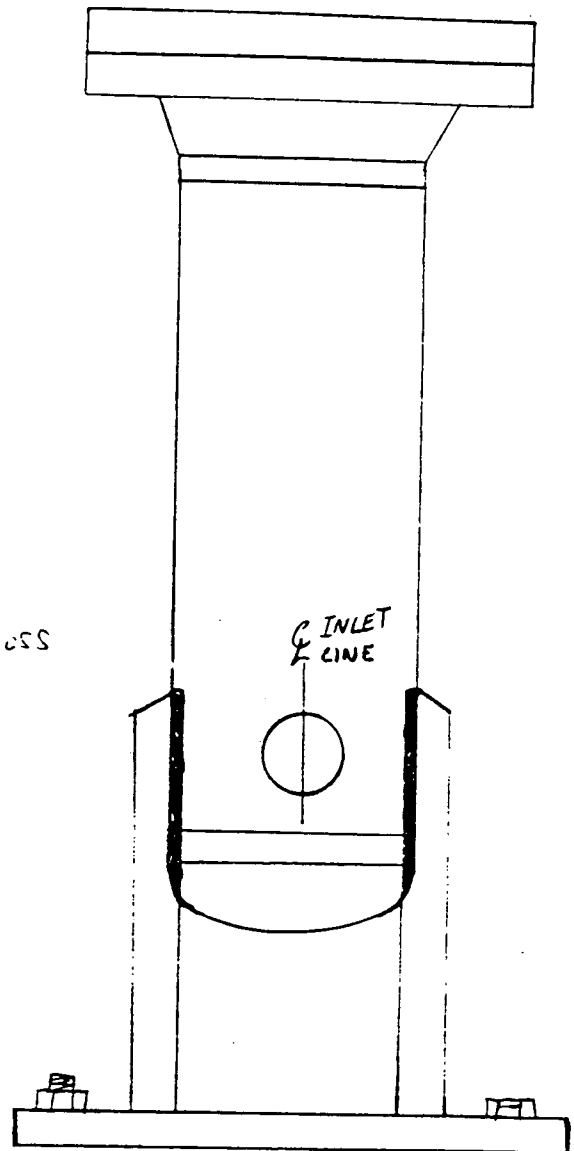
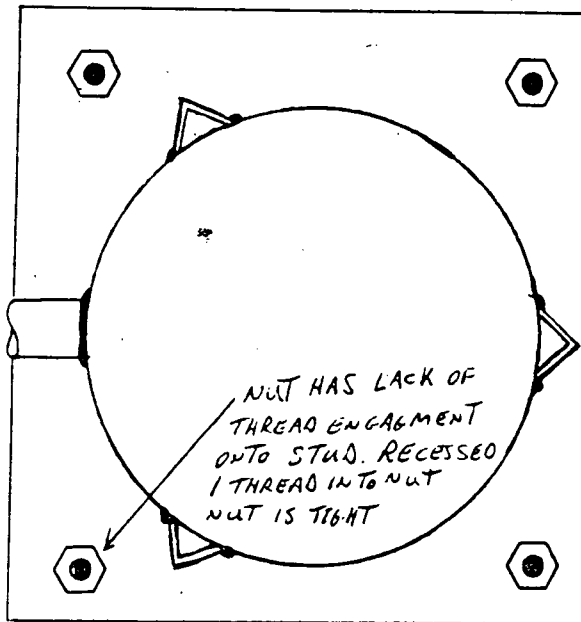
DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-246
EXAM ITEM CPL-209 1-1-45-1
ISO DWG. NO. CPL 209 REV. 0

SKETCH SHEET

ALL FOUR ANCHOR NUTS + BOLTS
ARE CORRODED LESS THAN 5% WALL LOSS



EXAMINER	<u>Charles D. Davis</u>	LEVEL	<u>II</u>	DATE	<u>4-23-92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Carl P. ...</u>	LEVEL	<u>II</u>	DATE	<u>4-25-92</u>
REVIEWER		DATE			
REVIEWER		DATE			

FOR INFORMATION

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET (Sheet 1 of 2)

Support ID CPL-209-1-1-WS-1

Visual Exam Report No. 1097-216

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed, ~~prior to return to service.~~ CR 5/21/92
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

MONITOR CORROSION ON BASE PLATES FOR BOTH A+B SEAL WATER
INJECTION FILTER. REMOVE ALL CORROSION AND CORROSION PRODUCTS
THOROUGHLY AND PAINT.

Basis: *

SMALL AMOUNT OF CORROSION DOES NOT AFFECT STRUCTURAL
INTEGRITY OF SUPPORT. LACK OF FULL THREAD ENGAGEMENT* IS
RESOLVED AS FOLLOWS:

REFERENCES: DWG. G-195725, SECTIONS 1 & 2 AISC MANUAL
ACI CODE 318-63

DRAWING SHOWS THE ANCHOR BOLTS TO BE 7/8" ϕ AND DRILLED.
NO OTHER INFORMATION IS AVAILABLE

ASSUMPTIONS: ANCHOR BOLT MATERIAL IS ASTM A-307
DEPTH OF EMBEDMENT IS 2'0"

HEAVY HEX. HEAD NOT USED
THREAD ENGAGEMENT IS CRITICAL ONLY FOR TENSILE LOAD NOT
SHEAR LOAD. MAXIMUM ALLOWABLE TENSION WILL BE THE
SMALLER OF THE LOADS BASED ON TENSILE STRENGTH OF STEEL OR
EMBEDMENT IN CONCRETE.

BASED ON CONCRETE EMBEDMENT:

MAX. BOND STRESS $\frac{1}{2} \times 4.8 \sqrt{f_c'}$ (160PSI MAX.) Sec. 1301

D

Contd.

(* ONE THREAD LESS THAN FULL ENGAGEMENT)

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET (Sheet 2 of 2)

Basis (Contd.):

$$D = 7/8" \quad f'_c = 3000 \text{ psi}$$

$$\therefore \text{BOND STRESS} = \frac{1}{2} \times 4.8 \times \sqrt{3000} = 150 \text{ psi}$$

$$0.875$$

$$\text{MAX. ALLOWABLE TENSILE LOAD} = 24 \times \frac{\pi}{4} \times 0.875^2 \times 150$$

(BASED ON CONC.)

$$= 2165 \text{ \#}$$

$$\text{MAX. ALLOWABLE TENSILE LOAD} = 12000 \text{ \# (REF. AISC MANUAL 8TH ED. PAGE 4-3)}$$

(BASED ON STEEL)

TABLE 1-A)

SINCE CONCRETE GOVERNS, MAX. CAPACITY IS 2165 LBS.

THREAD STRESSES:

$$\text{MAJOR DIA.} = 0.875 \text{ in.}$$

$$\text{MINOR DIA.} = 0.419 \text{ in.}$$

$$\text{HT. OF NUT} = 7/8"$$

$$\text{PITCH} = 9 \text{ TPI}$$

$$\text{HT. OF NUT ENGAGED} = 7/8 - 1/9 = 0.76 \text{ in.}$$

$$\text{SHEAR AREA ON BOLT} = 0.75 \times 0.76 \times \pi \times 0.419 = 0.75 \text{ in}^2$$

(MORE CRITICAL THAN NUT)

DUE TO DIFF. IN DIA.

$$\text{SHEAR STRESS ON THREADS} = \frac{2165}{0.75} = 2886 \text{ psi} < 10,000 \text{ psi}$$

ALLOWABLE SHEAR STRESS FOR A-307 BOLTS IS 10 KSI PER AISC MANUAL SPEC. 1.5.2.2 (TABLE 1.5.2.1)

COR 5/2/92

HENCE 1 THREAD LESS THAN FULL THREAD ENGAGEMENT IS ACCEPTABLE.

Clement Rajendra / 5-21-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>CA JONES / ELAMANT RAJENDRA</u>		<u>ISE-92-EA</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET OF
<u>ATTACHED ARE ISI Visual Reports and</u>		MOD M-
<u>SKETCHES Requiring NED Disposition</u>		PCN
<u>Component I.D's:</u>		RET-R-GX92-BX
<u>CPL-244-B</u>		
<u>231-B-WS</u>		
<u>301 Jacket Cooler A</u>		
<u>221B-F1</u>		
<u>221B-F</u>		DISTRIBUTION
<u>232 Y (NOTE COMMENTS SECTION ON GROUT)</u>		
<u>221B-A</u>		
SIGNED: <u>[Signature]</u> <u>4-28-92 Ex 1888</u>		RESPOND BY:
		<u>5/10/92</u>

*RELEASING AUTHORITY: _____ DATE: 4/29/92

RESPONSE:

ATTACHED ARE THE DISPOSITIONS FOR THE FOLLOWING COMPONENTS:

CPL-221B-F, CPL-221B-F1, CPL-331A-BB	DISTRIBUTION
CPL-331A-E, CPL-241-H, CPL-241-F	
CPL-241-G, CPL-331B-J, CPL-331B-M	
CPL-331B-K, CPL-331B-L	

SIGNED: [Signature]

*RELEASING AUTHORITY: [Signature] DATE: 5/22/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097194

WR&A # 4A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RNR</u>	COMPONENT NAME: <u>* SEE COMMENTS</u>	COMPONENT ID NO.: <u>CPL-221B-F</u>
--------------------	---------------------------------------	-------------------------------------

DWG./LOC.: CPL-221B REV-0 / RNR HX ROOM

<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097 ERD 42192</u> NDEP 613 REV.: <u>0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>
--	---

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
---	---

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	* NO HANGER EXIST AT THIS LOCATION
MISALIGNMENT			X	ON RHR LINE IN PLANT
DEBRIS			X	
CORROSION/EROSION			X	
STRUCTURAL INTEGRITY			X	
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES			X	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: EXPANDED SCOPE PIPE WAS UNINSULATED

EXAMINER: <u>William R. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-21-92</u>
REVIEWER: <u>Art Purnum</u>	LEVEL: <u>II</u>	DATE: <u>4-22-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW: _____ DATE: _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-2218-F

Visual Exam Report No. 1097-194

N/A

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SUPPORT DELETED BY MOD M-1087.

Clement Rajendra /5-20-92
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-193

WR&A # A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>* SEE COMMENTS</u>	COMPONENT ID NO.: <u>CPL-221B-F1</u>
--------------------	---------------------------------------	--------------------------------------

DWG./LOC.: CPL-221B REV-0 / RHR HX ROOM

<input checked="" type="checkbox"/> VT-3 PROCEDURE: ^{SP 1097 ERO 4-21-92} NDEP-613 REV.: <u>0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>
--	---

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
---	---

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	<u>* NO HANGER EXIST AT THIS LOCATION ON RHR RETURN LINE IN PLANT</u>
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS			<input checked="" type="checkbox"/>	
CORROSION/EROSION			<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY			<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u> SIN <u>N/A</u>	

COMMENTS: EXPANDED SCOPE PIPE WAS UNINSULATED

EXAMINER: <u>Edmund R. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-21-92</u>
------------------------------------	------------------	----------------------

REVIEWER: <u>Art Purnan</u> <i>AP</i>	LEVEL: <u>II</u>	DATE: <u>4-22-92</u>
---------------------------------------	------------------	----------------------

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

FOR INFORMATION ONLY

ANII REVIEW: _____	DATE: _____
--------------------	-------------

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-2218-F1

Visual Exam Report No. 1097-193

N/A

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SUPPORT DELETED BY MOD M-1087.

Clement Rajendra 15-20-92
NED Engineer Date



Caroline Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-96

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

AUX. FEED & COND. PIPE

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL-331A-13B

DWG./LOC.: CPL-331A Rev 1 / M.D. AUX FEED PUMP RM. - T.B.

[X] VT-3 PROCEDURE: SP-1097 CN 4-9-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X]

REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [] MIRROR

[X] OTHER 6" Scale

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] CONSTANT SUPPORT

[X] MECHANICAL SNUBBER

[] VARIABLE SUPPORT

SUPPORT/HANGER

CONDITION
Present

YES NO N/A

COMMENTS

FASTENING DEVICES

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

RESISTANCE TO MOVEMENT

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

VARIABLE/CONSTANT SUPPORT

ACTUAL: N/A

SNUBBER

ACTUAL: N/A

STROKE: N/A

S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details

EXAMINER:

Chiff Maltz CN

LEVEL:

II

DATE:

4-9-92

REVIEWER:

Robert R Donovan CN

LEVEL:

II

DATE:

4-10-92

COMPONENT CONDITION:

[] SATISFACTORY

[] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

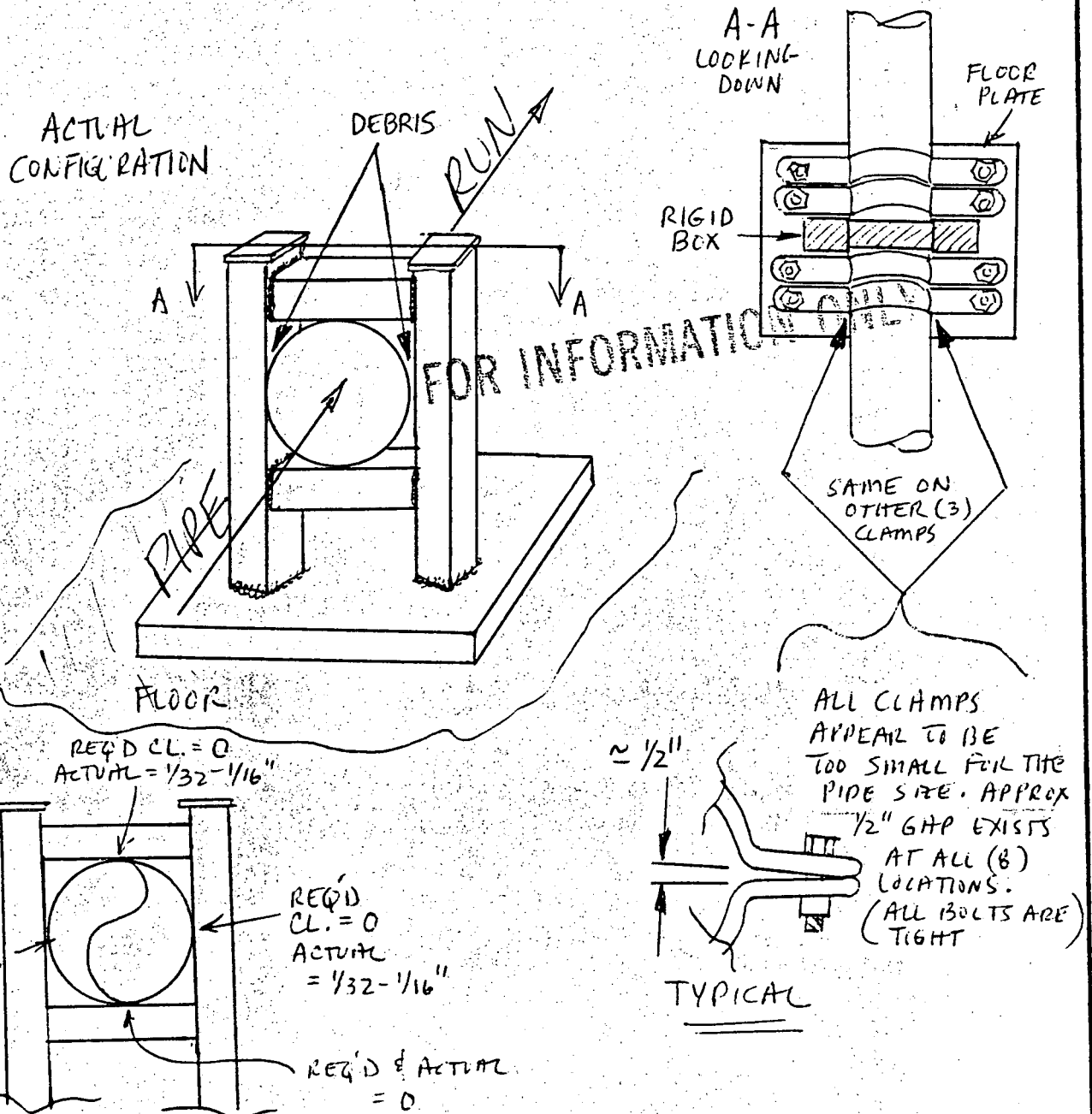
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-96EXAM ITEM CPL-331A-BBISO DWG. NO. CPL-331A REV. 1

SKETCH SHEET



REFER TO C-1/20 (SHT 1 OF 2) FOR REQ'D CLEARANCES

EXAMINER C. J. P. 11/1/92LEVEL IIDATE 4-9-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Robert R. DonnanLEVEL IIDATE 4-10-92

REVIEWER _____

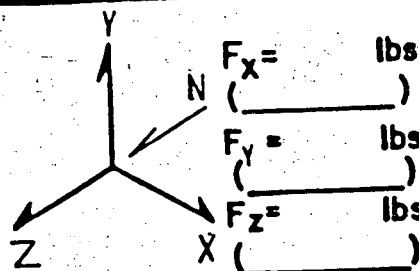
DATE _____

REVIEWER _____

DATE _____

HYA

N/AVAIL ✓



LOAD CASE DBE
EBASCO CHART METHOD
(GRINNELL DSN LOAD)

RESTRAINT LOCATION:
SEE ISO NO. C-1
PT. NO. 20

RAB
S. END OF AUX FDW
PUMPS 'A' & 'B', BET VS-
34A W/ 6x4 RED & 6φ
VERT RUN (6C-35)
RESTE

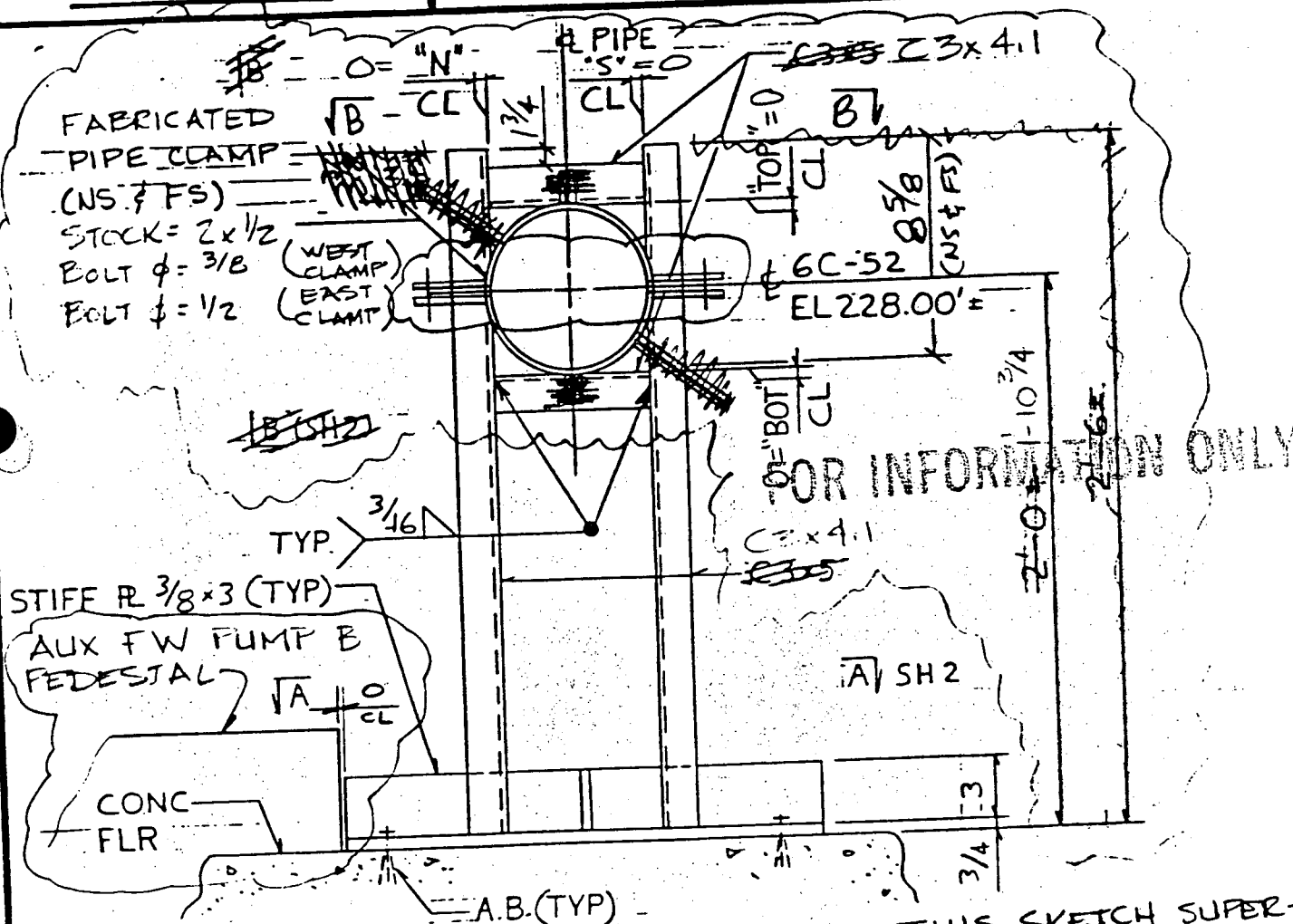
~~BEST~~ CALC NO N/AVAIL

MOD NO 492-120 REV#1

PMR NO. N/A

BASE PLATE IDENTIFICATION

DESIGN LOADS



OR INFORMATION - 9-12-66

THIS SKETCH SUPER-
SEDES INSPECTION
SKETCH DTD 1/25/84
M. J. 5/31/84

GENERAL NOTES: SEE SK-AB-CAR-AB-1

REV	DATE	BY	CHK	APP'D
-----	------	----	-----	-------

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. KM
DATE _____ CH. MWLG
SCALE NTS

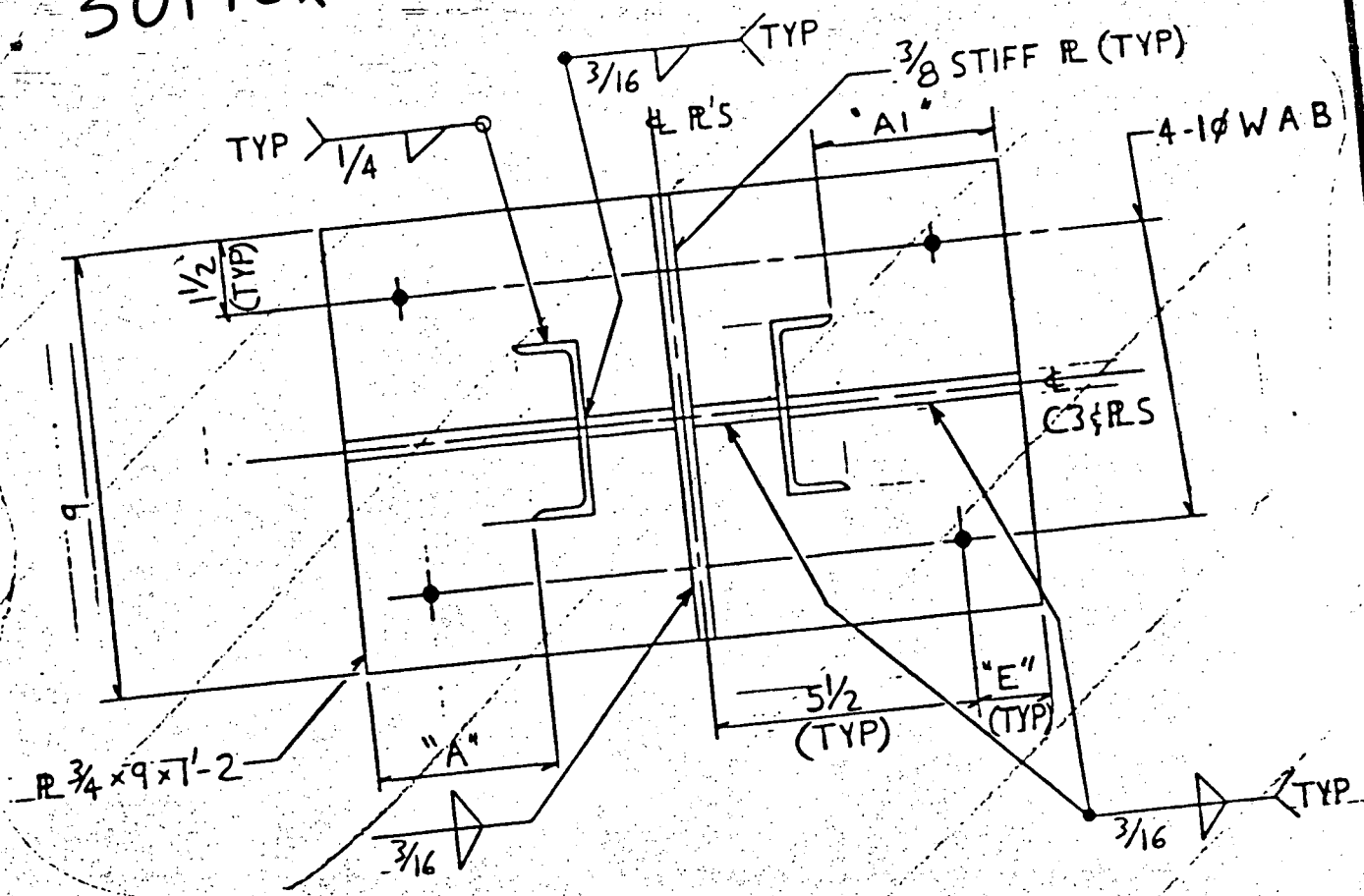
APPROVED

H.B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: CONDENSATE PIPING
ISO NO./POINT NO. C-1/20

AB-CAR-
PT#1020
C-1-20
SH. 1 OF 2

SUPPORT "BB"

48 of 58



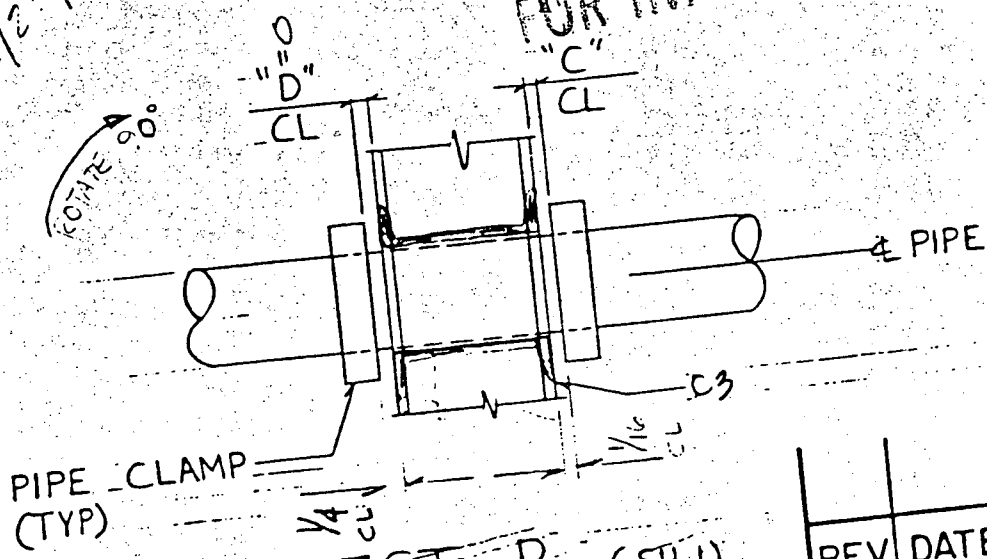
SECT A (SH 1)

NO COMMENTS

FOR INFORMATION ONLY
5-31-84

M. J. Jiv
1/2" / 84

ROTATE 90°
FOR FINAL TNG



SECT B (SH 1)

REV	DATE	BY	CHK	APP

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. KM

DATE CH. MWG

SCALE NTS

APPROVED

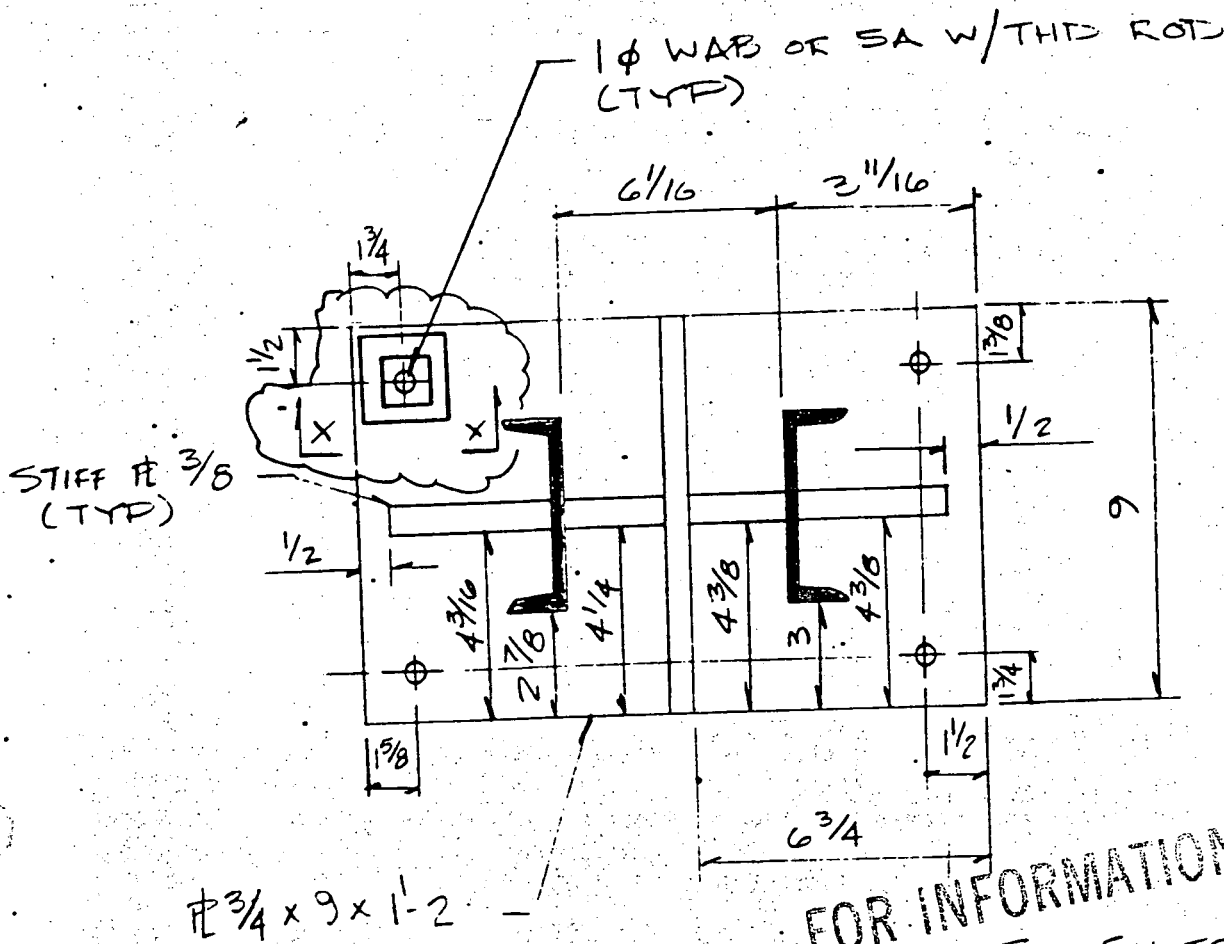
H.B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: CONDENSATE PIPING
ISO NO./POINT NO. C-1/20

AB-CA
PT#1
C-1-2
SH. 20

PRELIMINARY DATE: 12-9-83

Ins

nd

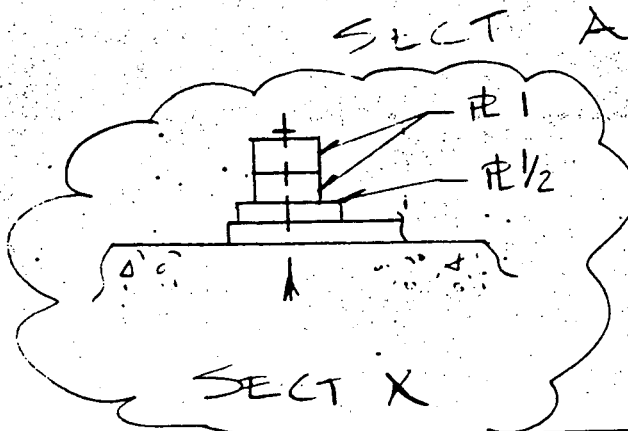


FOR INFORMATION ONLY

THIS SKETCH SUPERSEDES INSPECTION SKETCH DTD 1/25/84

M. Fin 5/31/84

C-1/20
PT# 1020



Inspected By M. Fin

Date 1/25/84

SUPPORT "BB"



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-248

WR&A # N/A

PAGE 1 OF 2

PLANT: AB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

AUX FEED

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL-331A-BB

DWG./LOC.: CPL-331A REV-1 / AUX FEED PUMP ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 5-192
NBER-613 REV.: 0

☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR

☒ OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS			<input checked="" type="checkbox"/>	
CORROSION/EROSION			<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY			<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS

RE-EXAM FOR GAPS ON PIPE CLAMPS

EXAMINER: Edward R Donovan

LEVEL: II

DATE: 5-1-92

REVIEWER: Art Pomeroy

LEVEL: II

DATE: 5-2-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

Info only

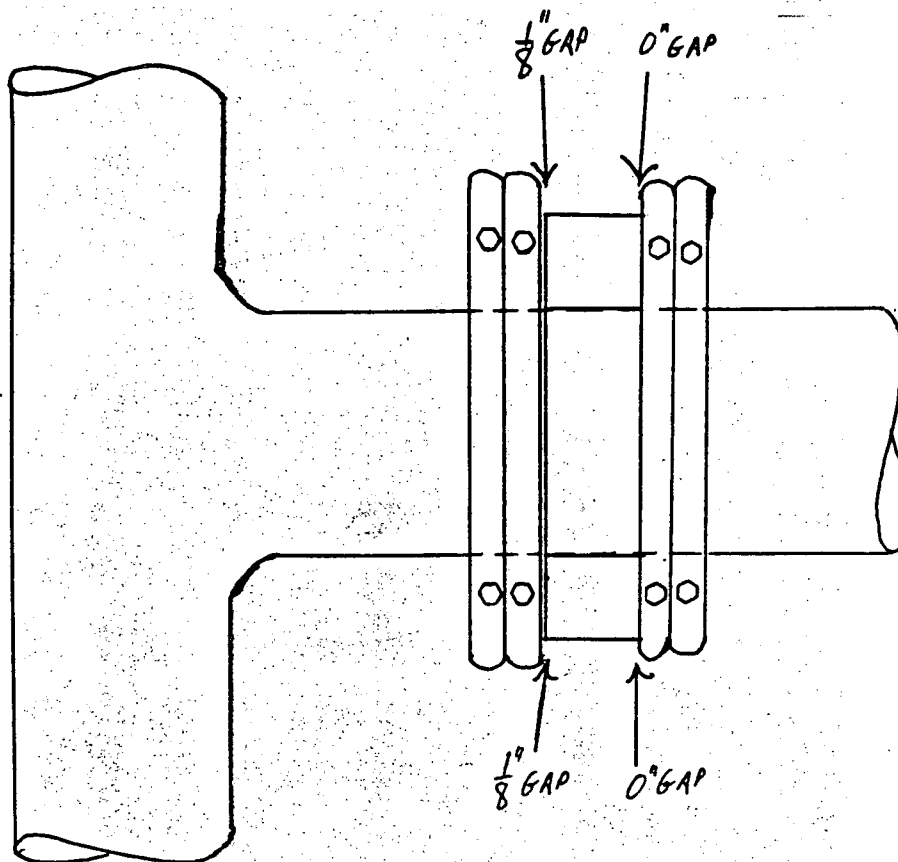
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-248
EXAM ITEM CPL-331A-BB
ISO DWG. NO. CPL 331A REV. 1

SKETCH SHEET

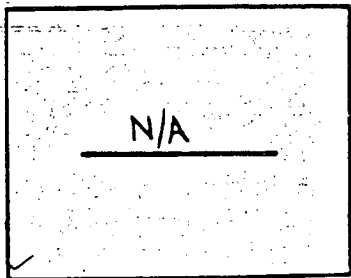


Info
only

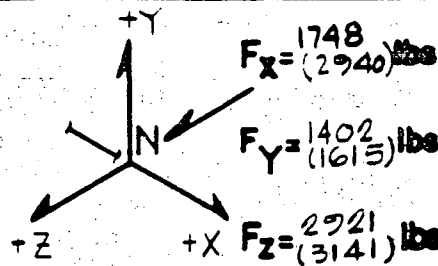
EXAMINER Edward L. Danner
EXAMINER NA
REVIEWER Cliff Danner
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 5-1-92
DATE NA
DATE 5-2-92



**BASE PLATE
IDENTIFICATION**



LOAD CASE THRM+D+OBE
(THRM+D+DBE)

EBASCO CMPTR RUN

DATE: 8-5-84 TIME: 10:54 AM
8-6-84 10:35 AM

RESTRAINT LOADS

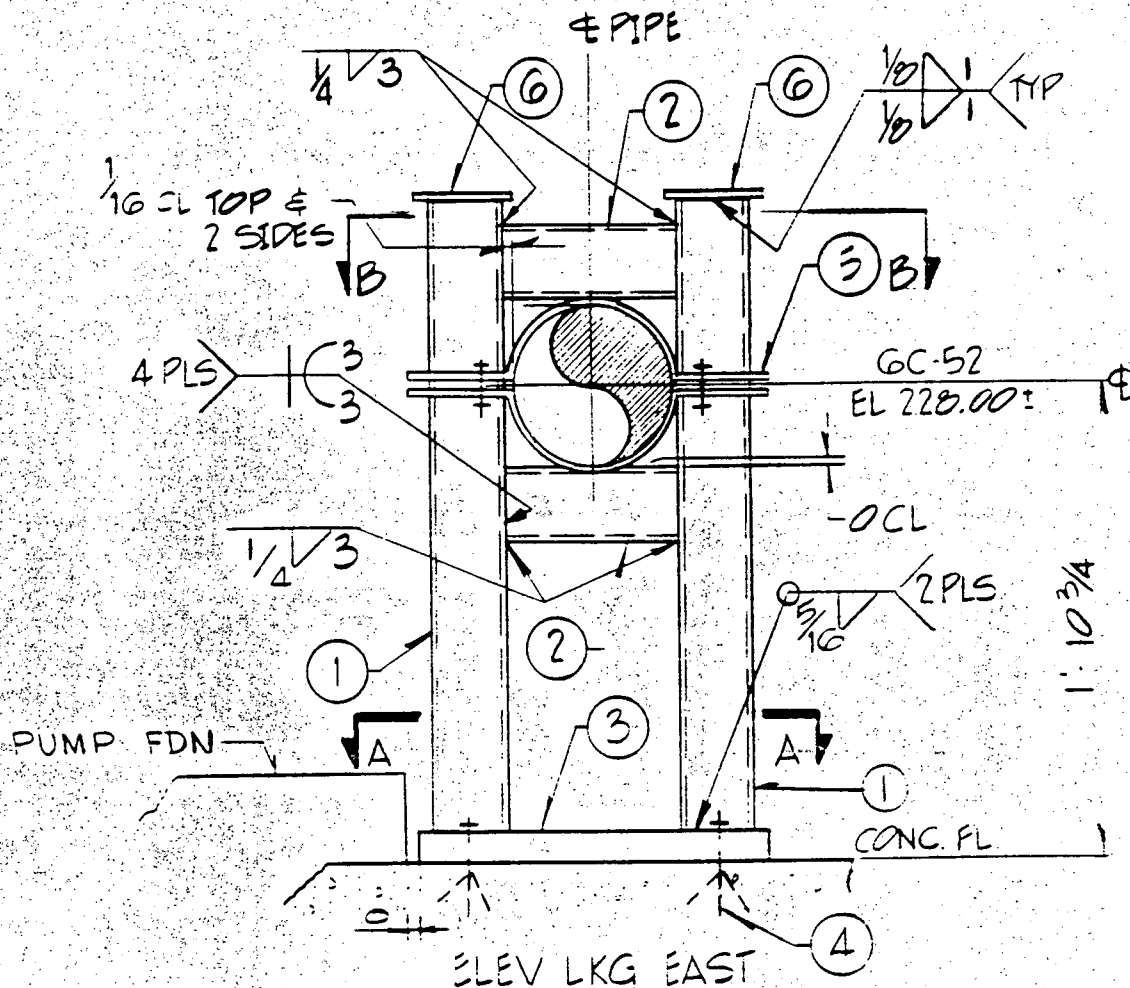
RESTRAINT LOCATION:
SEE ISO NO. C-1
PT NO. 20 (1020)

RAB
SOUTH END OF AUX FDW
PUMPS 'A' & 'B' BET
VS-3AA W/G-4 RED &
G & VERTRUN (GC-35)

REST CALC No C-1-20

MOD NO M492-REV 3

FMR No 3



NUCLEAR SAFETY RELATED

REV 1 INCORPORATES "AS-BUILT" CONDITION

1	5/13/85	RB	Hsw	MD
---	---------	----	-----	----

REV	DATE	BY	CHK	APP
-----	------	----	-----	-----

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. MSV
DATE 8-10-84 CH. HEM
SCALE NTS

APPROVED
[Signature]
GSR *[Signature]*

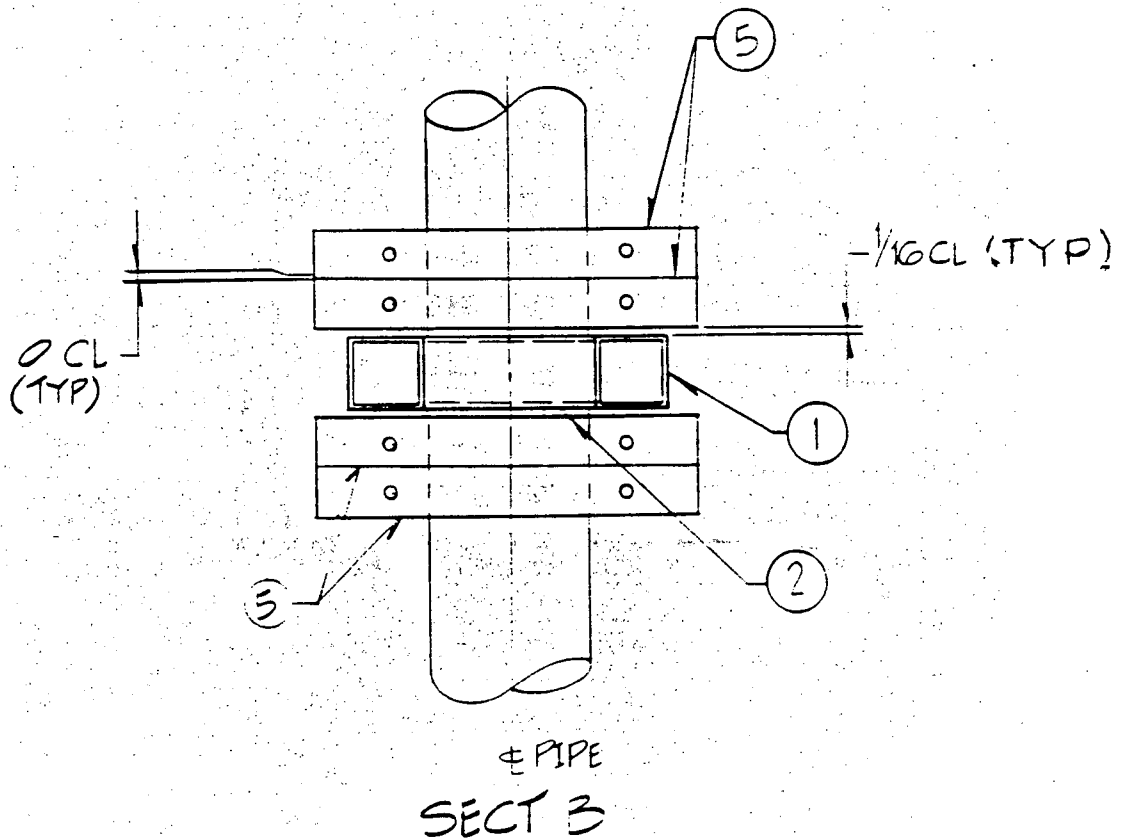
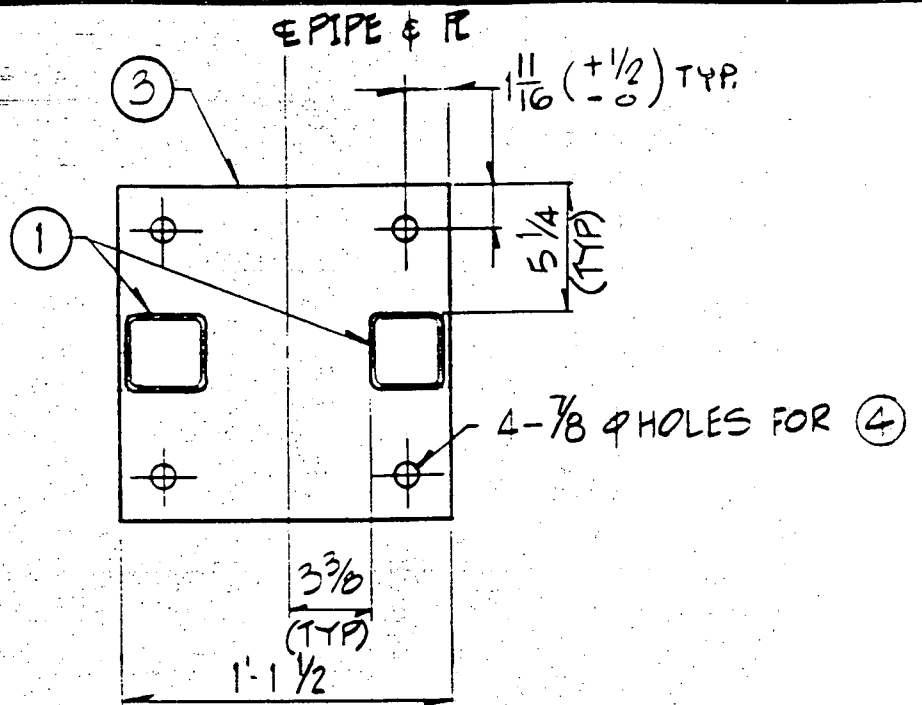
H.B. ROBINSON - UNIT 2

AS-BUILT RESTRAINT SKETCH
SYSTEM: CONDENSATE PIPING
ISO NO./POINT NO. C-1/20

AB-CAR-

C-1-20

SH. 1 OF 2



NUCLEAR SAFETY RELATED

1	5/13/85	RB	HSW	MD
REV	DATE	BY	CHK	APP

EBASCO SERVICES INCORPORATED	
DIV. CIVIL DR. JMS	APPROVED
DATE 5/13/85 CH. HSW	W. H. Robinson
SCALE NTS	GSR WSW

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: CONDENSATE PIPING
ISO NO./POINT NO. C-1/20

AB-CAR-
C-1-20
SH. 2 OF 3

BILL OF MATERIALS

[illegible]

ALL STRUCTURAL STEEL ASTM A 36 UNLESS NOTED

1	5/13/85	RB	Hsw	MD
REV	DATE	BY	CHK	APPR

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. 173
DATE 8/14/84 CH. HGM
SCALE NONE

APPROVED

GSR	WON
-----	-----

CP&L/H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: *CONDENSATE PIPING*
ISO NO./POINT NO. *C-1/20*

AB-CAR-
C-1-20
SH. 3 OF 3

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-BB

Visual Exam Report No. 1097-96

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH THREE-WAY RESTRAINTS. REF. STRESS 150 C-1, Sht. 5 DP 1020. ATTACHED IS A COPY OF THE LATEST DESIGN DRAWING FOR THIS SUPPORT. AS-FOUND CLEARANCES MEET THIS DRAWING, CLEARANCES WITHIN THE TOLERANCE OF SPEC. CPL-HBR2-C-011. DEBRIS DOES NOT AFFECT STRUCTURAL INTEGRITY OF SUPPORT. THE SUPPORT WAS REVIEWED IN THE FIELD TO DETERMINE CLAMP SIZE. THIS CLAMP IS A RISER CLAMP THAT TRANSFERS LOAD BY FRICTION BETWEEN CLAMP AND PIPE. A PERFECT FIT BETWEEN CLAMP AND PIPE O.D. WAS NOTED. GAP AT THE EARS OF THE CLAMP IS AN INTENDED CONDITION, WITHOUT THE GAP TIGHTENING OF BOLTS WOULD NOT CAUSE BEARING ON PIPE TO EFFECTIVELY TRANSFER LOAD BY FRICTION.

Clement Rajendra 15-20-92
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-94

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: AUX. FEED & COND. PIPE COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-331A-Z

DWG./LOC.: CPL-331A Rev 1 / M.D. AUX FEED PUMP RM. -T.B.

X VT-3 PROCEDURE: SP-1097 CW 4-9-92 NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT 1 MIRROR 1 OTHER 1 TYPE OF COMPONENT SUPPORT: 1 HYDRAULIC SNUBBER 1 MECHANICAL SNUBBER 1 SUPPORT/HANGER 1 CONSTANT SUPPORT 1 VARIABLE SUPPORT

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>X</u>		<u>N/A</u>
MISALIGNMENT		<u>X</u>		
DEBRIS	<u>X</u>			<u>See page #2 for details</u>
CORROSION/EROSION		<u>X</u>		<u>N/A</u>
STRUCTURAL INTEGRITY	<u>X</u>			<u>See page #2 for details ONLY</u>
RESISTANCE TO MOVEMENT	<u>X</u>			
CLEARANCES OF MOVING PARTS	<u>X</u>			
ARC STRIKES/GOUGES		<u>X</u>		<u>N/A</u>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			<u>FOR INFORMATION ONLY</u>
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N: <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS - sec page #2 for details

EXAMINER: Cliff Moss CR LEVEL: II DATE: 4-9-92

REVIEWER: Edmund R. Dorman DM LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY: Edmund R. Dorman

REVIEWERS COMMENTS:

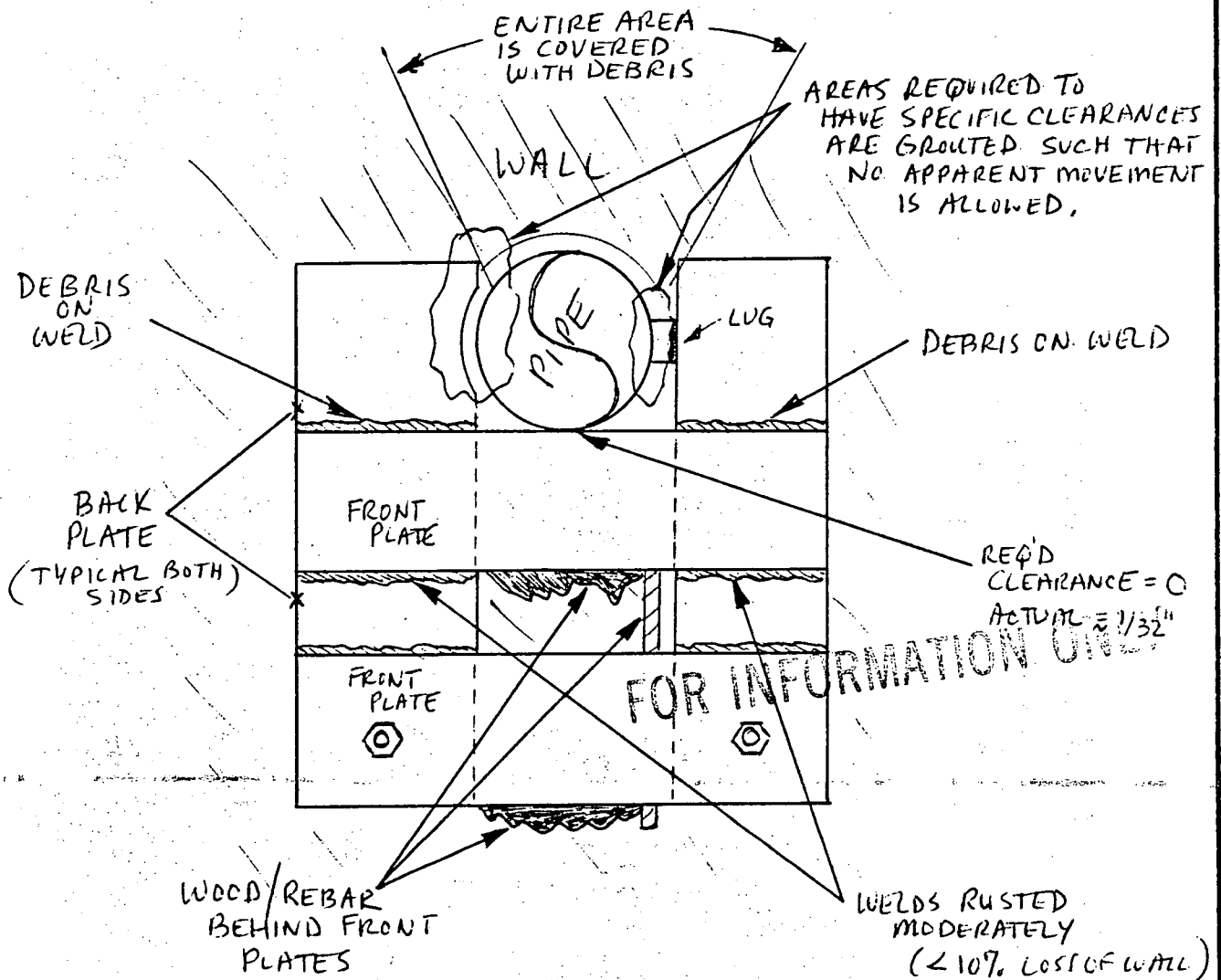
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-74
EXAM ITEM CPL-331A-Z
ISO DWG. NO. CPL-331A REV. 1

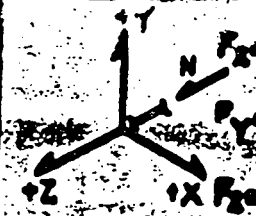
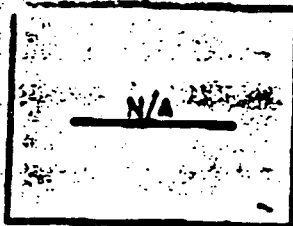
SKETCH SHEET



(REQUIRED CLEARANCES SHOWN ON DWG. AB-CAR-C-I-M.)

EXAMINER	<u>Cliff Moss</u>	LEVEL	<u>II</u>	DATE	<u>4-9-92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Edmund R. Donovan</u>	LEVEL	<u>II</u>	DATE	<u>4-10-92</u>
REVIEWER		DATE			
REVIEWER		DATE			

(Signature)



LOAD CASE

331 A-2

ACE NO NO C-1
PT NO H (575)

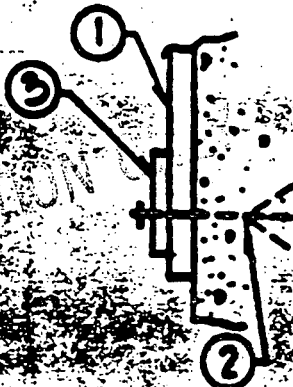
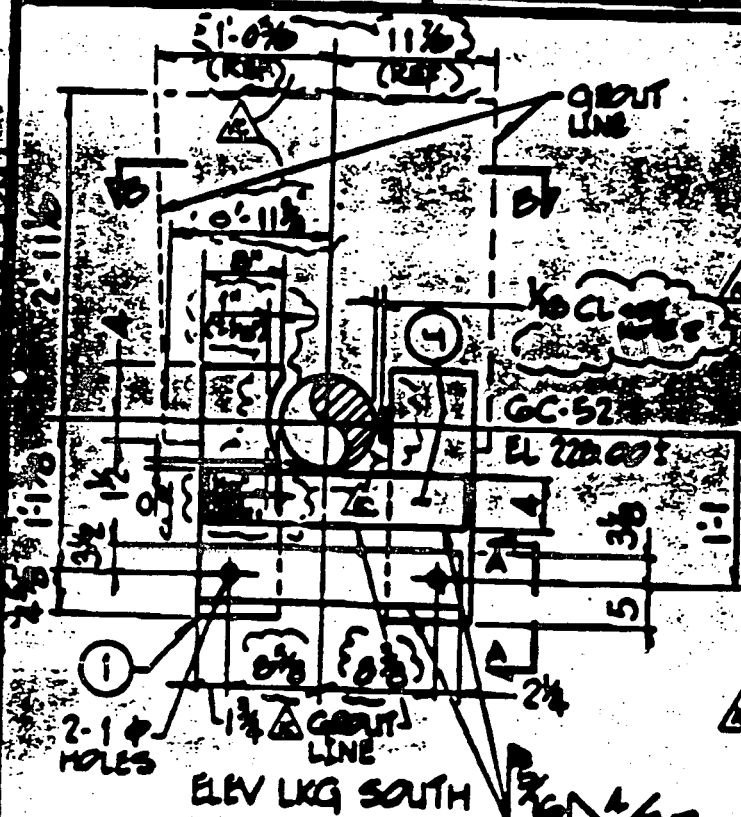
RAB
ALIX FEEDWATER PUMP
ROOM SOUTH WALL

BASE PLATE
IDENTIFICATION

EBASCO CMTB RUN
DATE TIME
RESTRAINT LOADS

REST CALC NO C-1-M

MOD NO 1015



ELEV A

- NOTES
1. VERIFY THAT COND. FROM #1 TO COND. PIP. PROVIDE THE GAP WITH BRIDGES FOR CORREL. NOTES.
 2. PROVIDE COND. AND COND. COND. OF PIP. TO MAINTAIN THE GAP WITH BRIDGES FOR CORREL. NOTES.

FOR INFORMATION ONLY

NUCLEAR SAFETY RELATED

REV 1 INCORPORATES 'AS-BUILT' CONDITION

121

IC	Revision	Rev	JPH	of
1B	7/18/87	5	RGL	1
1A	7/13/87	Rev	JPH	1
1	2/1/86	RB	Hew	20
REV	DATE	BY	CHK	APPRO

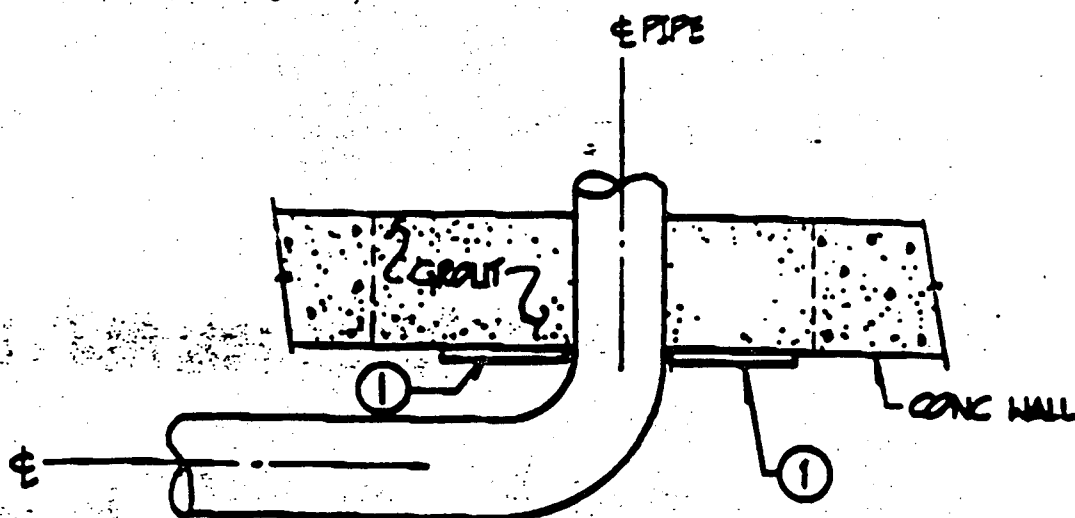
EBASCO SERVICES INCORPORATED

DATE 7-18-87
SCALE NTS

APPROVED
[Signature]
GSC

H.B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: CONDENSATE PIPING
ISO NO./POINT NO. C-1/M

AS-CAR-
C-1-M
BL 1 OF 3



SECT B

FOR INFORMATION ONLY

NUCLEAR SAFETY RELATED

1C	9/24/79	RGK	JH	CH
1B	9/19/79	EF	REV	JH
1A	9/13/79	RGK	JH	CH
1	9/11/79	RB	H/SW	JH
REV	DATE	BY	CHK	APPD

122

EBASCO SERVICES INCORPORATED
 DIV. SIX DR. 1222
 DATE 9/24/79
 SCALE NTR

APPROVED

[Signature]
 ESR

H.B. ROBINSON - UNIT 2
 AS-BUILT RESTRAINT SKETCH
 SYSTEM: CONDENSATE PIPING
 ISO NO./POINT NO. C-1/1:

AB-CAR-
 C-1-M
 SH 2 OF 5

000000

			GA CLASS	
QTY	DESCRIPTION	Q	NA	
1	1 x 3 x 1-9 LG BUSTIC	YES		
1	1 x 3 x 1-9 LG BUSTIC (BY PHILLIPS)	YES		
1	1 x 3 x 1-9 LG BUSTIC	YES		
1	1 x 3 x 1-9 LG (SA-56)	YES		
FOR INFORMATION ONLY				

FOR INFORMATION OF	
--------------------	--

ALL STRUCTURAL STEEL ASTM A 36 UNLESS NOTED

10	1/12/79	DR	RCC	DR
1A	2/12/79	RCC	DR	DR
1C	2/12/79	JFS	DR	DR
REV	DATE:	BY	CHK	APPD

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. 7
DATE 8-9-84 PM
SCALE NONE

APPROVED
[Signature]
GSE | B1

CPOL/H.B.ROBINSON-UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: COMPENSATE PIPING
ISO NO./POINT NO. C-1/M

AB-CAR-
C-1-M
SH 2 OF 2



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-247

WR&A # NA

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 12 1 PSI 1A1

SYSTEM: AUX FEED COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-331A-Z

DWG./LOC.: CPL-331A REV-01 / AUX FEED PUMP ROOM

[X] VT-3 PROCEDURE: SP 1097 ERO 5-91 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER 1" SCALE
TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	ERO 5-92
MISALIGNMENT			X	
DEBRIS			X	
CORROSION/EROSION			X	
STRUCTURAL INTEGRITY			X	
RESISTANCE TO MOVEMENT	X			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES			X	
VARIABLE/CONSTANT SUPPORT	ACTUAL: NA			
SNUBBER	ACTUAL: NA			STROKE: NA S/N NA

COMMENTS: RECORDABLE INDICATIONS

RE EXAM AFTER CLEAN UP TO CHECK GAPS

EXAMINER: Edward R. Dayman LEVEL: II DATE: 5-1-92

REVIEWER: W. P. ... LEVEL: II DATE: 5-2-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

INFO ONLY

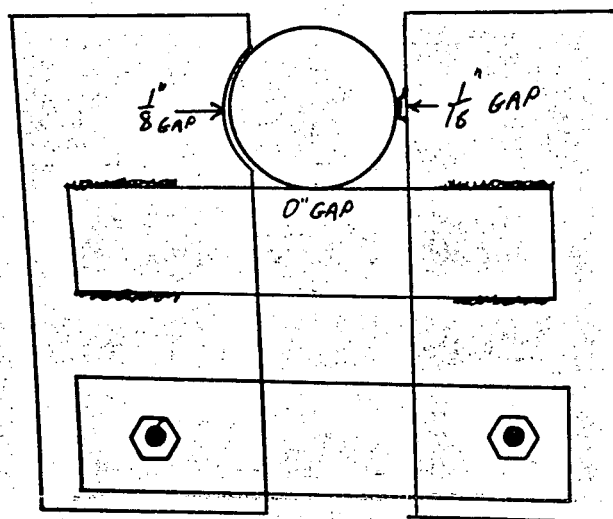
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-247
EXAM ITEM CPL-331A-Z
ISO DWG. NO. CPL-331A REV. 01

SKETCH SHEET



Info
only

EXAMINER Edward R. Downman
EXAMINER W
REVIEWER Art Pinner
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL II
LEVEL II
DATE _____
DATE _____

DATE 5-1-92
DATE 5/2
DATE 5-2-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-Z

Visual Exam Report No. 1097-94
& 1097-247

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

* AREA WAS CLEANED UP TO COMPLETE UT-3 EXAM

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH VERTICAL AND HORIZONTAL RESTRAINTS. REF. STRESS ISO C-1, Sht. 5 D.P. 1375. THE CLEARANCES MEET TOLERANCES OF SPEC. CPL-HBR2-C-011 AND ARE ACCEPTABLE. DEBRIS DOES NOT AFFECT STRUCTURAL INTEGRITY. SMALL AMOUNT OF RUST DOES NOT AFFECT STRUCTURAL INTEGRITY OF SUPPORT. SANDWICHED RE-BAR DOES NOT CONTRIBUTE TO NOR ADVERSELY IMPACT THE STRUCTURAL INTEGRITY OF THE SUPPORT SINCE IT IS OUTSIDE THE LOAD PATH.

Clement Rajendra 15-20-92
NED Engineer Date



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-104

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 ☒ 12 ☐ 1 PSI ☒ ISI

SYSTEM: S.I. COMPONENT NAME: SPRING CAN COMPONENT ID NO.: CPL-241-H

DWG./LOC.: CPL-241, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CP 4-10-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER _____
TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☒ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☒ VARIABLE SUPPORT
☐ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Possible cracked tack weld, incomplete welds (corners). See page # 2 for details.
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: 270 (1/2 way between 258 & 282)

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details.
Nameplate is scratched/gouged extensively.

EXAMINER: Cliff Moss CW LEVEL: IA DATE: 4-10-92

REVIEWER: Edmund R. Donovan LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92 FOR INFORMATION ONLY

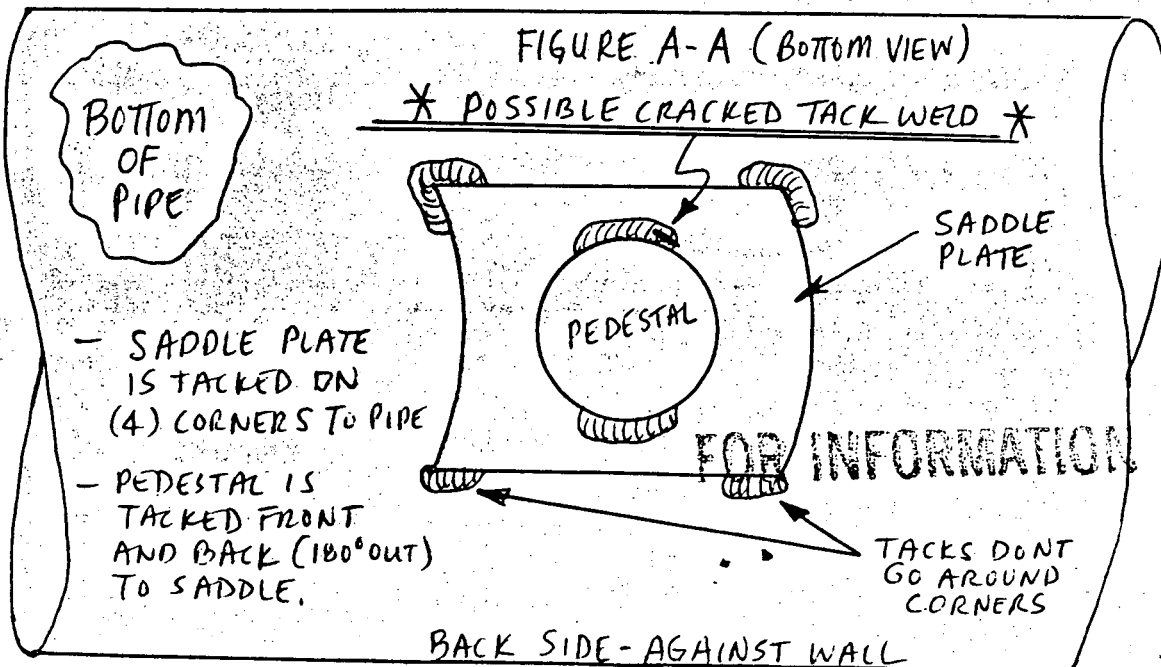
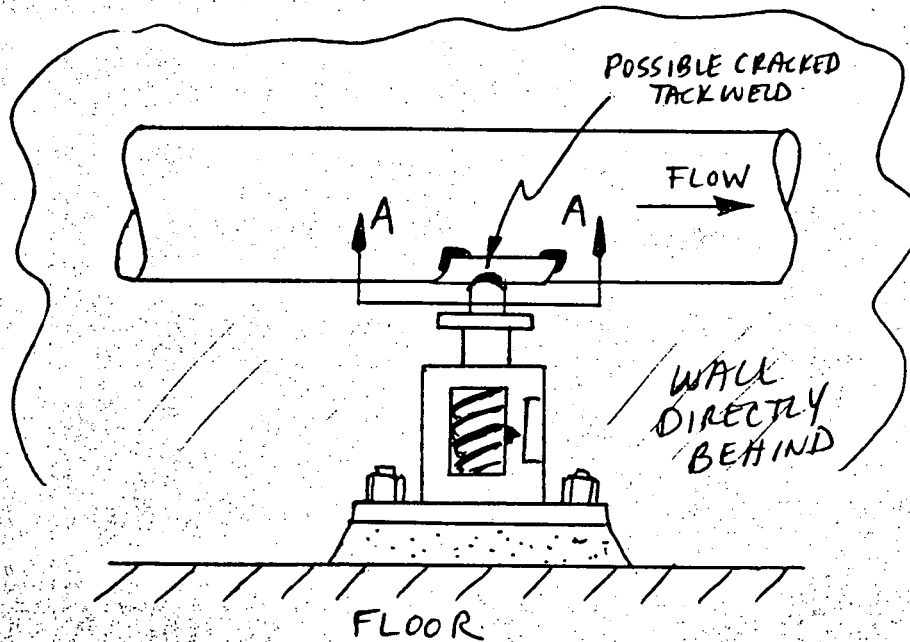
REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

DATA SHEET NO. _____
 EXAM ITEM CPL-241-H
 ISO DWG. NO. CPL-241 REV. 0

SKETCH SHEET



EXAMINER Chiff Moss
 EXAMINER N/A
 REVIEWER Art Pinner
 REVIEWER _____
 REVIEWER _____

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE _____
 DATE _____

DATE 4-10-92
 DATE N/A
 DATE 4-16-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-241-H

Visual Exam Report No. 1097-114

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS DESIGNED TO CARRY DEAD WEIGHT ONLY.
THE WELDS NOTED ARE NON-STRENGTH WELDS WITH ONLY
MARGINAL LOADING. EVEN ASSUMING THE WELD WITH THE
INDICATION MISSING, THE SUPPORT WILL CONTINUE TO BE FUNCTIONAL.
THE SPRING IS A SIZE 4 WITH A WORKING RANGE FROM 165 TO
282 LBS. THE THERMAL MOVEMENT AT THIS LOCATION IS .093"
DOWN. THEREFORE THE LOAD WILL CHANGE UNDER OPERATING
CONDITION TO $270 + .093 \times 94^* = 279$ LBS. WHICH IS STILL WITHIN
THE WORKING RANGE OF THE SPRING CAN.

(* SPRING STIFFNESS)

MAK

REF. IRR-RS-92-IF

Clement Rajendra 15-20-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-128

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT 1 11 ☒ 12 ☐ 1 PSI ☒ ISI

SYSTEM: <u>HPSIS</u>	COMPONENT NAME: <u>HANGER</u>	COMPONENT ID NO.: <u>CPL-241-F</u>
----------------------	-------------------------------	------------------------------------

DWG./LOC.: CPL 241 REV-0 / PIPE ALLEY

<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097 ERO 4-1092</u> <u>NDEP-613 REV.: 0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>
--	---

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> <u>N/A</u>
---	--

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		FOR INFORMATION ONLY
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>320LB.</u> <u>1 5/8" DEFLECTION</u> <u>TYPE A</u>
---------------------------	--

SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	SIN <u>N/A</u>
---------	--------------------	--------------------	----------------

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: <u>Edward R. Drown</u>	LEVEL: <u>II*</u>	DATE: <u>4-10-92</u>
----------------------------------	-------------------	----------------------

REVIEWER: <u>Art L...</u>	LEVEL: <u>II</u>	DATE: <u>4-14-92</u>
---------------------------	------------------	----------------------

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

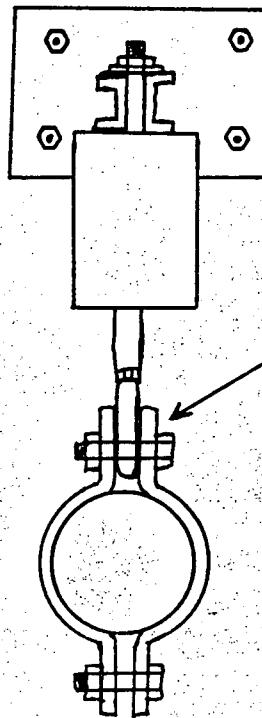
REVIEWERS COMMENTS:

ANII REVIEW:	DATE:
--------------	-------

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-128
EXAM ITEM CPL 241 F
ISO DWG. NO. CPL 241 REV. 0

SKETCH SHEET



NO PIPE CLAMP SPACER
INSTALLED

FOR INFORMATION ONLY

EXAMINER Edmund R. Donovan
EXAMINER N/A
REVIEWER Art. P...
REVIEWER Richard B. Weber
REVIEWER (signature)

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/15/92
DATE _____

DATE 4-10-92
DATE N/A
DATE 4-14-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-241-F

Visual Exam Report No. 1097-128

- [X] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

THE CLAMP SPACER DOES NOT CONTRIBUTE TO STRUCTURAL INTEGRITY,
ITS FUNCTION IS TO PREVENT OVER-TIGHTENING OF CLAMP BOLTS
AND THEREFORE MAY BE OMITTED.
THE SPRING IS A SIZE 5 WITH A WORKING RANGE OF
221 LBS - 378 LBS. THE SPRING IS CURRENTLY READING 320 LBS.
THE THERMAL MOVEMENT IS 0.105" UP. UNDER OPERATING CONDITIONS
THE LOADING WILL CHANGE TO $320 - 0.105 \times 126^* = 307$ LBS. WHICH
IS WITHIN THE WORKING RANGE OF THE SPRING CAP.

(* SPRING STIFFNESS)
MAX.

REF. IRR-RS-92-HL

Clement Rajendra 15-19-92
NED Engineer Date



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097713

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-241-G

DWG./LOC.: CPL-241, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: ^{SP-1097 CW 4-10-92} ~~NDEP-613~~ REV.: C ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER _____
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		X		N/A
MISALIGNMENT	X			Crooked base plate
DEBRIS	X			miscellaneous hardware & dirt } See page #2
CORROSION/EROSION	X			
STRUCTURAL INTEGRITY		X		FOR INFORMATION N/A
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CCNSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details

EXAMINER: Jeff Mass CW LEVEL: II DATE: 4-10-92

REVIEWER: Pat Pinner MD LEVEL: II DATE: 4-11-92

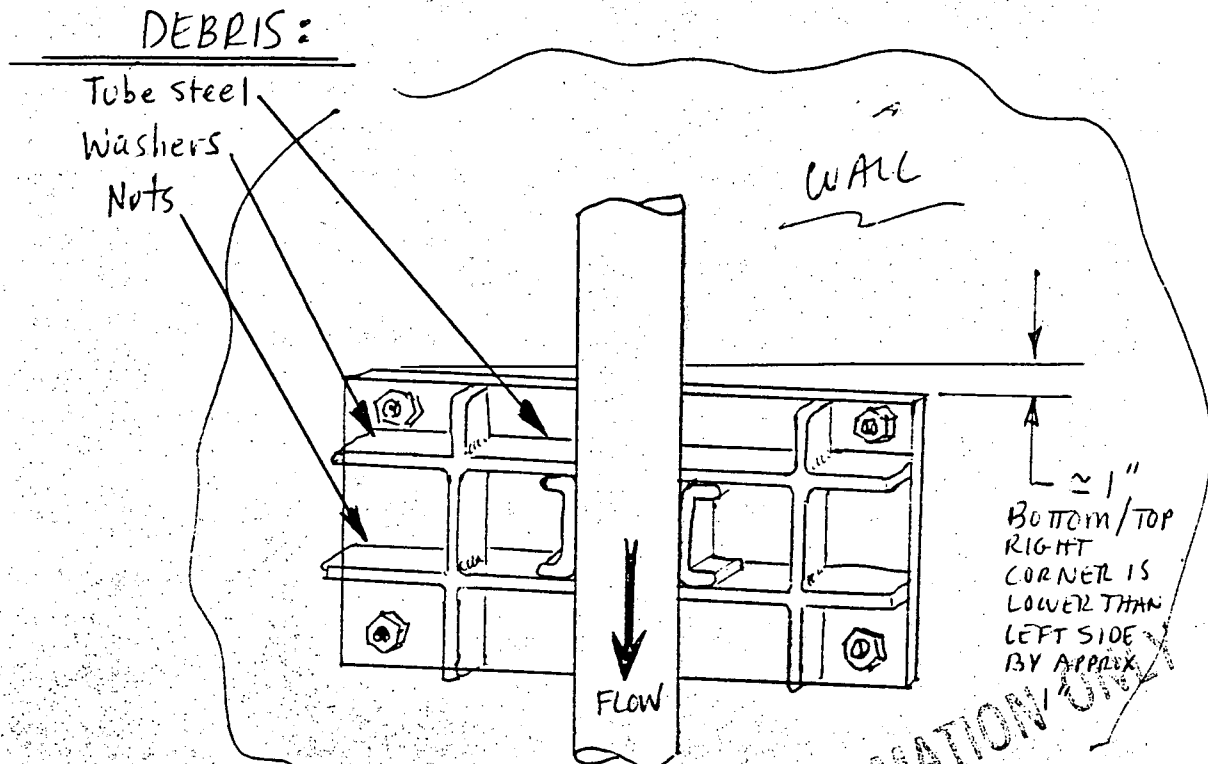
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS: no Parg BL

ANII REVIEW: DATE:

SKETCH SHEET



ENTIRE SUPPORT IS
 GENERALLY RUSTED.
 (<10% LOSS OF WALL)

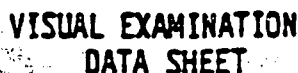
- and most horizontal surfaces
 are lightly covered with dirt
 and loose debris.

EXAMINER Cliff Mass
 EXAMINER N/A
 REVIEWER Cliff Mass
 REVIEWER _____
 REVIEWER _____

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE _____
 DATE _____

DATE 4-10-92
 DATE N/A
 DATE 4-6-92

dm



WR&A # *10/A*

PAGE 1 OF 2

SYSTEM: <i>HPSIS</i>	COMPONENT NAME: <i>SUPPORT</i>	COMPONENT ID NO.: <i>CAL-241-G</i>
----------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-241 REV-0 / PIPE ALCEY

SP-1097 ERO 5-15-92
 [X] VT-3 PROCEDURE: ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> OTHER		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	
MISALIGNMENT			X	
DEBRIS			X	
CORROSION/EROSION			X	
STRUCTURAL INTEGRITY			X	
RESISTANCE TO MOVEMENT	X			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES			X	
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS
Reinspection For GAPS For NED 82-5-15-92

EXAMINER: *Edward J. Donovan* LEVEL: *II* DATE: *5-15-92*

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

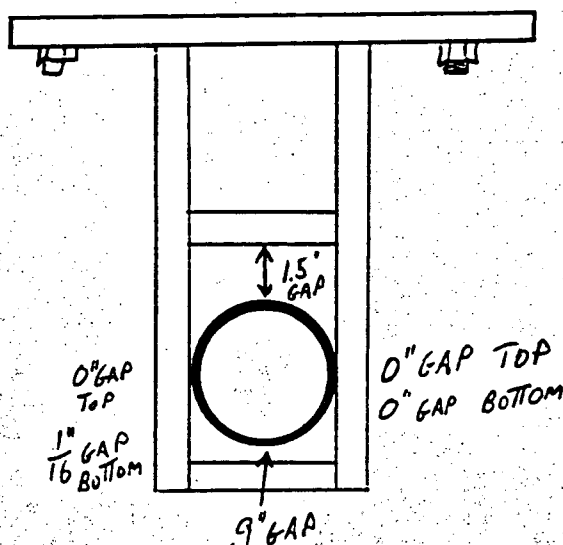
REVIEWERS COMMENTS:

ANII REVIEW: _____ DATE: _____

1105

PAGE 2 OF 2
DATA SHEET NO. 1097-288
EXAM ITEM CPL-241-6
ISO DWG. NO. CPL-241 REV. 0

SKETCH SHEET



EXAMINER Charles L. Darrow
EXAMINER NA
REVIEWER _____
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL _____
DATE _____
DATE _____

DATE 5-15-92
DATE NA
DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-241-G

Visual Exam Report No. 1097-113

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS A SAFETY-RELATED, SEISMIC SUPPORT WITH ONE-WAY HORIZONTAL RESTRAINTS. REF. ISO SI-4, SH.3; DP108. THE CLEARANCES MEET THE TOLERANCES OF SPEC. CPL-HBR2-C-011 AND ARE ACCEPTABLE. DEBRIS DOES NOT AFFECT STRUCTURAL INTEGRITY. SMALL AMOUNT OF RUST DOES NOT AFFECT THE STRUCTURAL INTEGRITY OF SUPPORT. IN THE ENVIRONMENT OF THE PIPE ALLEY, RUST CAN IN FACT FORM A PROTECTIVE LAYER. BASEPLATE MIS-ALIGNMENT IS 1:20 → 2.9° THIS IS AN ACCEPTABLE MISALIGNMENT AND THE DEVIATION FROM ANALYSIS WOULD BE INSIGNIFICANT.

Clement Rajendra 15-19-92
NED Engineer Date



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-198

WR&A # 4A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 2 1 PSI 1 ISI

SYSTEM: AUX FEED WATER COMPONENT NAME: HANGER COMPONENT ID NO.: CPL-331B-J

DWG./LOC.: CPL-331B REV.-0 / AUX HALLWAY

[X] VT-3 PROCEDURE: SP-1097 ERO 4-22-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	X			SEE ATTACHED SKETCH
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		
STRUCTURAL INTEGRITY	X			SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS		X		
ARC STRIKES/GOUGES		X		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A FOR INFORMATION ONLY

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS PIPE WAS INSULATED EXPANDED SCOPE

EXAMINER: Edmund R. Darnon LEVEL: II DATE: 4-22-92

REVIEWER: LEVEL: DATE:

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

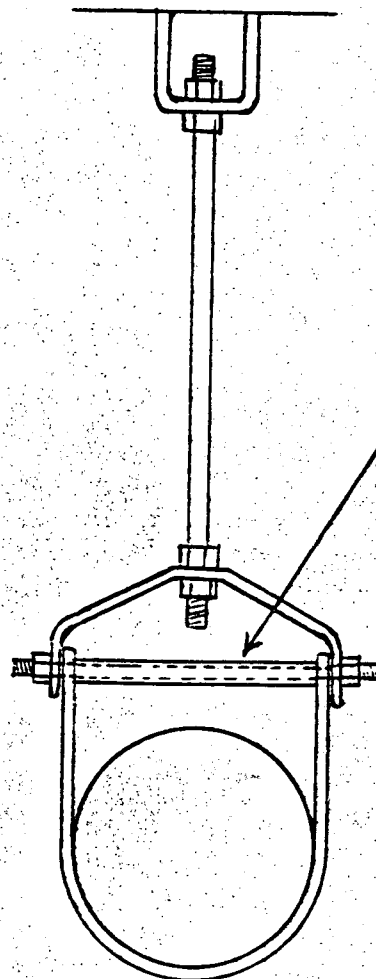
ANII REVIEW: DATE:

QA NDE ISI 5, Revision 5 11/88

1105

PAGE 2 OF 2
DATA SHEET NO. 1097-188
EXAM ITEM CPL-3318-J
ISO DWG. NO. CPL 3318 REV. 0

SKETCH SHEET



NO PIPE SPACER
INSTALLED IN CLEVIS

FOR INFORMATION ONLY

EXAMINER Edmund L. Donovan
EXAMINER N/A
REVIEWER Richard B. Weber
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL A/A
DATE _____
DATE _____

DATE 4-22-92
DATE N/A
DATE 4/25/92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-J

Visual Exam Report No. 1097-198

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted.

Clement Rajendra / 5-20-92
NED Engineer Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-246

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>AUX FEEDWATER</u>	COMPONENT NAME: <u>HANGER</u>	COMPONENT ID NO.: <u>CPL-331B-M</u>
---------------------------------	----------------------------------	--

DWG./LOC.: CPL-331B REV-0 / AUX HALLWAY

☒ VT-3 PROCEDURE: SP 1097 ERO 4-22-92
~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS PIPE WAS INSULATED
EXPANDED SCOPE

EXAMINER: Charles D. Danner LEVEL: II DATE: 4-22-92

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

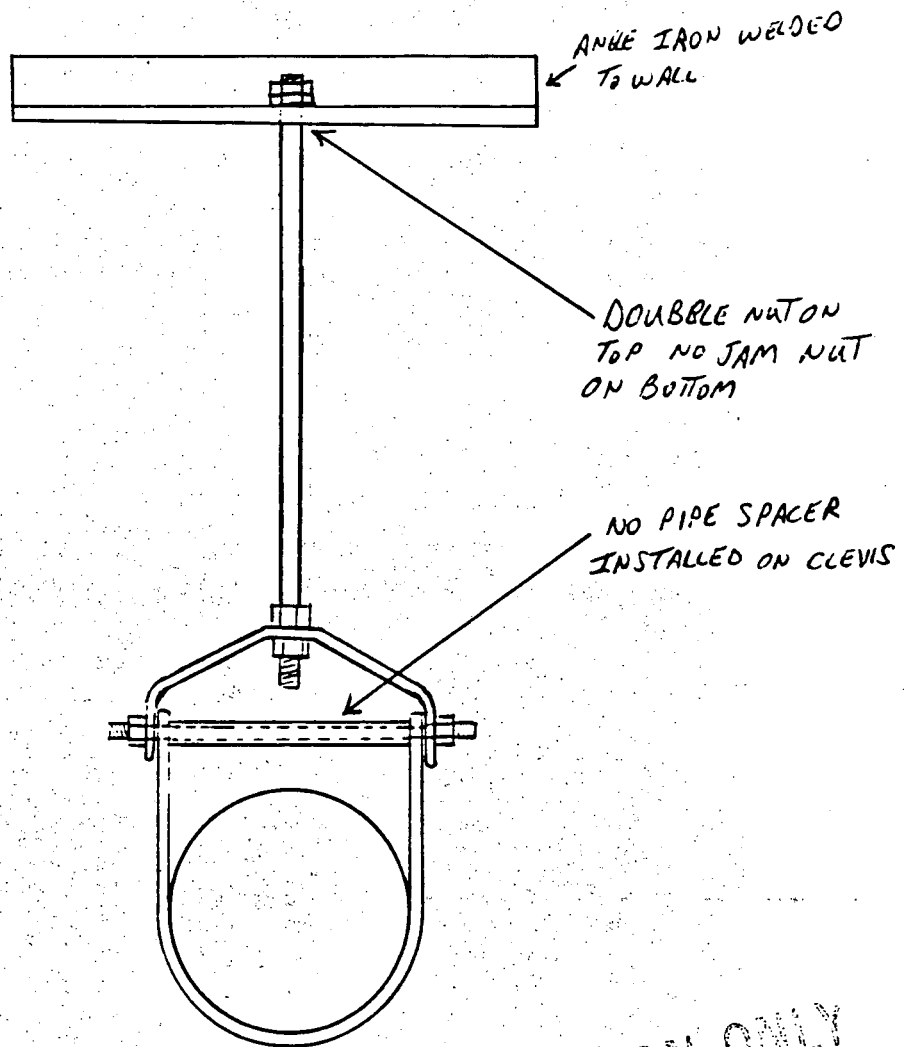
REVIEWERS COMMENTS: FOR INFORMATION ONLY

ANII REVIEW: _____ DATE: _____

nes

PAGE 2 OF 2
DATA SHEET NO. 1097-201
EXAM ITEM CPL-3318-M
ISO DWG. NO. CPL 3318 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edward R. Dorman
EXAMINER NA
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL _____
DATE 4/25/92
DATE _____

DATE 4-22-92
DATE NA
DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-M

Visual Exam Report No. 1097-201

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity. its function is to prevent overtightening of clevis strap and therefore may be omitted. THREADED ROD HAS A JAM NUT AT LOWER END AND THE NUT ON ANGLE HAS A LOCK NUT. THIS IS AN ACCEPTABLE CONDITION.

Clement Rajendra / 5-20-92
NED Engineer Date



Corrosion Protection & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-199

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM:

AUX FEEDWATER

COMPONENT

NAME: HANGER

COMPONENT

ID NO.: CPL-331B-K

DWG./LOC.: CPL-331B REV-0 / AUX HALLWAY

☒ VT-3 PROCEDURE: SP 1097 ERS 4-22-92
NOEP-613 REV.: 0

☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☐ OTHER

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	FOR INFORMATION ONLY
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>			STROKE: <u>N/A</u> S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION PIPE WAS INSULATED
EXPANDED SCOPE

EXAMINER: Edward R. Donovan

LEVEL: II

DATE: 4-22-92

REVIEWER:

LEVEL:

DATE:

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

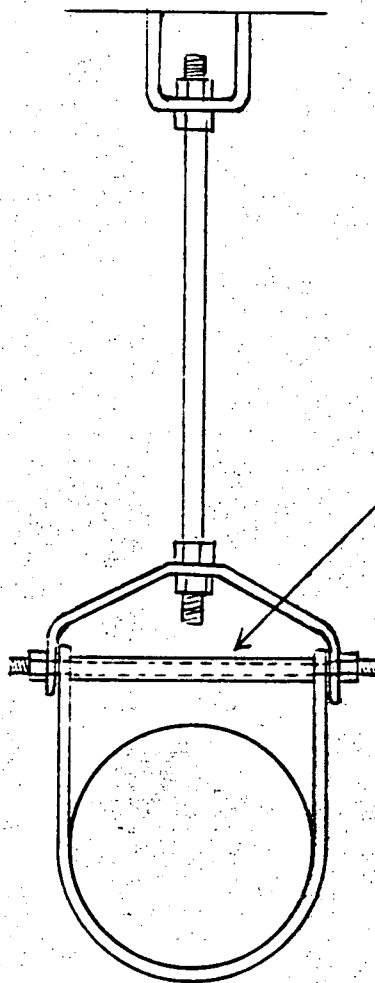
ANII REVIEW:

DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097-799EXAM ITEM CPL-331B-KISO DWG. NO. CPL-331B REV. 0

SKETCH SHEET



NO PIPE SPACER
INSTALLED ON CLEVIS

FOR INFORMATION ONLY

EXAMINER Charles R. Donovan
EXAMINER NA
REVIEWER _____
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL _____
DATE 4/25/92
DATE _____

DATE 4-22-92
DATE NA
DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-K

Visual Exam Report No. 1097-199

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted.

Clement Rajendra / 5-20-92
NED Engineer Date



Corrosion Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-200

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AUX FEEDWATER</u>	COMPONENT NAME: <u>HANGER</u>	COMPONENT ID NO.: <u>CPL-3318-L</u>
---------------------------------	----------------------------------	--

DWG./LOC.: CPL-3318 REV-0 / AUX HALLWAY

[X] VT-3 PROCEDURE: SP 1097 ERO 4-22-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> MIRROR	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER	<input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
---	--	---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATION PIPE WAS INSULATED
EXPANDED SCOPE

EXAMINER: Edmund R. Donovan LEVEL: II DATE: 4-22-92

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

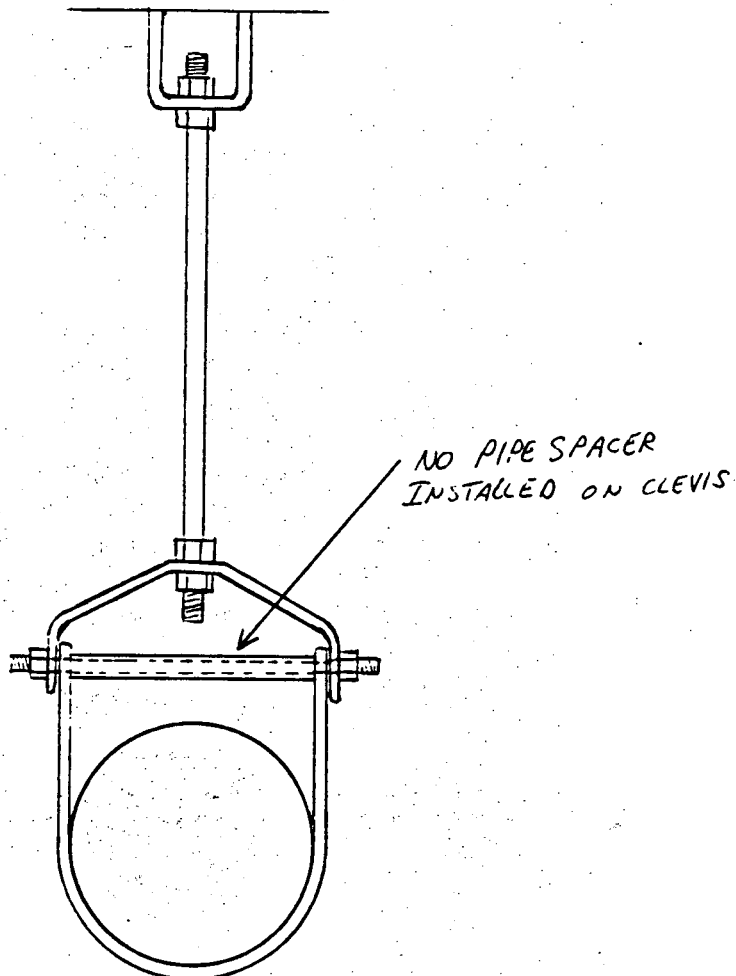
REVIEWERS COMMENTS:

ANII REVIEW: _____ DATE: _____

1105

PAGE 2 OF 2
DATA SHEET NO. 1097-200
EXAM ITEM CPL-3318-L
ISO DWG. NO. CPL-3318 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edmund J. Donovan
EXAMINER JA
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL 1/2
LEVEL _____
DATE 4/25/92
DATE _____

DATE 4-22-92
DATE JA
DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-L

Visual Exam Report No. 1097-200

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted.

Clement Rajendra / 5-20-92
NED Engineer Date

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221-HH

Visual Exam Report No. 1097-153

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. VENDOR DID NOT PROVIDE LOCK NUTS FOR
CLAMP BOLTS AND THEREFORE ACCEPTABLE 'AS-IS'. THERE IS
ADEQUATE BEARING AREA UNDER WASHER PLATE, THEREFORE
SLIGHTLY TURNED WASHER PLATE IS ACCEPTABLE.

Clement Rajendra / 5-13-92
NED Engineer / Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097755

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 11 ☒ 12 1 PSI ☒ ISI

SYSTEM: <u>SIS & RHR RETURN</u>	COMPONENT NAME: <u>RED HANGER SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221A-G</u>
-------------------------------------	---	-------------------------------------

DWG./LOC.: CPL-221A / Rev 1 / PIPE ALLEY - NORTH

☒ VT-3 PROCEDURE: ^{SP-1097 EA 4-18-92} NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" Scale</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Nuts not fully engaged - see pg. #2
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A
DEBRIS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Light debris on channel steel
CORROSION/EROSION	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bottom clamp bolt lightly rusted
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weld undercut
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N: <u>N/A</u>			

See page #2

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details

* EXPANDED SCOPE

EXAMINER: Chf Moss CN LEVEL: II DATE: 4-18-92

REVIEWER: Art P... CN LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

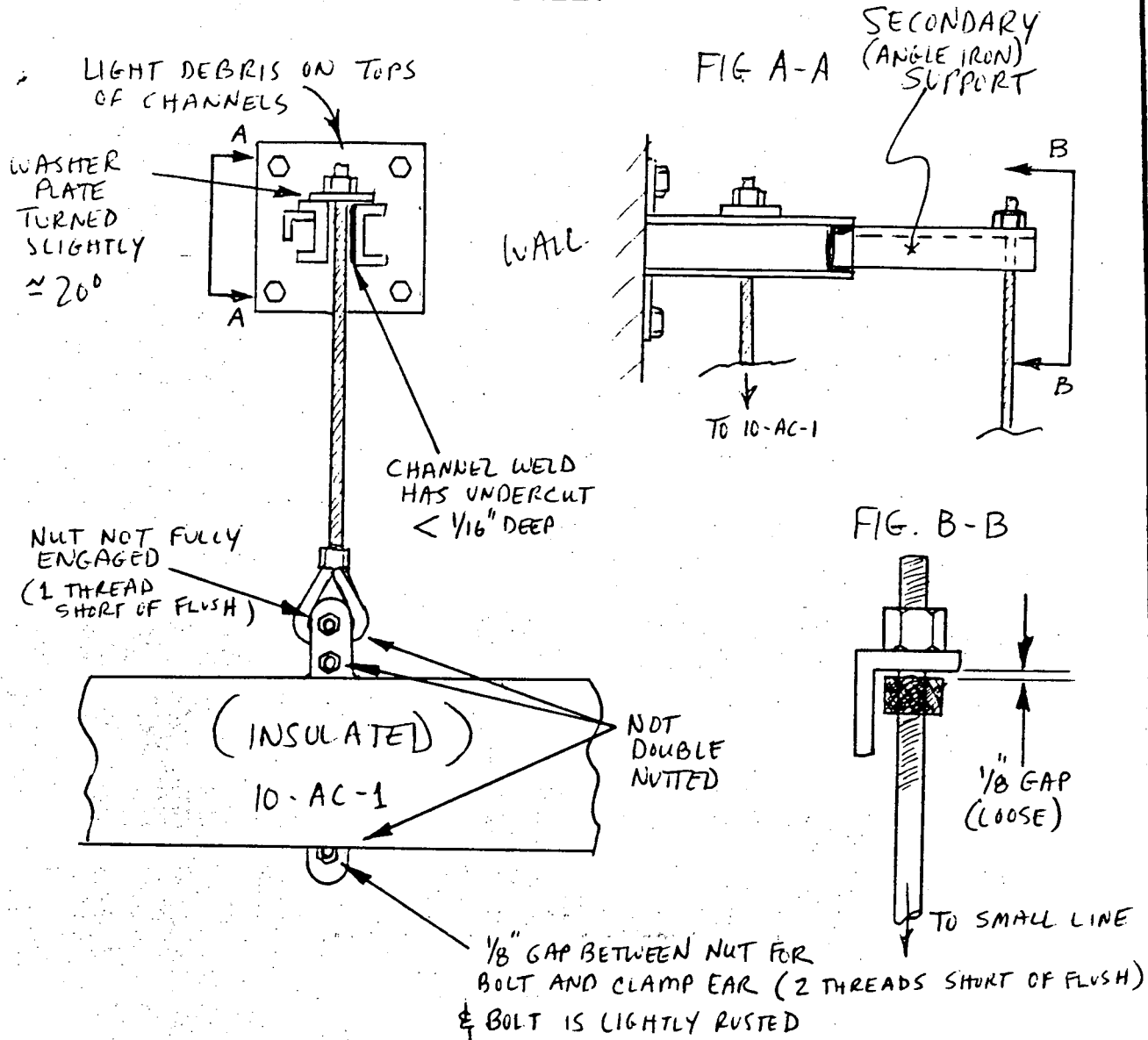
REVIEWED BY: Richard B. Weber 4/22/92

REVIEWERS COMMENTS:

ANII REVIEW: BP Wallaces

DATE: 4.23.92

SKETCH SHEET



EXAMINER Cliff Most
 EXAMINER N/A
 REVIEWER Rich B. Weber
 REVIEWER Rich B. Weber
 REVIEWER AN

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE 4/22/92
 DATE _____

DATE 4-18-92
 DATE N/A
 DATE 4-20-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221A-Q

Visual Exam Report No. 1097-155

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN JAM NUT ON THREADED ROD FOR SECONDARY SUPPORT.
CORRECT MISALIGNMENT OF WASHER PLATE. PROVIDE LOCK NUT
FOR THREADED ROD OF MAIN SUPPORT ABOVE WASHER PLATE.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC",
DEAD WEIGHT SUPPORT. VENDOR CATALOGS DO NOT SHOW LOCKNUT FOR
CLAMP BOLTING, THERE LOCKNUTS NEED NOT BE PROVIDED FOR CLAMP
BOLTS. ONE OR TWO THREADS SHORT OF FULL THREAD ENGAGEMENT IS
ACCEPTABLE FOR CLAMP BOLTS DUE TO HIGH FACTOR OF SAFETY FOR
DEAD WEIGHT SUPPORTS. BASED ON SAMPLING STUDIES DONE BY EBASCO,
EXISTING WELDS ARE ACCEPTABLE. SMALL AMOUNT OF RUST DOES NOT
AFFECT STRUCTURAL INTEGRITY. LOCKNUTS, JAMNUTS DO NOT CONTRIBUTE
TO STRUCTURAL INTEGRITY BUT ARE REQUIRED TO PREVENT SUPPORT FROM
GETTING DISCONNECTED DUE TO VIBRATION. ADEQUATE BEARING EXISTS
UNDER WASHER PLATE.

Clement Rajendra / 5-14-92
NED Engineer Date

CP&L

Cable Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-241

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: SI COMPONENT NAME: ROD HANGER COMPONENT ID NO.: CPL-233-^{ERO 5-292}F2-J1

DWG./LOC.: CPL-233 REV-0 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP-10 97 ERO 5-192
NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR
[X] OTHER 6" SCALE TYPE OF COMPONENT SUPPORT:
[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[X] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	[X]			SEE ATTACHED SKETCH
MISALIGNMENT		[X]		
DEBRIS		[X]		
CORROSION/EROSION		[X]		
STRUCTURAL INTEGRITY	[X]			SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT			[X]	
CLEARANCES OF MOVING PARTS		[X]		
ARC STRIKES/GOUGES		[X]		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	SIN <u>N/A</u>	

COMMENTS: RECORDABLE INDICATIONS PIPE WAS INSULATED
EXPANDED SPOPE

EXAMINER: Edmund R. Moran LEVEL: II DATE: 4-30-92

REVIEWER: W. P. [Signature] LEVEL: II DATE: 5-2-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 5/2/92

REVIEWERS COMMENTS:

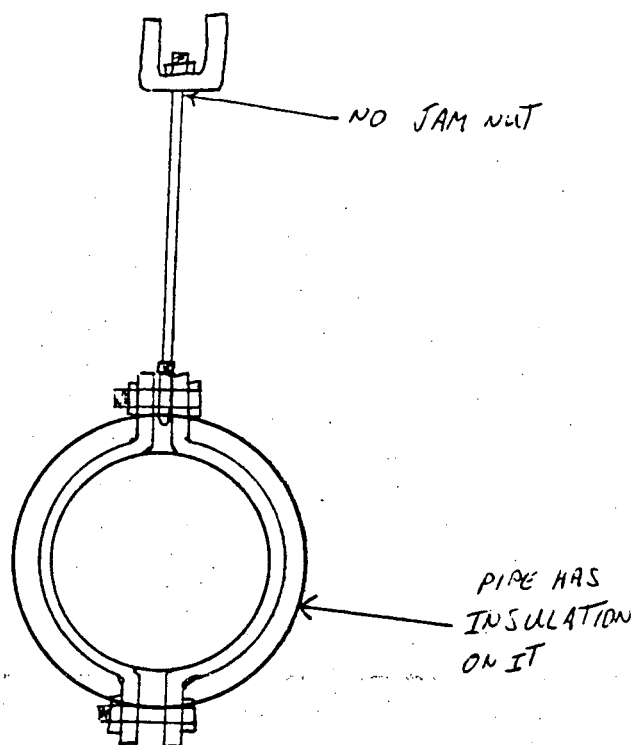
ANII REVIEW:

DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097-242EXAM ITEM CPL-233-J1ISO DWG. NO. CPL 233 REV. 0

SKETCH SHEET

EXAMINER Schmidt D. D.LEVEL IIDATE 4-30-92EXAMINER ALEVEL ADATE AREVIEWER Richard B. WeberLEVEL IIDATE 5-1-92REVIEWER Richard B. WeberDATE 5/2/92REVIEWER DATE

(22)

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-233-JI

Visual Exam Report No. 1097-242

241
CSR
5/14/92

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN CLAMP BOLTS, ONLY.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC,"
DEAD WEIGHT SUPPORT. THE SUPPORT IS FUNCTIONAL BECAUSE IT IS
CARRYING DEAD WEIGHT WITHOUT DISTRESS. JAM NUT ON THREADED
ROD NOT REQUIRED BECAUSE THE END AT WELDLESS EYE NUT HAS
A JAM NUT AND WOULD NOT ALLOW THREADED ROD TO BECOME
LOOSE.

Clement Rajendra / 5-14-92
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-210

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>AFW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 331B-14</u>
--------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 331B REV 0 / CCW HEAT EXCHANGER ROOM

[x] VT-3 PROCEDURE: NDP-613 ^{SP 1087 4-21-92} REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x] EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____	VIDEO RECORDING NO: [x] N/A TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS
COMPONENT INSULATED
EXPANDED SCOPE

FOR INFORMATION ONLY

EXAMINER: Cert Purn LEVEL: II DATE: 4-21-92

REVIEWER: Edmund R. Danova LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

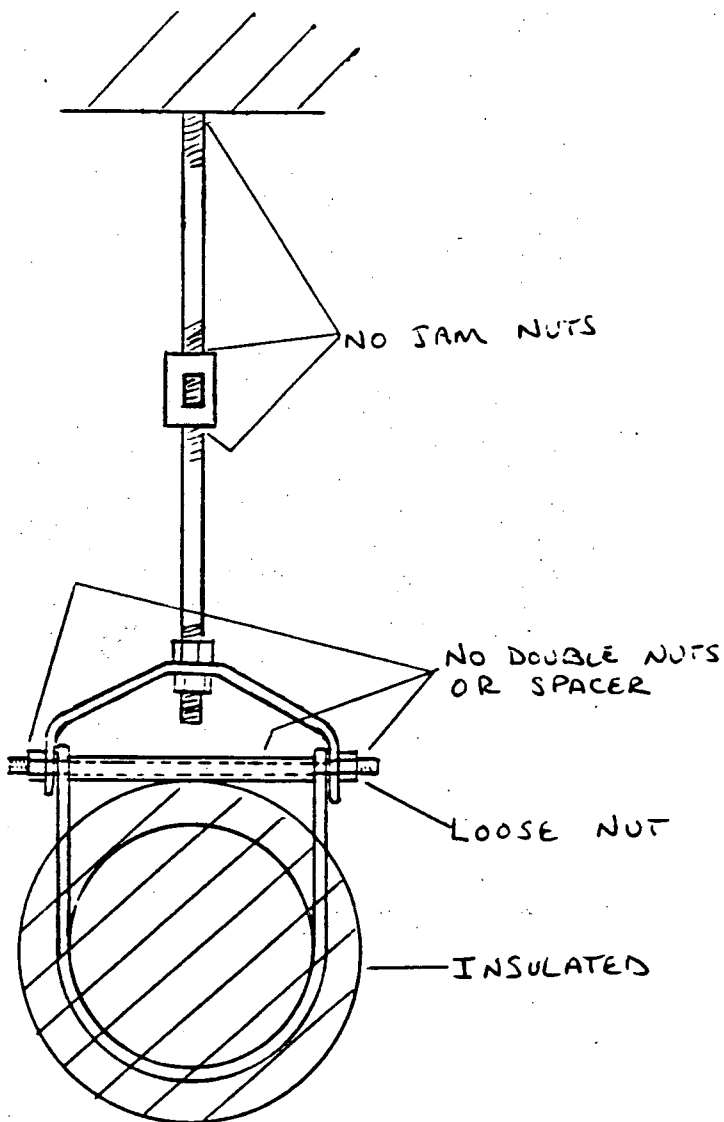
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-210
EXAM ITEM CPL 331 B-H
ISO DWG. NO. CPL 331 B REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Art Purnan
EXAMINER N/A
REVIEWER Charles R. Darrow
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/25/92
DATE _____

DATE 4-21-92
DATE N/A
DATE 4-22-92

AM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-3318-H

Visual Exam Report No. 1097-210

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE MISSING JAM NUTS ON THREADED RODS. TIGHTEN
LOOSE NUT ON CLEVIS BOLT. ONLY.

Basis:

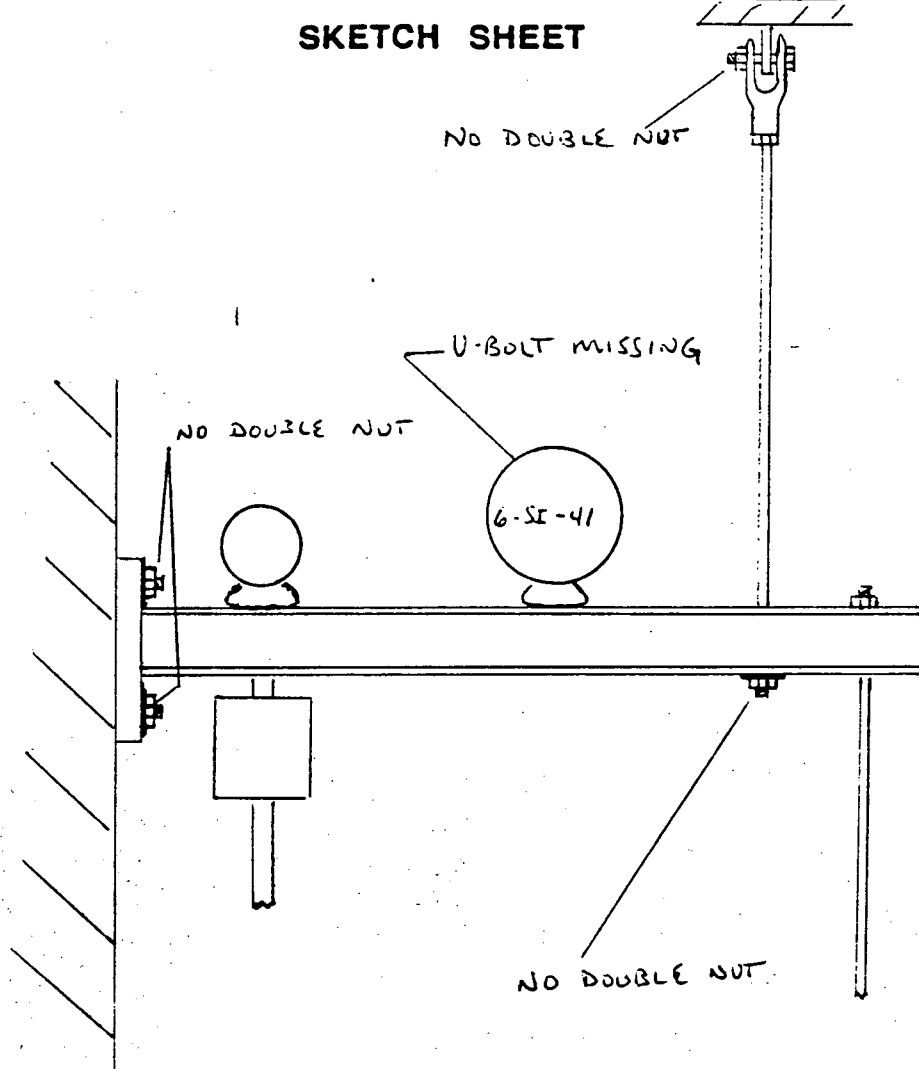
THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC,"
DEAD WEIGHT SUPPORT. CLEVIS BOLT SPACER DOES NOT CONTRIBUTE TO
STRUCTURAL INTEGRITY, ITS FUNCTION IS TO PREVENT OVERTIGHTENING
OF CLEVIS STRAP AND THEREFORE MAY BE OMITTED. NUT ON CLEVIS
BOLT OR JAM NUTS ARE INVOLVED IN LOAD TRANSFER. NUT TIGHTNESS
AND JAM NUTS ARE REQUIRED TO PREVENT SUPPORT FROM GETTING
DISCONNECTED DUE TO VIBRATION LOOSENING.

Clement Rajendra / 5-14-92
NED Engineer Date

1125

PAGE 2 OF 2DATA SHEET NO. 1097760EXAM ITEM CPL 232-FISO DWG. NO. CPL 232 REV. 0

SKETCH SHEET



EXAMINER Art Purnan
EXAMINER N/A
REVIEWER Chas Moss
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/21/92
DATE _____

DATE 4-16-92
DATE N/A
DATE 4-18-92

1 SP-522

SECT B

2'-5 1/2

R 1/4 x 2 x 0'-3

5/8 4 RO
2-457.

3/4 Ø —
SPACER

TACK
WELD

2" PIPE

2-4[5

•

5/8" Ø ROD

BY
SPACER

R 1/4 x 2 x 0-4 1/4
(TYP UN)

ELEV LKG EAST

L3x3x $\frac{3}{8}$
x4 LONG

FIG 82
TYP A
SIZE #6

SI-9-N-20

(LINE NO. 6 SI-41)

PT# 6003

SECT C

40 PIPE

SH 1 OF 2

FOR INFORMATION ONLY
LOCATION; SI PUMP ROOM

Inspected By *N. Ghassabian*

Date _____

5-15-~~4~~

CA NG

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-232-F

Visual Exam Report No. 1097-160

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE LOCK NUT FOR THREADED ROD BELOW WASHER PLATE ONLY.
- NO OTHER CORRECTIVE ACTION REQUIRED.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. THE WEDGE ANCHOR BOLTS ARE NOT PROVIDED
WITH LOCK NUTS BECAUSE THEY HAVE A PRE-TENSION WHICH WILL PREVENT
LOOSENING. FORGED STEEL CLEVIS IS USUALLY SUPPLIED WITH A PIN; A
BOLT IS AN ACCEPTABLE ALTERNATE AND DOES NOT REQUIRE LOCK NUTS.
U-BOLT REMOVED FROM THIS SUPPORT ON 3/28/86 TO PREVENT THIS
SUPPORT FROM PROVIDING RESTRAINT TO THERMAL OR SEISMIC MOVEMENT.
LOCK NUT FOR THREADED ROD IS NOT INVOLVED IN LOAD TRANSFER BUT
REQUIRED TO PREVENT SUPPORT FROM GETTING DISCONNECTED DUE TO
VIBRATION LOOSENING.

Clement Rajendra / 5-14-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-158

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 232 - E</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 232 REV 0 / SI PUMP ROOM

☒ VT-3 PROCEDURE: ^{SP 1097 4-16-92} ~~NDEP 613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	N/A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art P... LEVEL: II DATE: 4-16-92

REVIEWER: Chf Moss AN LEVEL: II DATE: 4-18-92

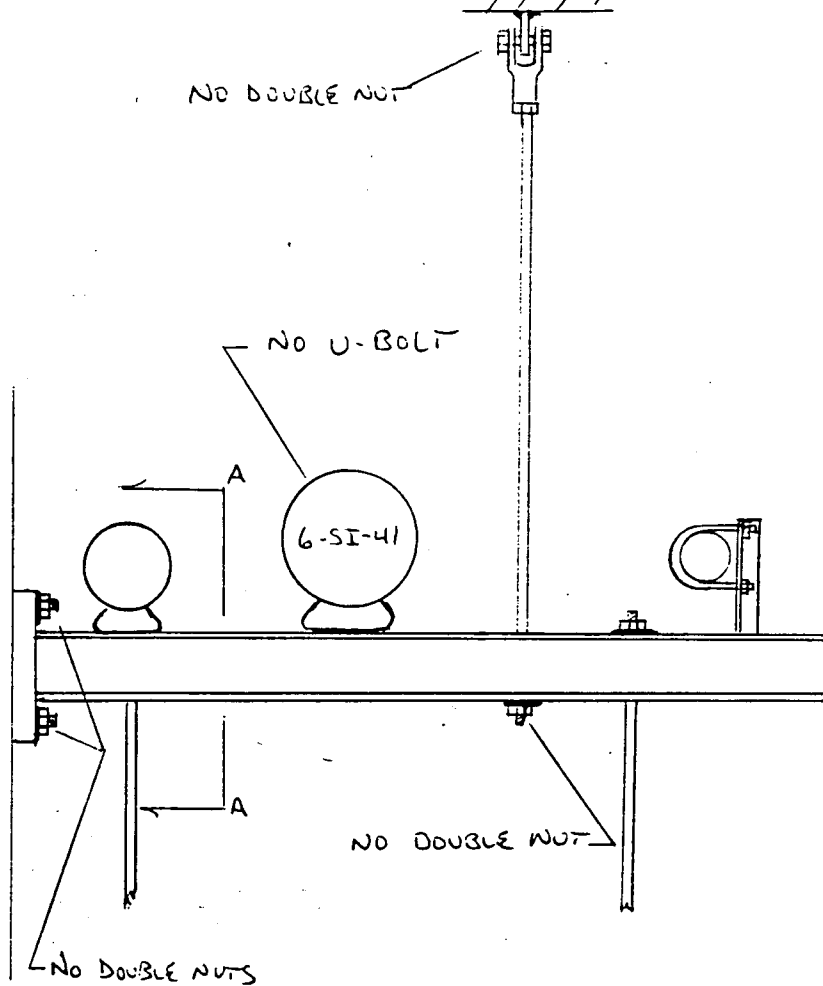
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

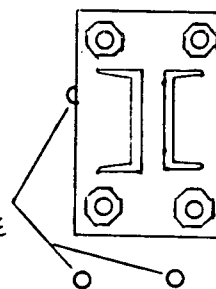
REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares DATE: 4.23-92

SKETCH SHEET



HOLES IN CONCRETE
< 5 DIAMETERS
FROM BASE PLATE
STUDS.



EXAMINER Cat P...
EXAMINER N/A
REVIEWER Chiffmass
REVIEWER Rich B. Weber
REVIEWER AW

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/22/92
DATE _____

DATE 4-16-92
DATE N/A
DATE 4-18-92

SUPPORT "E"

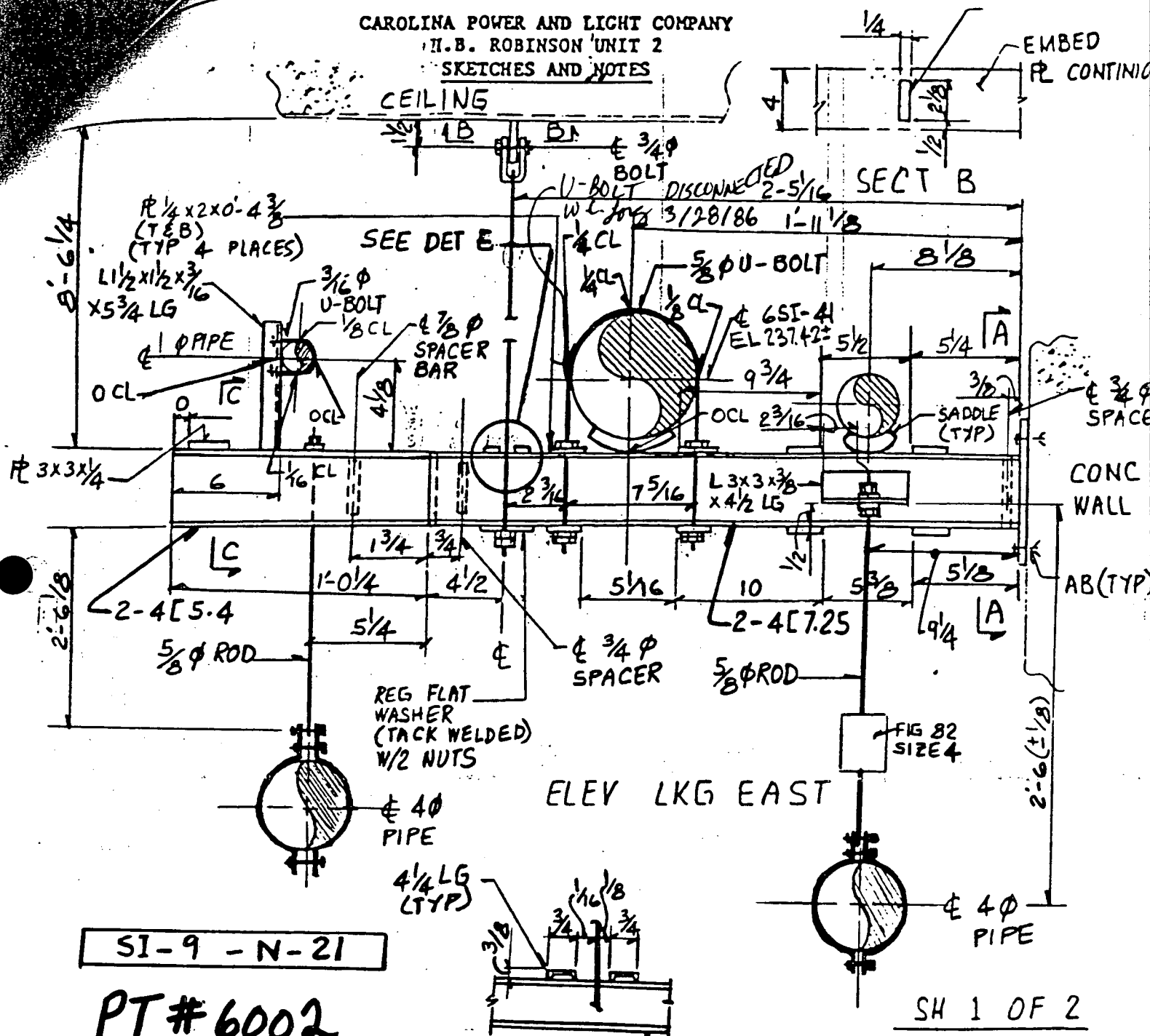
18 of 45

TITLE
INSPECTION OF PIPE SUPPORTS AND RESTRAINTS

REV PROCEDURE
1 SP-522

CAROLINA POWER AND LIGHT COMPANY
H.B. ROBINSON UNIT 2
SKETCHES AND NOTES

CEILING



SI-9 - N-21

PT#6002

LOCATION: SI PUMP ROOM

DET E 2-4C

FOR INFORMATION ONLY

Inspected By T. Khosrabian

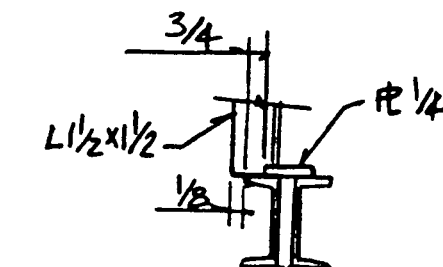
Date 5-10-84

TITLE
INSPECTION OF PIPE SUPPORTS AND RESTRAINTS

REV PROCEDURE
1 SP-522

CASE # I.D. ;
 SI-109-RAZ-203

APPEARS THAT
ORIGINAL BASE R.
WAS MOVED UP.
ORIGINAL SAB WERE
ABANDONED & NEW
WAB INSTALLED.



PT# 6002

SH 2 OF 2

SECT C

FOR INFORMATION ONLY

Inspected By *N. Khanna*

Date 5-10-84

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-232-E

Visual Exam Report No. 1097-158

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE LOCKNUT FOR THREADED ROD BELOW WASHER PLATE ONLY.
- NO OTHER CORRECTIVE ACTION REQUIRED. -

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. THE WEDGE ANCHOR BOLTS ARE NOT PROVIDED
WITH LOCKNUTS BECAUSE THEY HAVE A PRE-TENSION WHICH WILL PREVENT
LOOSENING. FORGED STEEL CLEVIS IS USUALLY SUPPLIED WITH A PIN; A
BOLT IS AN ACCEPTABLE ALTERNATE AND DOES NOT REQUIRE LOCKNUTS.
U-BOLT REMOVED FROM THIS SUPPORT ON 3/28/86 TO PREVENT THIS
SUPPORT FROM PROVIDING RESTRAINT TO THERMAL OR SEISMIC MOVEMENT.
LOCKNUT FOR THREADED ROD IS NOT INVOLVED IN LOAD TRANSFER BUT
REQUIRED TO PREVENT SUPPORT FROM GETTING DISCONNECTED DUE TO
VIBRATION LOOSENING. THE MAIN FRAMING MEMBER 2-C4X5.4 COULD
BE CONSIDERED TO ACT AS A SIMPLY SUPPORTED BEAM THUS IMPOSING
ONLY A SHEAR LOAD ON THE CONCRETE EXPANSION ANCHORS, THE EFFECT
OF UNCONTAINED HOLES ON SHEAR CAPACITY OF CONCRETE EXPANSION
ANCHORS IS MARGINAL.

Clement Rajendra / 5-14-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C.A. Jones / Clement Rajendra</u>		<u>TSE-92-DN</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>OF</u>
<u>Attached ARE ISI Visual Reports and</u>		MOD <u>M-</u>
<u>Sketches Requiring NED Disposition. Please</u>		PCN
<u>Resolve as soon as possible - These supports</u>		RET-R-G*92-Bx
<u>are part of the Expanded scope and could have an impact on</u>		
<u>OUTAGE SCHEDULE. Component IDs:</u>		
<u>CPL 331B-K 331B-J 323-R</u>		
<u>331B-L 331B-G 323-T</u>		
<u>331B-M 331B-H 326-H</u>		
<u>333-H 314-D 326-I</u>		
<u>327-N 323-A1</u>		
<u>327-L 323-D</u>		
SIGNED: <u>[Signature]</u> <u>4-27-92 Ex 1888</u>		RESPOND BY:
		<u>5/4/92</u>

*RELEASING AUTHORITY: _____ DATE: 1 1

RESPONSE:

DISPOSITIONS FOR THE FOLLOWING COMPONENTS ARE RETURNED HERewith:

<u>CPL- 221A-N, CPL- 232-I, CPL- 333-H</u>	DISTRIBUTION
<u>CPL- 331A-X, CPL- 331A-T, CPL- 331A-V</u>	

SIGNED: Clement Rajendra*RELEASING AUTHORITY: [Signature] DATE: 5/19/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.



Carroll Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-154

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: SIS & RHR RETURN COMPONENT RCD HANGER COMPONENT CPL-221A-N
NAME: SUPPORT ID NO.:

DWG./LOC.: CPL-221A, REV 1 / PIPE ALLEY-NORTH

☒ VT-3 PROCEDURE: SP-1097 (CD 4-18-92) NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR TYPE OF COMPONENT SUPPORT:
☒ OTHER 6" scale ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See page #2 for details
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A
DEBRIS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See page #2 for details
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A			STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS - See page #2 for details.

* EXPANDED SCOPE

EXAMINER: Cliff Moss (CD) LEVEL: II DATE: 4-18-92

REVIEWER: Art ... LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber #22/92

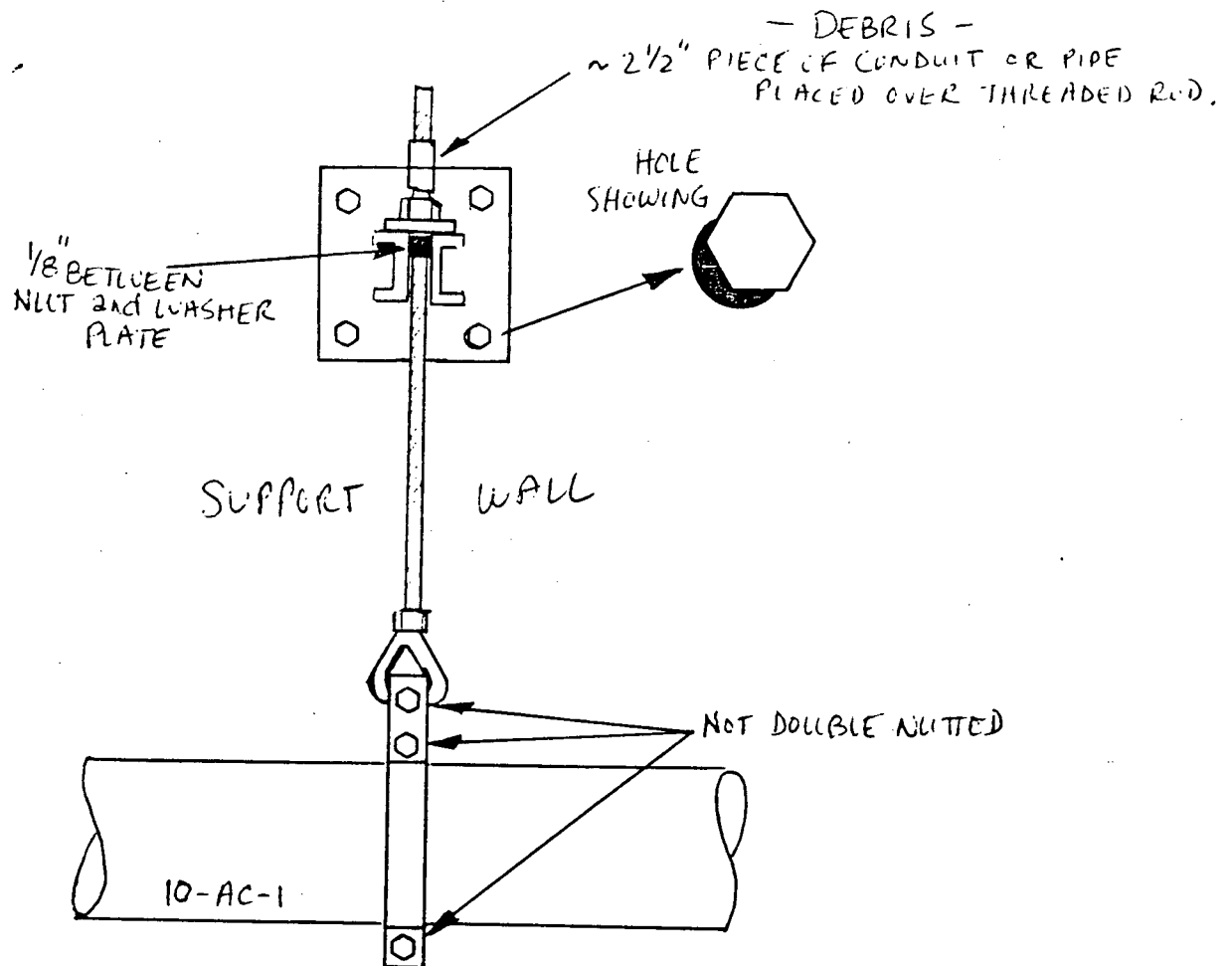
REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4.23.92

105

PAGE 2 OF 2DATA SHEET NO. 1097-134EXAM ITEM CPL-221A-NISO DWG. NO. CPL 221A REV. 1

SKETCH SHEET



EXAMINER Chiff Moss
EXAMINER N/A
REVIEWER Art R...
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/22/92
DATE _____

DATE 4-18-92
DATE N/A
DATE 4-20-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221A-N

Visual Exam Report No. 1097-154

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE PIECE OF CONDUIT ON THREADED ROD. PROVIDE NEW
LOCK NUT FOR NUT ABOVE WASHER PLATE, ONLY.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED', 'NON-SEISMIC'
DEAD WEIGHT SUPPORT. CLAMP BOLTS ARE NOT PROVIDED WITH
DOUBLE NUTS PER VENDOR CATALOG AND IS ACCEPTABLE 'AS IS'.
THIS SUPPORT IS ESTIMATED TO CARRY A DEAD LOAD OF 450 LBS. THE
SUPPORT IS A CANTILEVER WITH 7 1/2" SPAN. THE BASE PLATE IS 3/4" THICK
WITH 4 - 3/4" ϕ SELF-DRILLED CONCRETE EXPANSION ANCHORS. SINCE
BOTTOM R.H. ANCHOR BOLT HAS AN OVERSIZE HOLE, ASSUME SHEAR IS
CARRIED ONLY BY TOP TWO BOLTS. LEVER ARM = $4 \frac{3}{4} + 2 \times 3 \frac{1}{4} = 6.25"$
TENSION ON BOLTS = $\frac{450 \times 7.5}{2 \times 6.25} = 270 \text{ LB.}$
(UPPER)

SHEAR ON BOLTS = $450 = 225 \text{ LB.}$

TENSION CAPACITY = 3402^2 LBS. , SHEAR CAPACITY = 3694 LBS.
(NED DESIGN GUIDE DG II.1, ATT. 6) INTERACTION = $\frac{270}{3402} + \frac{225}{3694} = 0.14551$
SUPPORT ACCEPTABLE WITH JUST TOP 2 ANCHOR BOLTS. O.K.

LOCK NUT IS PROVIDED TO PREVENT VIBRATION LOOSENING. IT IS NOT REQUIRED
FOR STRUCTURAL INTEGRITY.

Clement Rajendra 15-18-92
NED Engineer Date



Canadian Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-K9

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 1 PSI X ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-232-I

DWG./LOC.: CPL-232, Rev 1 / PIPE ALLEY

X VT-3 PROCEDURE: SP-1097 CD 4-11-92 NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR
X OTHER 6" Scale

TYPE OF COMPONENT SUPPORT:
1 HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	<u>N/A</u>
MISALIGNMENT		<u>X</u>		
DEBRIS	<u>X</u>			<u>Light debris on all horizontal surfaces.</u>
CORROSION/EROSION		<u>X</u>		<u>N/A</u>
STRUCTURAL INTEGRITY	<u>X</u>			<u>See page #2 for details</u>
RESISTANCE TO MOVEMENT			<u>X</u>	<u>N/A</u>
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES		<u>X</u>		<u>See page #2 for weld debris (remnant)</u>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Chiff Moss CD LEVEL: II DATE: 4-11-92

REVIEWER: Edmund R. Dawson RD LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92 FOR INFORMATION ONLY

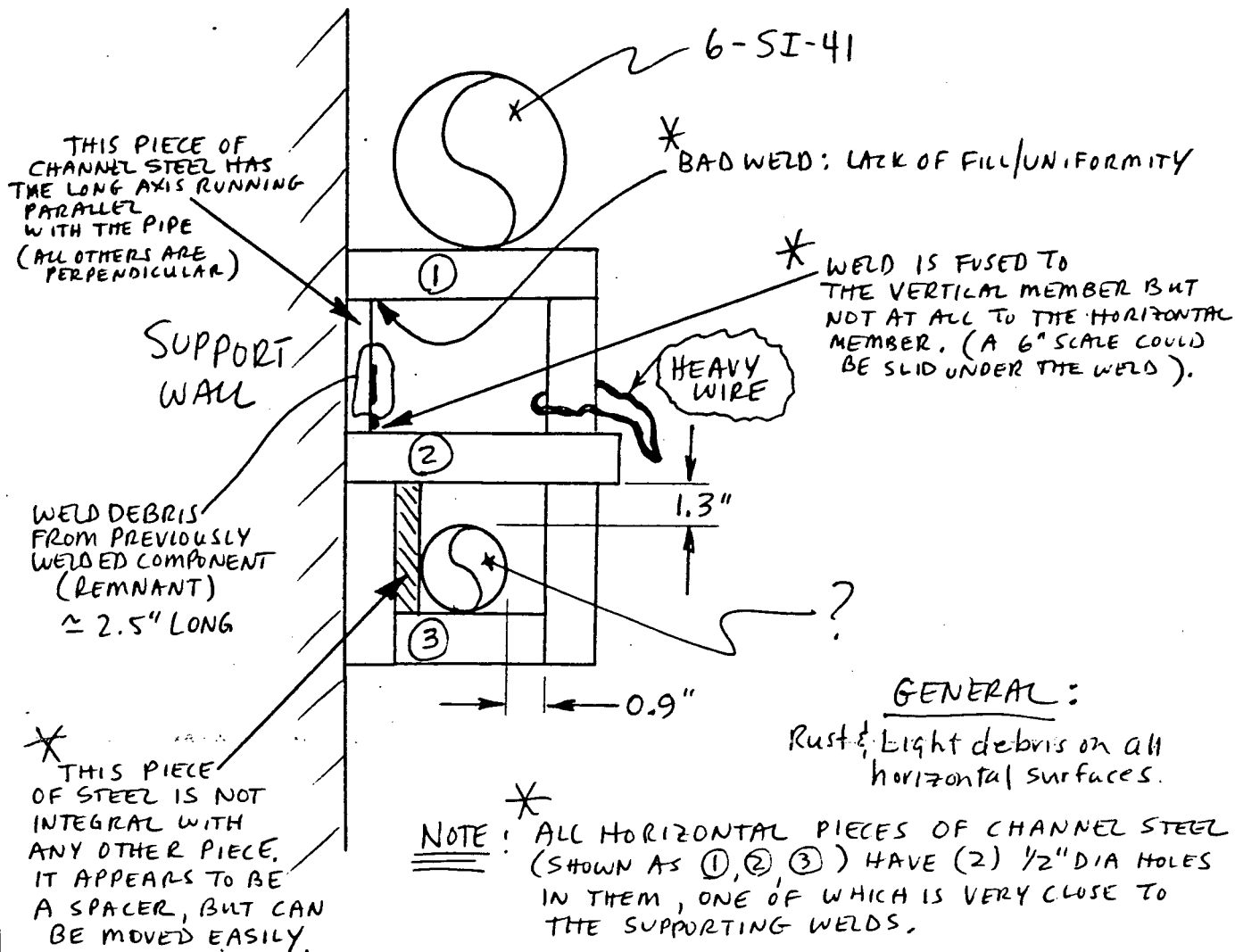
REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

SKETCH SHEET

LOOKING AT
 S.I. PUMP ROOM



FOR INFORMATION ONLY

EXAMINER Cliff Moss
 EXAMINER N/A
 REVIEWER Charles R. Drown
 REVIEWER Richard B. DeBru
 REVIEWER _____

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE 4/15/92
 DATE _____

DATE 4-11-92
 DATE N/A
 DATE 4-14-92

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C.A. JONES / CLEMENT RAJENDRA</u>		<u>ISE - 92EP</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET OF
<u>ATTACHED ARE ISI Visual Reports and SKETCHES</u>		MOD M-
<u>Requiring RED Disposition THESE REPORTS</u>		PCN
<u>ARE:</u>		RET-R-GX92-BX

CPL-233-F2 Expanded Scope

CPL-327-Q CW

CPL-328-BB CW

CPL-230-B RHR

	DISTRIBUTION
SIGNED: <u>[Signature]</u> <u>5-1-92 Ex 1888</u>	RESPOND BY: <u>5/11/92</u>

*RELEASING AUTHORITY: _____

DATE: 5/5/92

RESPONSE:

DISPOSITIONS FOR THE FOLLOWING COMPONENTS ARE RETURNED HEREWITH:

<u>CPL-233-F2, CPL-221-HH, CPL-221A-Q</u>	DISTRIBUTION
<u>CPL-233-J1, CPL-331B-H, CPL-232-F,</u>	
<u>CPL-232-E</u>	

SIGNED: Clement Rajendra

*RELEASING AUTHORITY: Bill Jones

DATE: 5/14/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-240

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 2 1 PSI ISI

SYSTEM: SI COMPONENT NAME: ROD HANGER COMPONENT ID NO.: CPL-233-F2

DWG./LOC.: CPL-233 REV-0 PIPE ALLEY

☒ VT-3 PROCEDURE: SP 1097 ERO 4-3092
NDEP-613 REV.: 0

☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☒ OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> SIN <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS PIPE WAS INSULATED

EXPANDED SCOPE

EXAMINER: Edmund R. Dawson LEVEL: II DATE: 4-30-92

REVIEWER: W. Pinner (M) LEVEL: II DATE: 5-1-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

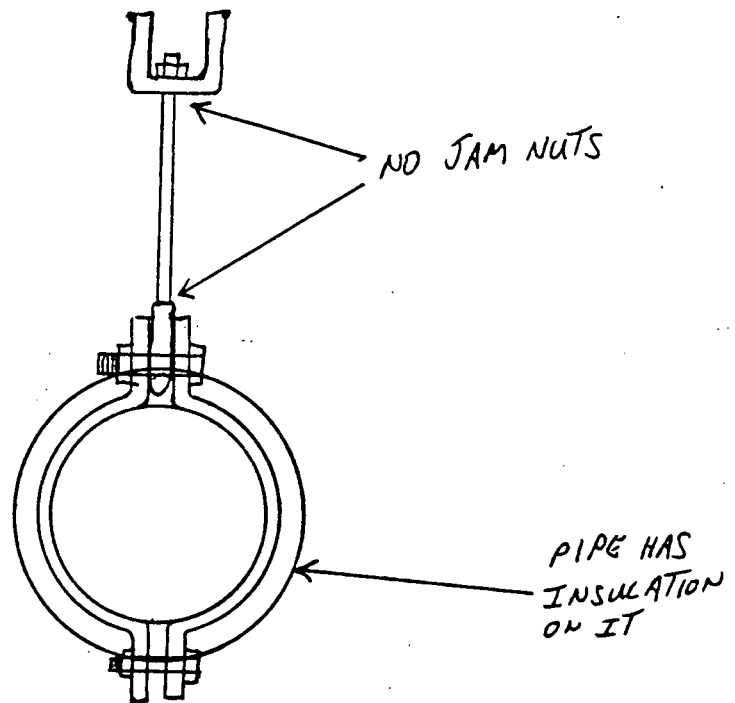
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-240EXAM ITEM CPL-233-F2ISO DWG. NO. CPL 233 REV. 0

SKETCH SHEET

EXAMINER Eckhard L. DawsonLEVEL IIDATE 4-30-92EXAMINER 4LEVEL 4DATE 4REVIEWER Art PinnerLEVEL IIDATE 5-1-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

FOR INFORMATION

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-233-F2

Visual Exam Report No. 1097-240

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE MISSING JAM NUTS.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC", DEAD WEIGHT SUPPORT. JAM NUTS ARE NOT INVOLVED IN LOAD TRANSFER BUT REQUIRED TO PREVENT SUPPORT FROM GETTING DISCONNECTED DUE TO VIBRATION LOOSENING.

Clement Rajendran 15-14-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

NOTE

REPORT NO. 1097-153

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT 1 1 ☒ 2

see pg. #2 - comments
@ 4-19-92

SYSTEM: <u>SIS & RHR RETURN</u>	COMPONENT NAME: <u>ROD HANGER SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221-HH</u>
-------------------------------------	---	-------------------------------------

DWG./LOC.: CPL-221 Rev 1 / PIPE ALLEY-CENTER

☒ VT-3 PROCEDURE: SP-1097 @ 4-19-92 WDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER [] CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER [] VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			See page #2 for details N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details
* EXPANDED SCOPE

EXAMINER: <u>Chf Moss @</u>	LEVEL: <u>II</u>	DATE: <u>4-19-92</u>
REVIEWER: <u>Art Puma</u>	LEVEL: <u>II</u>	DATE: <u>4-20-92</u>

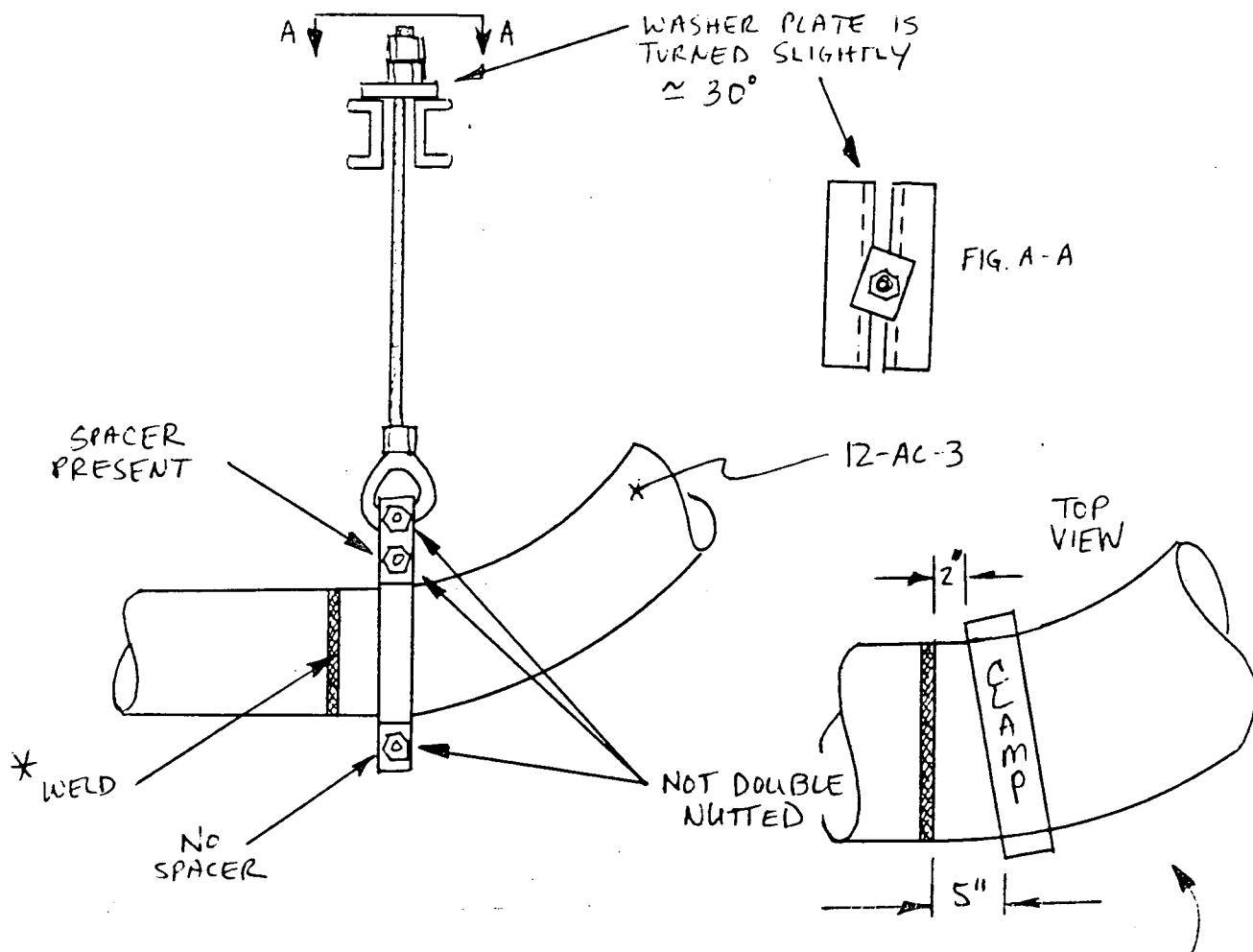
COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares DATE: 4-23-92

SKETCH SHEET



* CLAMP IS (5") FROM WELD ON ONE SIDE AND (2") ON THE OTHER.
 NOTE: This clamp appears to be new. This may be a PSI exam.

EXAMINER Cliff Moss
 EXAMINER N/A
 REVIEWER Carl D. [Signature]
 REVIEWER Richard B. Weber
 REVIEWER _____

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE 4/22/92
 DATE _____

DATE 4-19-92
 DATE N/A
 DATE 4-20-92

OF 3

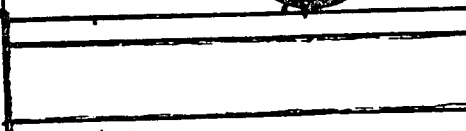
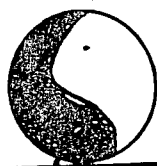
232
SUPPORT "I"
PT #27

$$B_{MAX} = 5\frac{1}{2}''$$

NO LI-BOLT

EMBEDDED
PLATE

EMBEDDED
PLATE



4" x 1 1/2" x 3/8"
CHANNEL

FOR INFORMATION ONLY

Inspected By

[Signature]

Date

1/25/80

SKETCH #2

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL- 232-I

Visual Exam Report No. 1097-119

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE LOOSE SPACER BETWEEN ITEMS (2) + (3).

REMOVE LOOSE HEAVY WIRE (TRASH)

THIS CORRECTIVE ACTION IS 'HOUSE-KEEPING' IN NATURE.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC' DEAD WEIGHT SUPPORT. THIS DEAD LOAD IS CARRIED BY ITEMS (1) + (2). THE DEAD LOAD OF PIPE BELOW IS CARRIED BY ITEM (3). SINCE THIS IS NOT A SEISMIC SUPPORT FOR PIPE BELOW LOOSE SPACE IS NOT REQUIRED TO BE PRESENT AND MAY BE REMOVED. PER SAMPLING DONE BY EBASCO, ALL EXISTING WELDS ARE CONSIDERED ACCEPTABLE.

Clement Rajendra / 5-18-92
NED Engineer Date



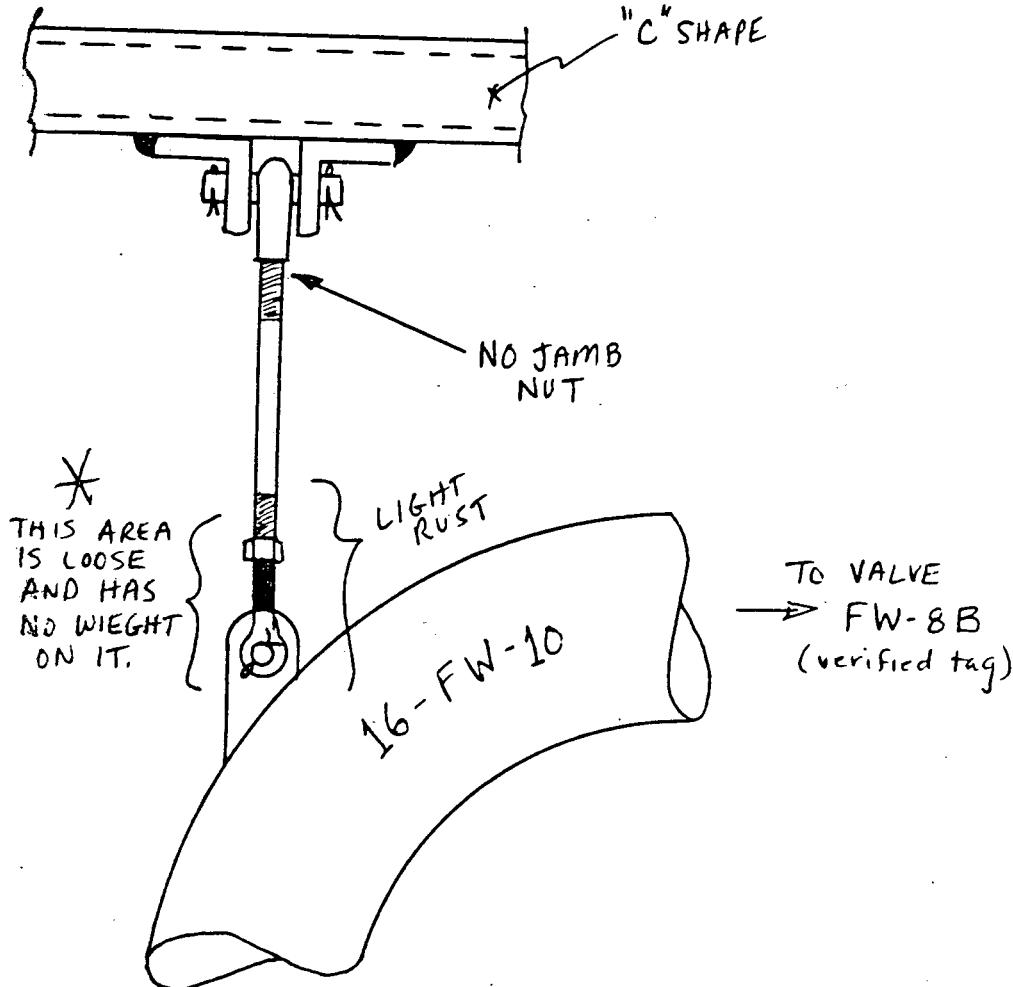
PAGE 1 OF 2

QA NDE ISI 5, Revision 5 11/88

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-87
EXAM ITEM CPL-333-H
ISO DWG. NO. CPL-333 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Cliff Moss
EXAMINER N/A
REVIEWER Edmund R. Danova
REVIEWER Richard D. Weber
REVIEWER RA

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/25/92
DATE _____

DATE 4-26-92
DATE N/A
DATE 4-22-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-333-H

Visual Exam Report No. 1097-187

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional.* The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE PAINT AT THE THREADS AT EACH END OF THE ROD.
LOOSEN LOCKNUT AT LOWER END. TURN THE THREADED ROD
TO REMOVE SLACK AND LOCK IN PLACE WITH ^{THE} LOWER LOCK NUT.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-
SEISMIC' DEAD WEIGHT SUPPORT. THERE IS A JAM NUT AT THE
LOWER END OF THE THREADED ROD AND THEREFORE THE ROD WILL
NOT GET LOOSENEED UNDER VIBRATION. THE SUPPORT WAS INSPECTED
WITH THE SYSTEM FULLY DRAINED AND THAT IS WHY THE ROD WAS
FOUND TO ^{BE} SLACK AND UNLOADED.

Clement Rajendra / 5-18-92
NED Engineer Date

* UNDER NORMAL OPERATING CONDITIONS

CP&L
Control Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-229

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: AFW COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 331A - X

DWG./LOC.: CPL 331A REV 1 / TURBINE BLDG.

SP1097 AP 4-23-92
☒ VT-3 PROCEDURE: NBE7-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: [x] N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER _____
 TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		<u>N/A</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			<u>SEE ATTACHMENT</u>
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		<u>N/A</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: R. J. Purnan LEVEL: II DATE: 4-22-92

REVIEWER: Richard R. Donovan LEVEL: II DATE: 4-27-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION:

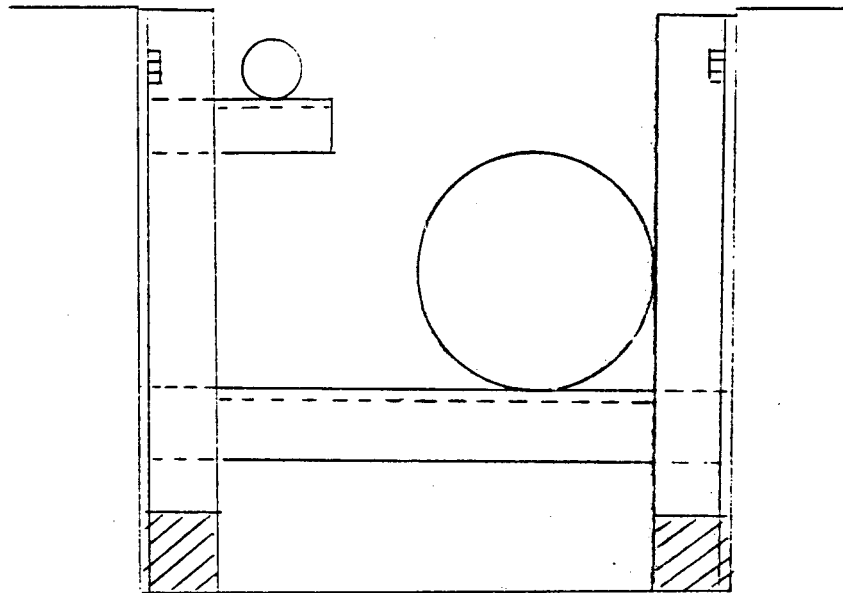
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-LL9EXAM ITEM CAL 331 A - XISO DWG. NO. CAL 331 A REV. 1

SKETCH SHEET



CORROSION
MODERATE TO HEAVY FLAKING,
10% OR GREATER METAL
LOSS.

EXAMINER Art Purnum
EXAMINER N/A
REVIEWER Edmund R. Darnon
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-22-92
DATE N/A
DATE 4-27-92

FOR INFORMATION

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-X

Visual Exam Report No. 1097-229

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed, ~~prior to return to service.~~ CAR 5/16/92
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE ALL CORROSION AND CORROSION PRODUCTS AND REPAINT
SUPPORT. THIS SHOULD BE DONE FOR ALL SUPPORTS AND ALL PIPING
IN TRENCH AFTER AREA, SYSTEM WIDE INSPECTION.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. PORTION OF SUPPORT CORRODED IS ON NON-
LOAD BEARING PORTION. HOWEVER CONTINUED EXPOSURE TO HUMID
ENVIRONMENT MAY ADVANCE CORROSION TO LOAD CARRYING PORTIONS,
RESULTING IN LESS THAN INTENDED FACTOR OF SAFETY.

Clement Rajendra 15-16-92
NED Engineer Date



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-225

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: AFW COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 331A-T

DWG./LOC.: CPL 331A REV: 1 / TURBINE BLOC

☒ VT-3 PROCEDURE: NOEP-613 ^{SP 1097 MP 4-23-92} REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER _____
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION	✓			SEE ATTACHMENT
STRUCTURAL INTEGRITY		✓		N/A
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER: Art Purnan LEVEL: II DATE: 4-22-92

REVIEWER: Edmund R. Dawson LEVEL: II DATE: 4-27-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW:

DATE:

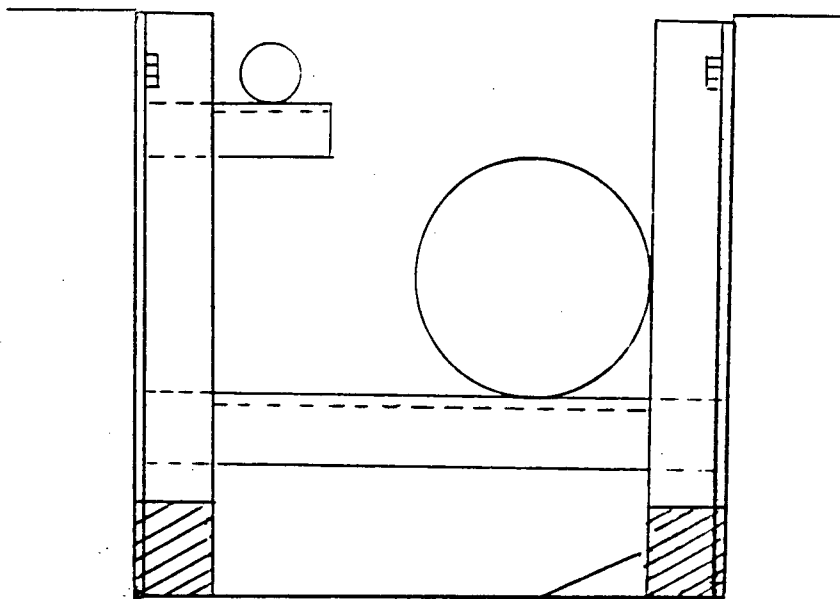
1105

PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CAL 331A - TISO DWG. NO. CPL 331A REV. 1

SKETCH SHEET



CORROSION MODERATE TO HEAVY
FLAKING. 10% OR GREATER METAL
LOSS.

EXAMINER Art Pinner
EXAMINER NA
REVIEWER Charles R. Darrow
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 4-22-92
DATE NA
DATE 4-27-92

in

FOR INFORMATION ONLY

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-T

Visual Exam Report No. 1097-225

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed ~~prior to return to service.~~
CAR 5/16/92
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE ALL CORROSION AND CORROSION PRODUCTS AND RE-PAINT
SUPPORT. THIS SHOULD BE DONE FOR ALL SUPPORTS AND ALL PIPING
IN TRENCH AFTER AREA, SYSTEM WIDE INSPECTION.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. PORTION OF SUPPORT CORRODED IS ON
NON-LOAD BEARING PORTION. HOWEVER CONTINUED EXPOSURE TO HUMID
ENVIRONMENT MAY ADVANCE CORROSION TO LOAD CARRYING PORTIONS,
RESULTING IN LESS THAN INTENDED FACTOR OF SAFETY.

Clement Rajendra
NED Engineer

15-16-92
Date



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-227

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT 1 X 2 PSI ISI

SYSTEM: AFW COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 331A - V

DWG./LOC.: CPL 331A - REV 1 / TURBINE GLOG

X VT-3 PROCEDURE: SP 1097 RP 4-23-92 NOEP-613 REV.: 0 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR
[] OTHER
TYPE OF COMPONENT SUPPORT:
[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			SEE ATTACHMENT
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		N/A
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Art Purnan LEVEL: II DATE: 4-22-92

REVIEWER: Edmund R. Danner LEVEL: II DATE: 4-27-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

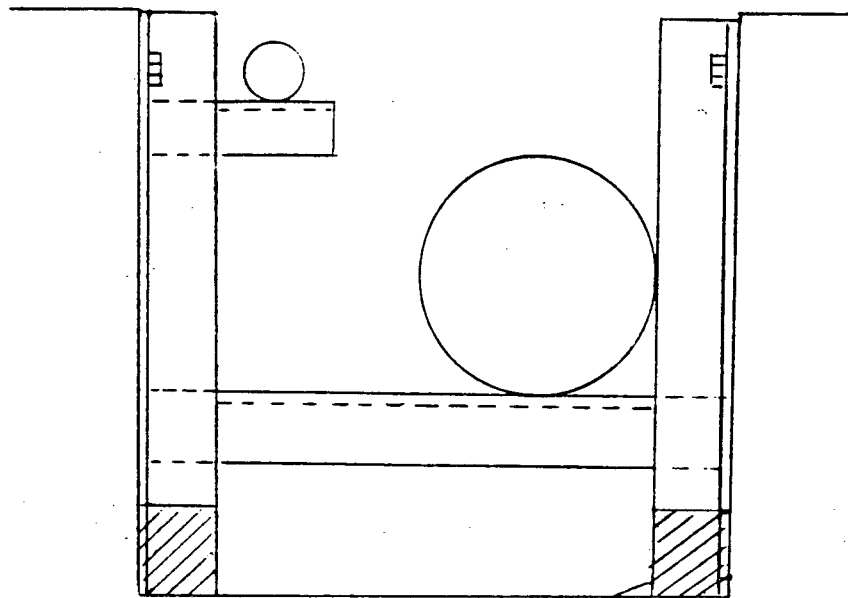
REVIEWERS COMMENTS: FOR INFORMATION

ANII REVIEW: DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-227
EXAM ITEM CPL 331A - V
ISO DWG. NO. CPL 331A REV. 1

SKETCH SHEET



CORROSION MODERATE TO HEAVY
FLAKING 10% OR GREATER METAL
LOSS

FOR INFORMATION ONLY

EXAMINER Art Pinner
EXAMINER N/A
REVIEWER Edmund R. Doren
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-22-92
DATE N/A
DATE 4-27-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-V

Visual Exam Report No. 1097-227

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service. CSR 5/16/92
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE ALL CORROSION AND CORROSION PRODUCTS AND
REPAINT SUPPORT. THIS SHOULD BE DONE FOR ALL SUPPORTS +
ALL PIPING IN TRENCH AFTER AREA, SYSTEM WIDE INSPECTION.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. PORTION OF SUPPORT CORRODED IS ON
NON-LOAD BEARING PORTION. HOWEVER CONTINUED EXPOSURE TO HUMID
ENVIRONMENT MAY ADVANCE CORROSION TO LOAD CARRYING PORTIONS, RESULTING
IN LESS THAN INTENDED FACTOR OF SAFETY.

Clement Rajendra
NED Engineer

5-16-92
1-16
Date CSR 5/16/92

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C. A. Jones / Clement Rajendra</u>		<u>TSE-92-CW</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF <u>1</u>
<u>Attached ARE ISI Visual Reports AND SKETCHES</u>		MOD <u>M-</u>
<u>Regarding NED Disposition: Component IDs:</u>		PCN
<u>CPL-221A-A (Indications AND Dwg Does NOT MATCH) R+R</u>		RET-R-G*92-BX
<u>CPL-327-T (Hanger Has Been Removed)</u>		
<u>326-DWS-D</u>		
<u>326-WS-B</u>		
<u>239-I</u>		
<u>239-H</u>		
		DISTRIBUTION
SIGNED: <u>[Signature]</u> E2 1888 4-18-92		RESPOND BY: <u>4/30/92</u> 94

*RELEASING AUTHORITY: _____ DATE: 4/20/92

RESPONSE:

ATTACHED ARE OUR DISPOSITIONS FOR THE FOLLOWING COMPONENTS:

<u>CPL-239-I, CPL-239-H, CPL-244-A &</u>	DISTRIBUTION
<u>CPL-234-C.</u>	
<u>WE HAVE DONE A PRELIMINARY REVIEW OF ALL</u> <u>REMAINING ISI INDICATIONS AND IT APPEARS UNLIKELY</u> <u>THAT ANY CORRECTIVE ACTION WOULD BE REQUIRED</u> <u>FOR THE REMAINING COMPONENTS.</u>	
SIGNED: <u>Clement Rajendra</u>	

*RELEASING AUTHORITY: C. A. Jones DATE: 5/19/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097HY9

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-239-I</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 239 REVO / PIPE ALLEY

[X] VT-3 PROCEDURE: ^{SP 1097 AP 4-16-92} ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]	VIDEO RECORDING NO: [X] N/A
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			DOES NOT SUPPORT LOAD - SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Curt Purnum LEVEL: II DATE: 4-15-92

REVIEWER: Edmund R. Brown DR LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

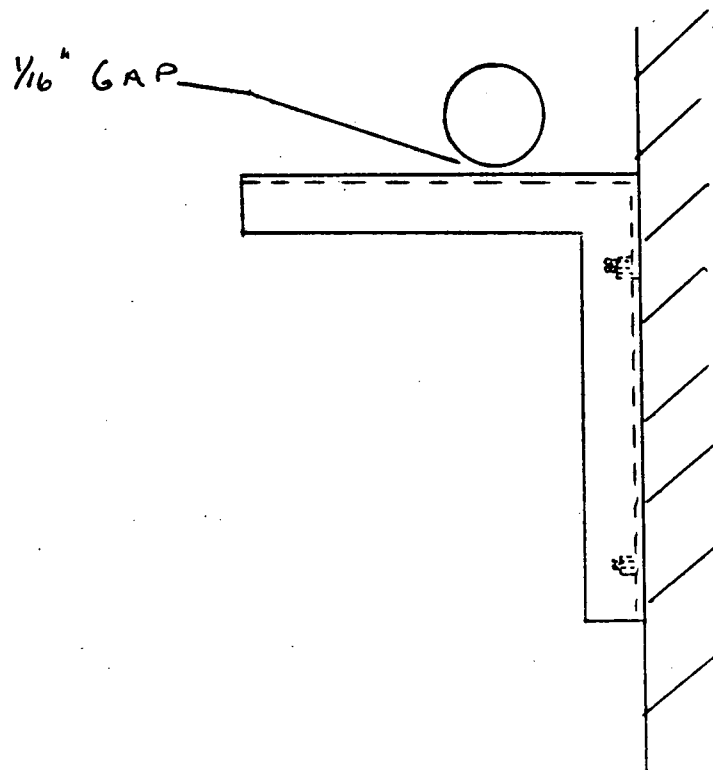
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-449EXAM ITEM CPL 239-IISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET

EXAMINER Art PinnerLEVEL IIDATE 4-15-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER William R. DonovanLEVEL IIDATE 4-16-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

AW

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-239-I

Visual Exam Report No. 1097-149

- ☐ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☒ Support is not functional. ~~The following corrections must be performed prior to return to service.~~ CSR 5/19/92

RECOMMENDED
Corrective Actions:

TAG SUPPORT AS "ABANDONED IN PLACE PER RFO #14 ISI EXAM
EVALUATIONS "

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC
DEAD WEIGHT SUPPORT. PIPE STRESS ANALYSIS PROVIDES FOR AN ALLOWANCE
OF 1500PSI FOR DEAD WEIGHT ASSUMING DEAD WEIGHT SUPPORTS ARE
PROVIDED PER 331.1 SPAN TABLES. WITH THIS SUPPORT CONSIDERED
NON-FUNCTIONAL, 331.1 SPANS ARE NOT EXCEEDED FOR DEAD WEIGHT
SUPPORTS WITH FOR 3" PIPING.
CSR 5/19/92

NOTE: SINCE THIS SUPPORT IS NOT REQUIRED TO SUPPORT THE 3" PIPING,
A SAMPLE EXPANSION IS NOT NECESSARY. THIS IS ALSO NOT
DUE TO AN IN-SERVICE DAMAGE.
CSR 5/19/92

REF. IRR- RS-92-IF

Clement Rajendra / 5-19-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-148 283

WR&A # N/A 5/18/92

PAGE 1 OF 2

ANT: <u>H. B. ROBINSON</u>		UNIT [<u>1</u>] <input checked="" type="checkbox"/> <u>2</u> [] PSI <input checked="" type="checkbox"/> ISI
SYSTEM: <u>ST</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-239-H</u>

DWG./LOC.: CPL 239 REV 0 / PIPE ALLEY

3P 1097 AP 4-11-92
☒ VT-3 PROCEDURE: NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			DOES NOT SUPPORT LOAD - SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: <u>Cert Purnan</u>	LEVEL: <u>II</u>	DATE: <u>4-15-92</u>
REVIEWER: <u>Edmund R. Dore</u> (MD)	LEVEL: <u>II</u>	DATE: <u>4-16-92</u>

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

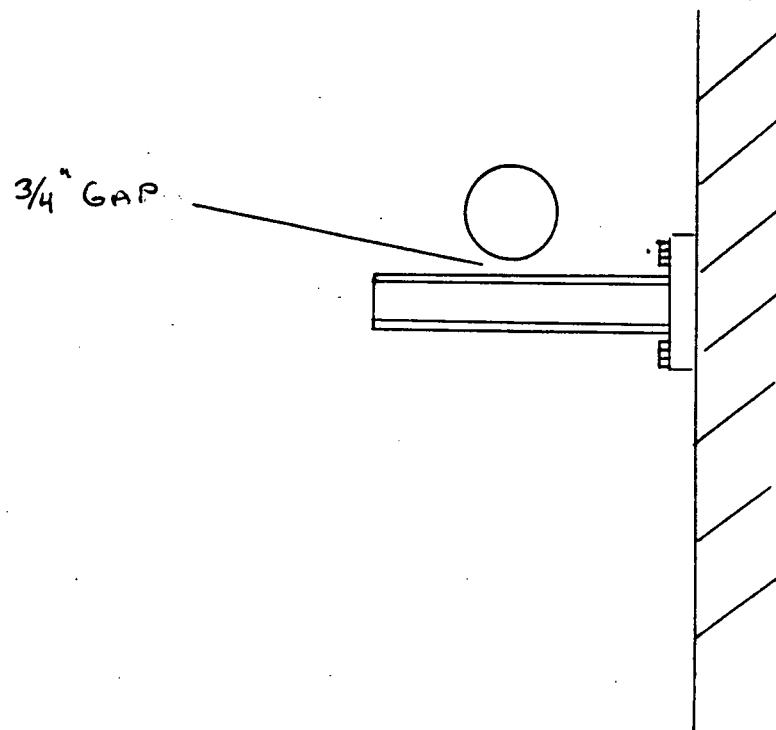
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-248-283 APL 5/18/92EXAM ITEM CPL 239 - H HISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET

EXAMINER Cert PymanLEVEL IIDATE 4-15-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Charles R. DonovanLEVEL IIDATE 4-16-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

11

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-239-H

Visual Exam Report No. 1097-283

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [X] Support is not functional. ~~The following corrections must be performed prior to return to service.~~ CR 5/19/92

RECOMMENDED
Corrective Actions:

TAG SUPPORT AS "ABANDONED IN PLACE PER RFO #14 ISI
EXAM EVALUATIONS"

Basis:

THIS SUPPORT CLASSIFIED AS A 'NON-SAFETY RELATED,
NON-SEISMIC' DEAD WEIGHT SUPPORT. PIPE STRESS ANALYSIS
PROVIDES FOR AN ALLOWANCE OF 500PSI FOR DEAD WEIGHT ASSUMING
DEAD WEIGHT SUPPORTS ARE PROVIDED PER B31.1 SPAN TABLES. WITH
THIS SUPPORT CONSIDERED NON-FUNCTIONAL, B31.1 SPANS ARE NOT
EXCEEDED FOR DEAD WEIGHT SUPPORTS FOR 3" PIPING.

NOTE: SINCE THIS SUPPORT IS NOT REQUIRED TO SUPPORT THE 3" PIPING,
A SAMPLE EXPANSION IS NOT NECESSARY. THIS IS ALSO NOT
AN IN-SERVICE DAMAGE.

REF. IRR-RS-92-IF

Clement Rajendran 5-19-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-164

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

HPSIS

COMPONENT

NAME: HANGER

COMPONENT

ID NO.: CPL-244-A

DWG./LOC.: CPL-244 REV-0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP 1097 ERS 4-16-92
NDEP-613 REV.: 0

☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>SEE ATTACHED SKETCH</u>
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>SEE ATTACHED SKETCH</u>
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edmund R. Donovan

LEVEL: II

DATE: 4-16-92

REVIEWER: Art Purnum AP

LEVEL: II

DATE: 4-18-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

REVIEWERS COMMENTS:

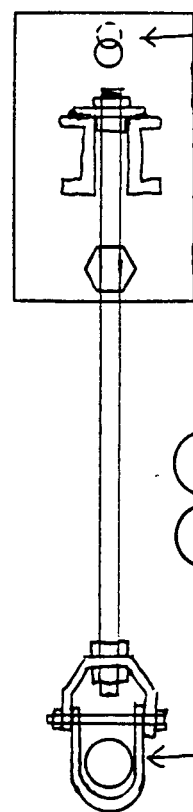
ANII REVIEW: RP Valladao

DATE: 4-23-92

1105

PAGE 2 OF 2DATA SHEET NO. 1097764EXAM ITEM CPL-244-AISO DWG. NO. CPL 244 REV. 0

SKETCH SHEET



ONE OF THE TWO BOLTS
HOLDING BASE PLATE
TO WALL IS MISSING
ANCHOR BOLT HOLE DOES
NOT LINE UP WITH
HOLE IN BASE PLATE

ANGLE IRON WELDED TO BASE PLATE
SUPPORTS TWO JUNCTION BOXES
NO COVERS ON BOXES, WIRES STICKING OUT
OF JUNCTION BOXES

PIPE IS NOT BEING
SUPPORTED BY CLEVIS
 $\frac{1}{4}$ " GAP EXIST BELOW
PIPE

EXAMINER Edmund R. Donovan
EXAMINER N/A
REVIEWER Art. P...
REVIEWER Richard B. Weber
REVIEWER AM

LEVEL II
LEVEL II
LEVEL II
DATE 4/22/92
DATE _____

DATE 4-16-92
DATE N/A
DATE 4-18-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-244-A

Visual Exam Report No. 1097-164

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [X] Support is not functional. ~~The following corrections must be performed prior to return to service.~~ CSR 5/19/92

RECOMMENDED
Corrective Actions:

TAG SUPPORT AS "ABANDONED IN PLACE PER RFO #14 IS/ EXAM
EVALUATIONS" OR REMOVE SUPPORT.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC'
DEAD WEIGHT SUPPORT. SUPPORT WAS FOUND NOT CARRYING DEAD WEIGHT
AND SINCE ONLY ONE ANCHOR BOLT WAS INSTALLED ON THE BASE PLATE,
THE SUPPORT COULD NOT BE QUALIFIED TO SUPPORT DEAD WEIGHT. THIS
DEAD WEIGHT IS ACTUALLY TRANSFER^{-RED} TO ADJACENT SEISMIC SUPPORT
CPL-244-B. THE SEISMIC SUPPORT WAS EVALUATED FOR ADDITIONAL
LOADING DUE TO NON-FUNCTIONAL SUPPORT CPL-244-A AND WAS FOUND TO
BE ACCEPTABLE. REF. IRR-92-RS-92-IF

CSR

5/19/92

Clement Rajendra 15-19-92
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 107762

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 234-C</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 234 REV 1 / SI Pump Room

[X] VT-3 PROCEDURE: ^{SP 1097 4-16-92}~~NOEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	N A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Cert Ruman LEVEL: II DATE: 4-16-92

REVIEWER: Cliff Moss DM LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

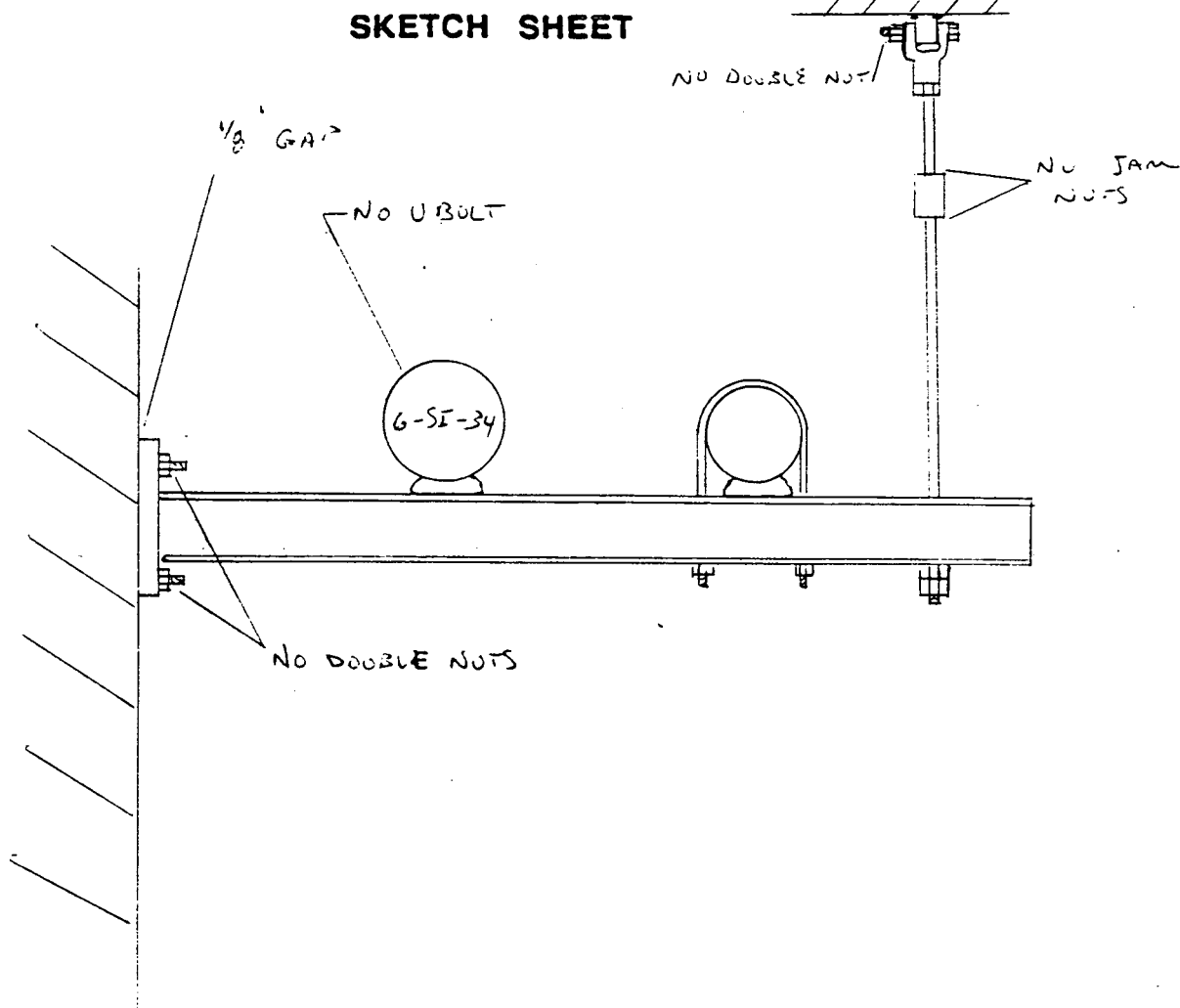
REVIEWERS COMMENTS:

ANII REVIEW: RP Valladare DATE: RP Valladare

1125

PAGE 2 OF 2DATA SHEET NO. 1077 Y62EXAM ITEM CPL 234 - CISO DWG. NO. CPL 234 REV. 1

SKETCH SHEET



EXAMINER Art P...
EXAMINER N/A
REVIEWER Chris Moss
REVIEWER Richard B. Weber
REVIEWER ...

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/22/92
DATE ...

DATE 4-16-92
DATE N/A
DATE 4-18-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-234-C

Visual Exam Report No. 1097-162

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE JAM NUTS AT TURNBUCKLE ONLY

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC"
DEAD WEIGHT SUPPORT. U-BOLT IS NOT REQUIRED FOR THIS SUPPORT
SINCE IT SHOULD NOT PROVIDE RESTRAINTS TO MOVEMENT OF PIPING
UNDER SEISMIC OR THERMAL LOAD. LOCKNUTS ARE NOT PROVIDED FOR
WEDGE ANCHORS DUE TO PRELOAD. GAP UNDER WALL BASE PLATE
IS NOT EXCESSIVE AND IS NOT INDICATIVE OF IN-SERVICE PROBLEMS.
FORGED STEEL CLEVIS IS NORMALLY PROVIDED WITH A PIN; SUBSTITUTION
WITH A BOLT IS ACCEPTABLE AND LOCKNUTS ARE NOT REQUIRED.
JAM NUTS ARE NOT INVOLVED IN LOAD TRANSFER BUT ARE REQUIRED TO
PREVENT THE SUPPORT ~~GETTING~~ GETTING DISCONNECTED DUE TO
COR 5/19/92
VIBRATION LOOSENING.

Clement Rajendra / 5-19-92
NED Engineer Date

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. BIGGS</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C.A. JONES / Clement Rajendra</u>		<u>TSE - 92-BM</u>
SUBJECT: <u>RESOLUTION OF ISI INDICATIONS</u>		SHEET <u>1</u> OF <u>17</u>
		MOD M-
<u>ATTACHED ARE ISI VISUAL REPORTS AND</u>		PCN
<u>SKETCHES REQUIRING NED DISPOSITION</u>		RET-R-G-X 92-BX
<u>COMPONENT ID: CPL-230-C</u>		

<u>CPL-221A-L</u>	DISTRIBUTION
<u>CPL-221A-K</u>	
<u>CPL-221A-Y</u>	
<u>CPL-221A-X</u>	
<u>CPL-221A-W</u>	
<u>CPL-221B-D</u>	RESPOND BY:
<u>CPL-221B-B</u>	
SIGNED: <u>Don D. Simpson X1088</u>	<u>4/12/92</u>

*RELEASING AUTHORITY: _____ DATE: 1 / 1 /

RESPONSE:

<u>ATTACHED ARE DISPOSITIONS FOR COMPONENTS CPL-221B-D & CPL-221B-B.</u>	DISTRIBUTION
<u>THE REMAINDER WERE SENT TO YOU BY ETS-92-AH</u>	

SIGNED: Clement Rajendra

*RELEASING AUTHORITY: _____ DATE: 1 / 1 /

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT N/A 1 X 2 N/A PSI X ISI
SYSTEM: RHR COMPONENT NAME: Support COMPONENT ID NO.: CPL-221B-B

DWG./LOC.: CPL-221B, Rev 1 / PIPE ALLEY

X VT-3 PROCEDURE: SP-1097 @ 4-1-92 N/A VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE N/A VIDEO RECORDING NO: X N/A
EQUIPMENT USED: X FLASHLIGHT X MIRROR N/A HYDRAULIC SNUBBER N/A CONSTANT SUPPORT
X OTHER N.G.C., 10th scale A MECHANICAL SNUBBER A VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	N/A	N/A	X	N/A
MISALIGNMENT	X	N/A	N/A	Support is bent slightly (approx. 50-100) downward and in direction of flow.
DEBRIS	N/A	X		N/A
CORROSION/EROSION		X		N/A
STRUCTURAL INTEGRITY		X	✓	Upper weld of "C" shape to structural steel is generally bad; undercut, lack of fill (upper 1/2)
RESISTANCE TO MOVEMENT		N/A	X	N/A
CLEARANCES OF MOVING PARTS		N/A	X	
ARC STRIKES/GOUGES	✓	X	N/A	
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: See page #2 for details of misalignment and lack of structural integrity, and at @ 4-1-92

EXAMINER: Chf Moss @ LEVEL: II DATE: 4-1-92
REVIEWER: _____ LEVEL: _____ DATE: _____

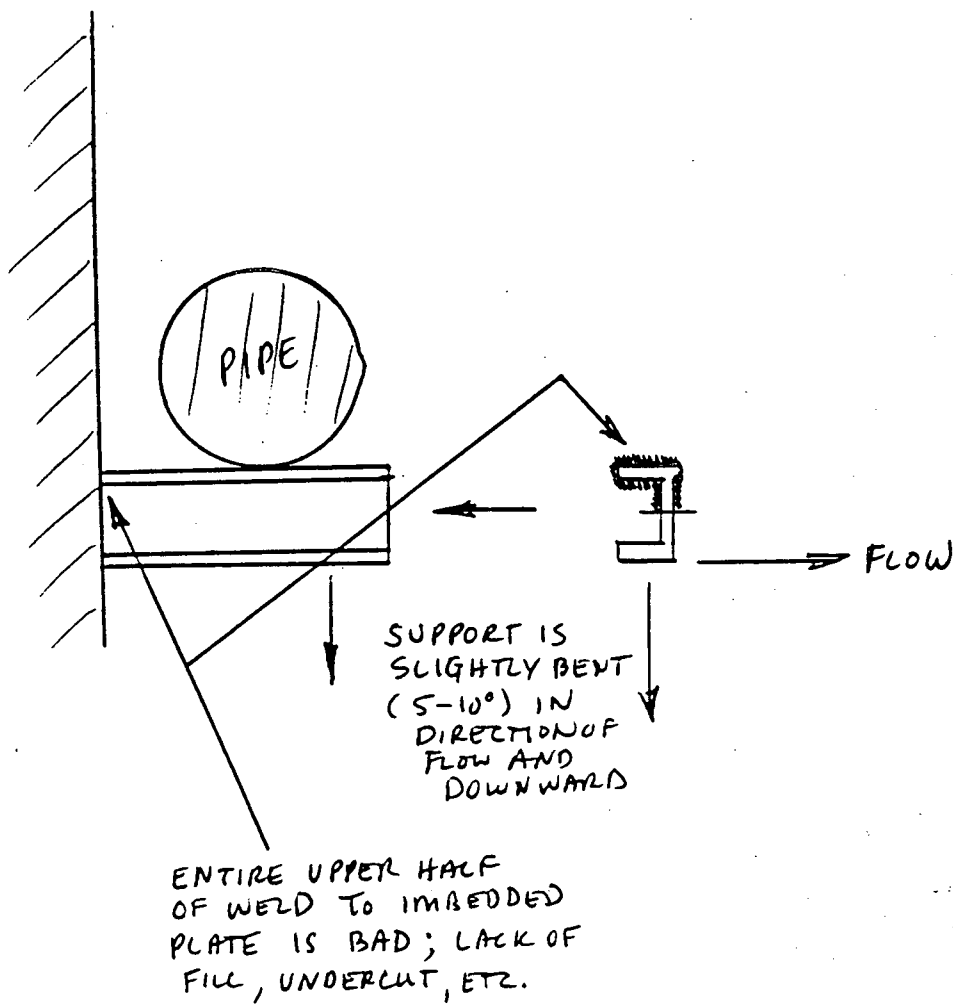
COMPONENT CONDITION: N/A SATISFACTORY X UNSATISFACTORY
REVIEWED BY: _____
REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

DATA SHEET NO. _____

EXAM ITEM CPL-221B-BISO DWG. NO. CPL-221B REV. 1

SKETCH SHEET



EXAMINER

Chf MassN/A

LEVEL

II

DATE

4-1-92

EXAMINER

LEVEL

N/A

DATE

N/A

REVIEWER

LEVEL

DATE

REVIEWER

LEVEL

DATE

REVIEWER

LEVEL

DATE

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221B-B

Visual Exam Report No.

DATE 4-1-92

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS DESIGNATED "NON SAFETY RELATED, NON-SEISMIC"
INDICATIONS NOTED ARE NOT SERVICE INDUCED, BUT DUE TO ORIGINAL
INSTALLATION. PER IRR-RS-92-GV, THE LOAD ON THIS SUPPORT IS
ESTIMATED TO BE 1333 LBS. THE PIPE IS APPROX. 8 IN. FROM THE
WALL AND THE MEMBER IS A 4" DP. CHANNEL WHICH SUPPORTS THE
PIPE. ASSUMING A WELD SHAPE

$$I = \frac{1}{12} [\frac{1}{2} (1.5 \times 4 + 4^2/6)] = 17.3 \text{ in}^2$$

$$M = 1333 \times 8 = 10664 \text{ lb.in.}$$

$$V = 1333 \text{ lbs.}$$

$$A_w = 2(4 + 1.5) = 14 \text{ in.}$$

$$\text{Max. Weld Stress} = \left\{ \frac{10664}{17.3} + \frac{1333}{14} \right\} = 624 \text{ lb/in.}$$

ASSUMING ONLY 1/16" FILLER WELD TO BE EFFECTIVE ALLOWABLE
WELD STRESS IS $1/16 \times .707 \times 21000 = 928 \text{ lb/in} > 624 \text{ lb/in.}$

CEN
 4/29/92

Clement Rajendra
 NED Engineer

14-14-92
 Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. _____
WR&A # N/A
PAGE 1 OF 2

PLANT: HB ROBINSON UNIT N/A1 X2 N/APSI XISI
SYSTEM: RHR COMPONENT NAME: Support COMPONENT ID NO.: CPL-221B-D

DWG./LOC.: CPL-221B, Rev. 1 / PIPE ALLEY

X VT-3 PROCEDURE: SP-1097 (en 4-1-92) N/A VT-4 PROCEDURE: 614 REV.: 0

DIRECT X REMOTE N/A VIDEO RECORDING NO: X N/A

EQUIPMENT USED:
X FLASHLIGHT X MIRROR
X OTHER N.G.C., 10th scale
TYPE OF COMPONENT SUPPORT:
N/A HYDRAULIC SNUBBER N/A CONSTANT SUPPORT
N/A MECHANICAL SNUBBER N/A VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	N/A	N/A	X	N/A
MISALIGNMENT	X	N/A	N/A	Support is bent slightly (approx. 5°-10°) downward and in direction of flow.
DEBRIS	N/A	X	X	N/A
CORROSION/EROSION		X	X	N/A
STRUCTURAL INTEGRITY		X	X	upper weld of "C" shape to imbedded plate has large area of undercut on underside.
RESISTANCE TO MOVEMENT		N/A	X	N/A
CLEARANCES OF MOVING PARTS		N/A	X	
ARC STRIKES/GOUGES	V	X	N/A	
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: See page #2 for details of misalignment and lack of structural integrity, and questionable missing weld.

EXAMINER: Cliff Moss @ LEVEL: II DATE: 4-1-92

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: N/A SATISFACTORY X UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

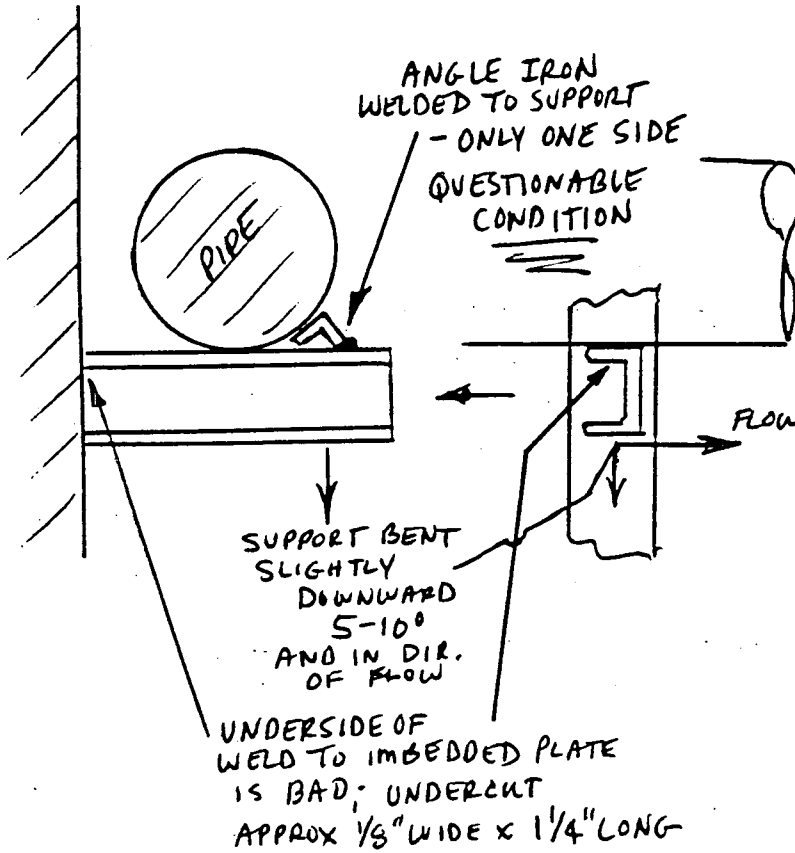
QA NDE ISI 5, Revision 5 11/88

DATA SHEET NO. _____

EXAM ITEM CPL-221B-D

ISO DWG. NO. CPL-221B REV. 1

SKETCH SHEET



EXAMINER	<u>Cliff Moss</u>	DATE	<u>4-1-92</u>
EXAMINER	_____	DATE	_____
REVIEWER	_____	DATE	_____
REVIEWER	_____	DATE	_____
REVIEWER	_____	DATE	_____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-2218-D

Visual Exam Report No.


DATED 4-1-92

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS DESIGNATED "NON-SAFETY RELATED, NON-SEISMIC".
INDICATIONS NOTED ARE NOT SERVICE INDUCED, BUT DUE TO ORIGINAL
INSTALLATION. PER IRR-RS-92-GV, THE LOAD ON THIS SUPPORT IS
ESTIMATED TO BE 815 LBS. THE PIPE IS APPROX. 8 INS. FROM THE
WALL AND THE SUPPORTING MEMBER IS A 4" DP. CHANNEL. ASSUMING
A WELD SHAPE  SW = 2(1.5 x 4 + 4^2/6) = 17.3 in^2
AW = 2(4 + 1.5 x 2) = 14 in.

M = 815 x 8 = 6520 lb.ins.

V = 815 lbs.

Max. weld stress = $\sqrt{\frac{6520^2}{17.3^2} + \frac{815^2}{14^2}}$ = 381 lb/in.

ASSUMING ONLY 1/16" FILLET WELD TO BE EFFECTIVE, ALLOWABLE
WELD STRESS IS 1/16 x .707 x 21000 = 928 lb/in > 381 lb/in.

CSR
4/29/92


Clement Rajendra
NED Engineer

14-14-92
Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C.A. Jones</u>		<u>TSE-92-CP</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF <u>1</u>
<u>Review Attached ISI PT Report on</u>		MOD M-
<u>CPK-222-WS-G For Adequacy of</u>		PCN
<u>Ins welds</u>		RET-R-GX92-BX

	DISTRIBUTION
SIGNED: 	RESPOND BY: <u>4/30/92</u>

*RELEASING AUTHORITY

DATE: 4/16/92

RESPONSE:

<u>SEE ATTACHED FOUNDATION FOR SUPPORTS</u>	DISTRIBUTION
<u>CPL-222-WS-G</u>	
<u>VISUAL REPORT RECEIVED BY</u>	
<u>MEMO TSE-92-CC IS ALSO BEING RETURNED</u>	

SIGNED:

Clement

*RELEASING AUTHORITY

DATE: 1-1

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE

DATA SHEET NO. 1095-11
THERMOMETER S/N JL9101
TEMPERATURE 85 ° F
NOMINAL THICKNESS .34 INCHES *
MATERIAL STAINLESS STEEL
CIS 2

LIQUID PENETRANT EXAMINATION

PROCEDURE SP-1095 G-92
REVISION 0 F.C. NO. N/A
PAGE 1 OF 2

*(MEASURED ULTRASONICALLY)

SYSTEM EXAMINED SAFETY INJECTION ISO/DWG/SK. # CPL-222 REVISION 0
DATUM POINT REFERENCE BOTTOM RIGHT CORNER OF LUG (SEE PAGE #2)

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
PENETRANT	<u>SPOTCHECK</u>	<u>SKL-HF/S</u>	<u>90H03K</u>	<u>15</u> MINUTES
REMOVER	<u>SPOTCHECK</u>	<u>SKC-NF</u>	<u>90J03P</u>	<u>5</u> MINUTES
DEVELOPER	<u>SPOTCHECK</u>	<u>SKD-NF</u>	<u>90L03P</u>	<u>7</u> MINUTES

EXAM ITEM	DESCRIPTION/REMARKS	ACC.	REJ.
CPL-222-WS-G (WELDED LUGS)	RIGHT LUG (LOOKING AT VALVE V863A): (1) 1/64" Rounded indication at pipe side toe of weld, 3/8" from datum (see page #2)	N A	 N/A
<div>No Ticket, But send to NED to evaluate adequacy of lug welds RBW/H4/92</div>			

EXAMINER Cliff Moss CN
EXAMINER N/A
REVIEWER Richard E. Danner
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE _____

DATE 4-8-92 ⁹ 4-9-92
DATE N/A
DATE 4-10-92

ANTI RPDolla Lane 4-15-92

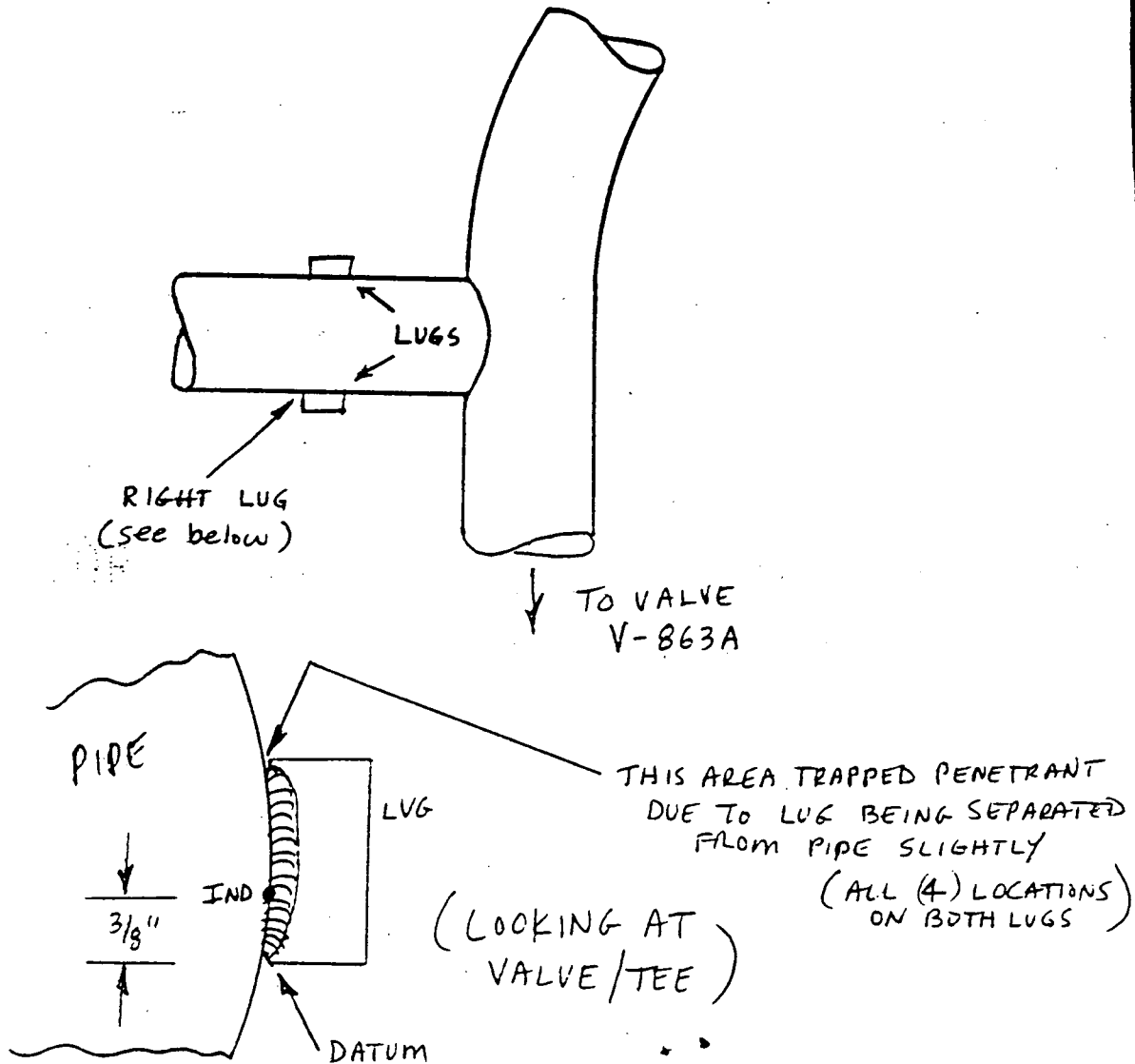
nes

NUCLEAR ENERGY SERVICES, INC.

1125

PAGE 2 OF 2
DATA SHEET NO. 1085-11
EXAM ITEM CPL-222-WS-G
ISO DWG. NO. CPL-222 REV. 0

SKETCH SHEET



EXAMINER Cliff Moss
EXAMINER W N/A
REVIEWER Charles P. Dorman
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE _____

DATE 4-9-92
DATE N/A
DATE 4-10-92

SUPPORT "G"

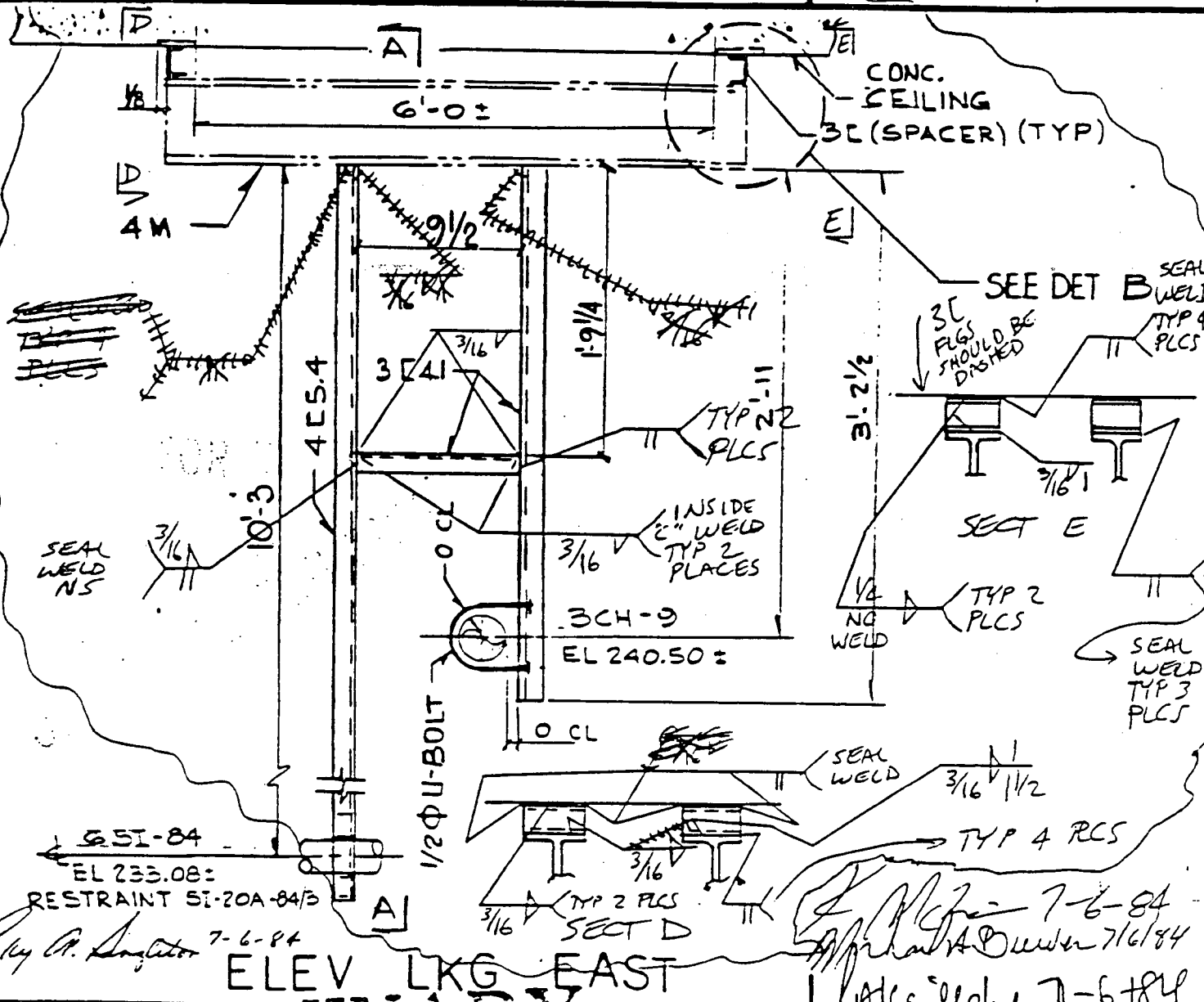
N/A

LOAD CASE THRM+DBE
EBASCO CMPTR RUN

PT NO. 1400
RAB
PIPE ALLEY
REST CALC NO CH-II
MOD. NO N/A
RMR NO N/A

BASE PLATE
IDENTIFICATION

RESTRAINT LOADS



PRELIMINARY MAY 20 1984

REV DATE BY CHK APPD

EBASCO SERVICES INCORPORATED
DIV. CIVIL DR. MLD/DR
DATE CH/PC/UH
SCALE NTS

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: CHEMICAL & VOLUME CONTROL
ISO NO./ POINT NO. CH-II/H 4

AB-CAR-
CH-II-H4
SH. 1 OF 3



~~13 of 16~~ ^{new} 16 of 19
 16 of 19



FOR CONTINUATION
TO CEILING
SEE CH-11/H4 —

- 4M
SPANNING BETWEEN
EMBED R_s (R TO $R = 6'-0"$)
- 3" SPACER SET.
EMBED R AND 4M

LUG 1X1X0.-3
(TYP)

6-SI-84
EL 233.02 ±

0 CL.

ELEV LKG NORTH

PIPE ALLEY- EAST FOYER

SI-20A - 84/3

PT# 1400

NOTE: COMBINE THIS
RESTRAINT WITH
CH-11/H4

Inspected By N. GHASSABIAN

Also Tan on will

Date 1-26-84

6-2-84

THIS SKETCH SUPERSEDES INSPECTION SKETCH DATED 1-2

VISUAL EXAMINATION
DATA SHEET

WR&A # N/A
PAGE 1 OF 2

PLANT: HB ROBINSON		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: S.I.	COMPONENT NAME: SUPPORT	COMPONENT ID NO.: CPL-222-G	
DWG./LOC.: CPL-222, Rev 0 / PIPE ALLEY			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: ^{SP-1097} NDEP-613 REV.: ⁴⁻⁴⁻⁹² 0		<input type="checkbox"/> VT-4 PROCEDURE: 614 REV.:	
DIRECT <input checked="" type="checkbox"/>	REMOTE <input type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR		<input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT	
<input type="checkbox"/> OTHER _____		<input checked="" type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT	
<input checked="" type="checkbox"/> SUPPORT/HANGER			

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			See page #2 for details of bad weld.
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A		STROKE: N/A	S/N N/A
COMMENTS: See page #2 for details of structural integrity and inadequate clearances.				
RECORDABLE INDICATIONS				
EXAMINER: <i>[Signature]</i>	LEVEL: II		DATE: 4-4-92	
REVIEWER: <i>[Signature]</i>	LEVEL: II		DATE: 4-8-92	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY				
REVIEWED BY: <i>[Signature]</i> 4/9/92				
REVIEWERS COMMENTS:				
ANII REVIEW: <i>[Signature]</i> DATE: 4.9.92				

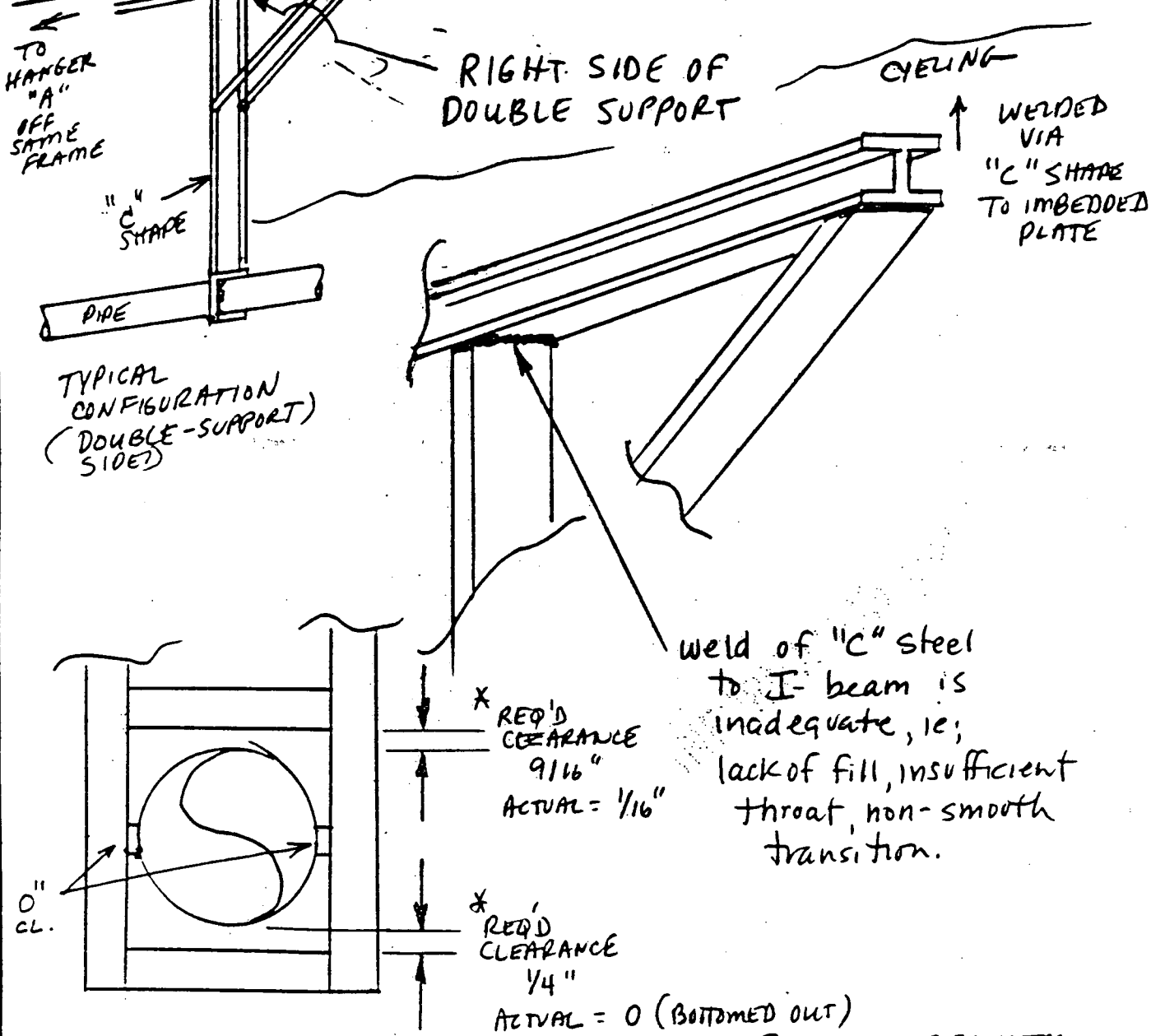
1025

"C" SHAPE
AS
STAND-OFF

IMBEDDED
PLATE

PAGE 2 OF 2
DATA SHEET NO. 109772
EXAM ITEM CPL-222-G
ISO DWG. NO. CPL-222 REV. 0

SKETCH SHEET



* REQ'D CLEARANCES PER SI-20A-8413

REFER TO SITE MEMO
TSE-92-BE, Item #10

EXAMINER Chiff Moss
EXAMINER N/A
REVIEWER Edmund K. Brown
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/9/92
DATE _____

DATE 4-4-92
DATE N/A
DATE 4-8-92

11/1/74

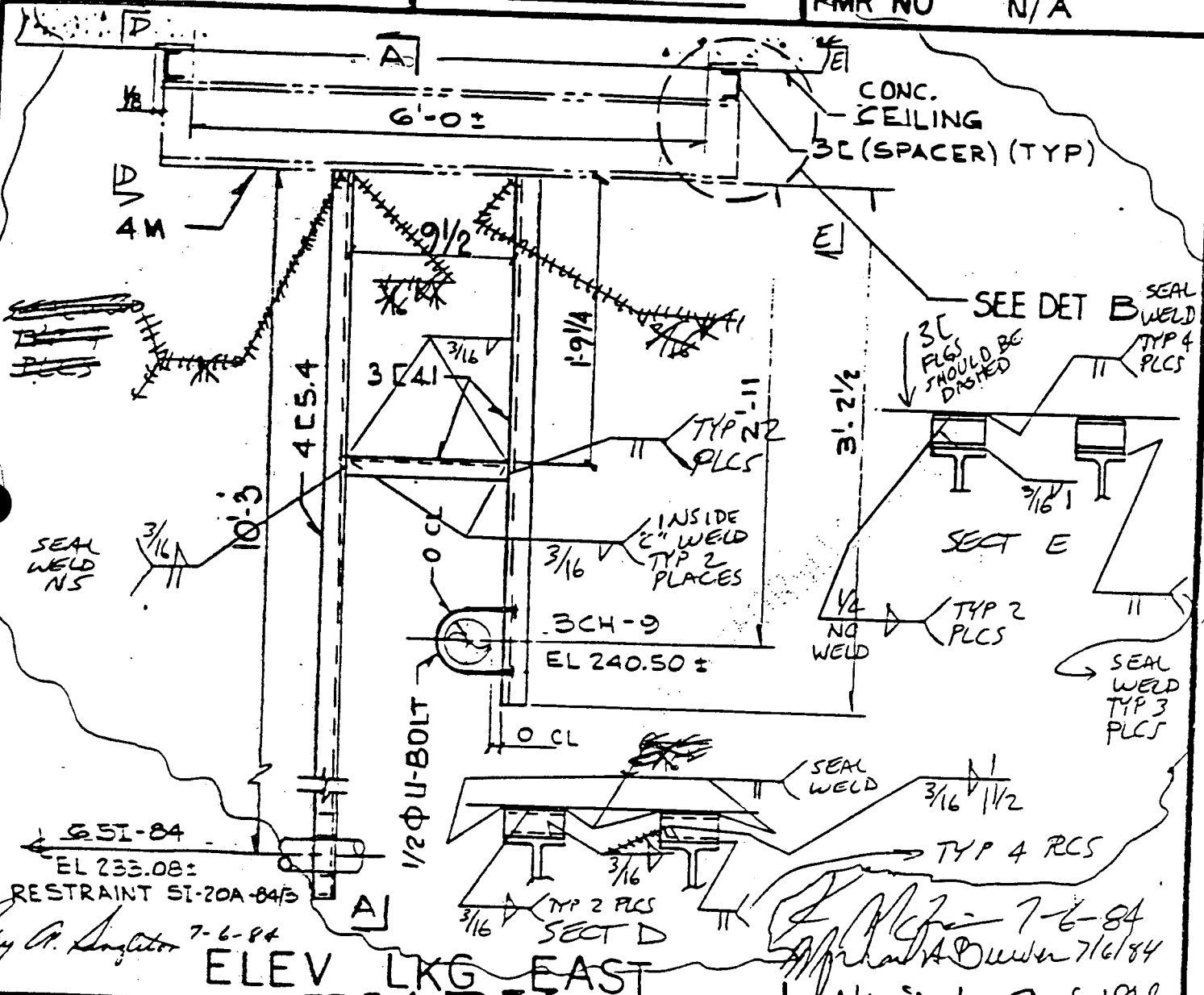
RAB
PIPE ALLEY

REST CALC NO CH-II

RESTRAINT LOADS

MOD. NO N/A

RMR NO N/A



~~PRELIMINARY~~ MAY 20 1984

REV	DATE	BY	CHK	APP'D
-----	------	----	-----	-------

EBASCO SERVICES INCORPORATED

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: CHEMICAL & VOLUME CONTROL
ISO NO. / POINT NO. CH-11 / H 4

AB-CAR-
CH-11-H4
SH 1 OF 3

CIVIL DR. MUDR

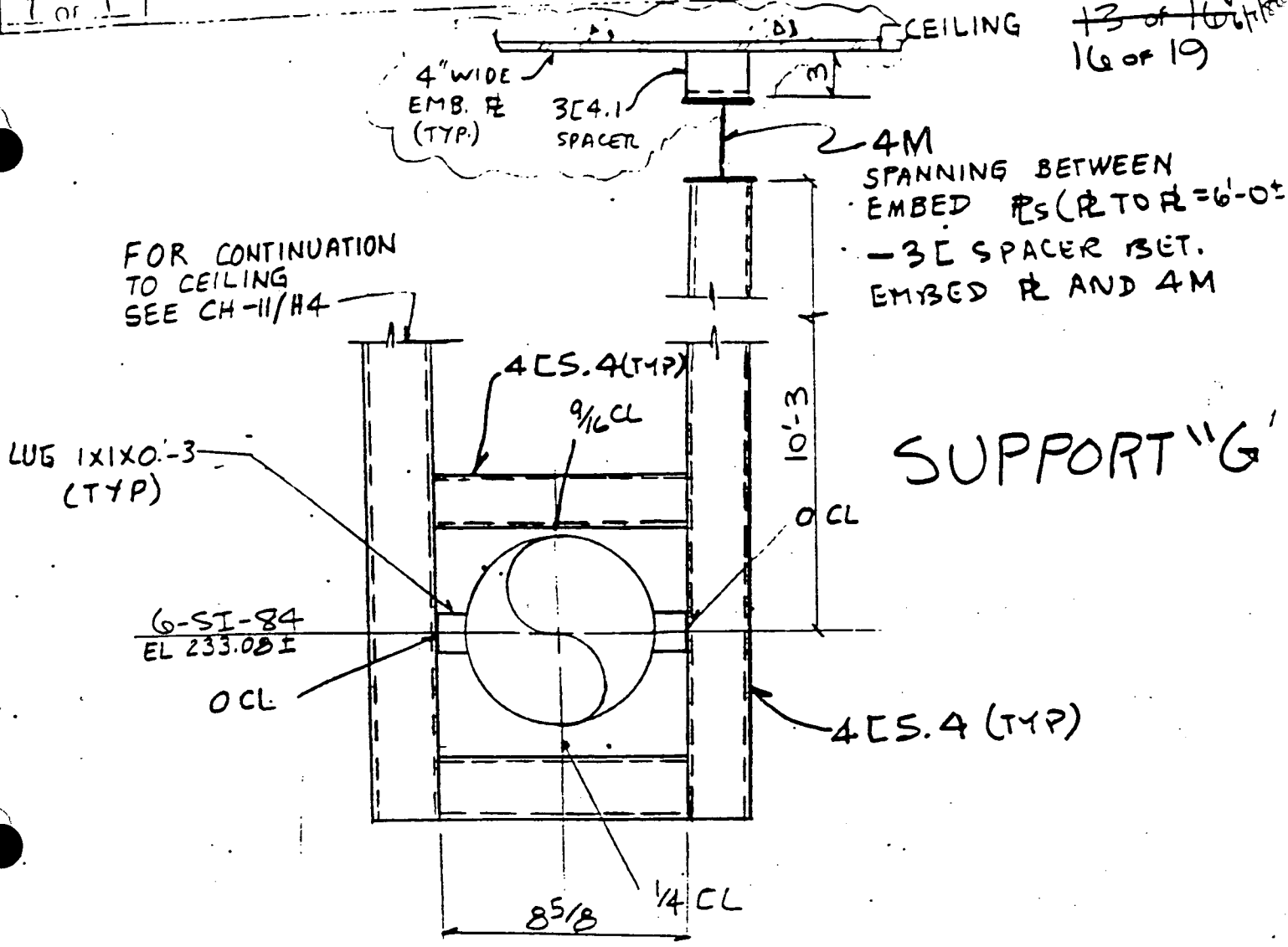
APPROVED

E _____ CH PC/UH

SCALE NTS

CH-11-H4

SH. 1 OF 3



FOR CONTINUATION
TO CEILING
SEE CH-11/H4

4M
SPANNING BETWEEN
EMBED \bar{R}_S (\bar{R} TO \bar{R} = 6'-0"
- 3" SPACER SET.
EMBED \bar{R} AND 4M

SUPPORT "G"

ELEV LKG NORTH
PIPE ALLEY - EAST FOYER

SI-20A-84/3
PT#1400

NOTE: COMBINE THIS
RESTRAINT WITH
CH-11/H4

Inspected By N. GHASSABIAN
Alex Tamar

Date 1-26-84
6-2-84

THIS SKETCH SUPERSEDES INSPECTION SKETCH DATED 1-2

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222G
CPL-222-WS-G

Visual Exam Report No. 1097-42
LPR No. 1095-11

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS BEING MODIFIED BY MOD M-1087. IT WILL
NO LONGER SUPPORT LINE 6-SI-84 BUT ONLY LINE 3-CH-9.
DUE TO MUCH REDUCED LOADING, WELD QUALITY PROBLEMS
IN ORIGINAL CONSTRUCTION NEED NOT BE CORRECTED.
SINCE THE LUG WELDS WILL NOT BE USED TO TRANSFER ANY
LOADS, IT IS NOT NECESSARY TO REPAIR SMALL INDICATION
FOUND ON LUG WELD.

4/29/92 Clement Rajewski 4-17-92
NED Engineer Date

ATTACHMENT 1
PAGE 1 OF 2

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: WARREN FARMER UNIT: TECH SUPPORT SITE MEMO # ETS-92-AN
ATTN: SHEET 1 OF 1
SUBJECT: RESOLUTION OF ISI INDICATIONS MOD M-
THE ATTACHED VISUAL EXAMINATION REPORTS PCN
WERE RECEIVED BY TSE-92-CR. FOR EACH COMPONENT RET-R-G-BX
RECEIVED A CORRECTIVE ACTION/EVALUATION SHEET IS ATTACHED.
LIST OF COMPONENTS:
CPL-329-D ; CPL-329-B ; CPL-329-E ; CPL-234A-I ;
CPL-239-G ; CPL-239-E ; CPL-233-F ; CPL-234A-J

	DISTRIBUTION

SIGNED: Clement Rajendra RESPOND BY: ACKNOWLEDGIE
RECEIPT ONLY

*RELEASING AUTHORITY: L.A. Jones DATE: 4/24/92

RESPONSE:

	DISTRIBUTION

SIGNED:

*RELEASING AUTHORITY: DATE: / /

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

CP&L

Cleveland Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-133

WR&A # N/A

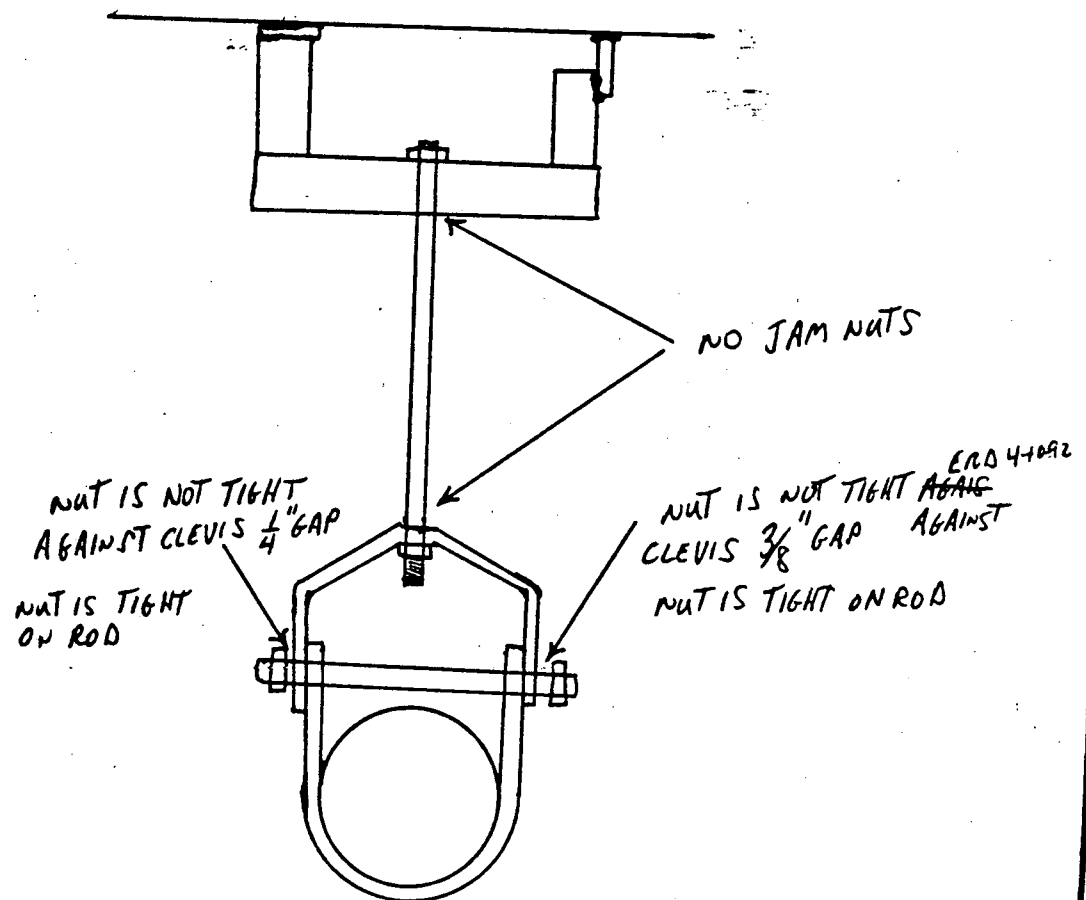
PAGE 1 OF 2

PLANT: <u>H B ROBINSON</u>		UNIT <u>1</u> <u>1</u> <input checked="" type="checkbox"/> <u>2</u> <u>1</u> <u>PSI</u> <input checked="" type="checkbox"/> <u>ISI</u>	
SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-329-D</u>	
DWG./LOC.: <u>CPL-329 REV 0 / PIPE ALLEY</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1097 ERO 4-10-92</u> <u>NDEP-613 REV.: 0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO-RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATIONS</u>			
EXAMINER: <u>Edmund R. Donovan</u>		LEVEL: <u>II</u>	DATE: <u>4-10-92</u>
REVIEWER: <u>Art P... (signature)</u>		LEVEL: <u>II</u>	DATE: <u>4-14-92</u>
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: <u>Richard D. Weber 4/14/92</u>			
REVIEWERS COMMENTS:			
ANII REVIEW: _____ DATE: _____			

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-133
EXAM ITEM CPL-329-0
ISO DWG. NO. CPL 329 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edmund J. Danov
EXAMINER N/A
REVIEWER Art Pinner
REVIEWER Richard B. Weber
REVIEWER

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE

DATE 4-10-92
DATE N/A
DATE 4-14-92

1125

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-329-D

Visual Exam Report No. 1097-133

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN NUTS AGAINST CLEVIS STRAP

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC",
DEAD LOAD SUPPORT. NUTS ON CLEVIS BOLT NOT INVOLVED IN LOAD TRANSFER.
WEIGHT OR
4/24/92

Clement Rajendra / 4-23-92
NED Engineer Date

CP&L
 Canadian Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-132

WR&A # N/A

PAGE 1 OF 2

LANT: HB ROBINSON UNIT 11 ☒ 12 ☐ PSI ☒ ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 329 B</u>
-------------------------------------	-----------------------------------	---------------------------------------

DWG./LOC.: CPL 329 REV-0 / PIPE ALLEY

☒ VT-3 PROCEDURE: 3P 1097 ERO 4/1092 ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
---	---

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH FOR GAPS
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATIONS</u>				

EXAMINER: <u>Edward R. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-10-92</u>
REVIEWER: <u>Carl Pinner</u> <i>am</i>	LEVEL: <u>II</u>	DATE: <u>4-14-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

VIEWERS COMMENTS:

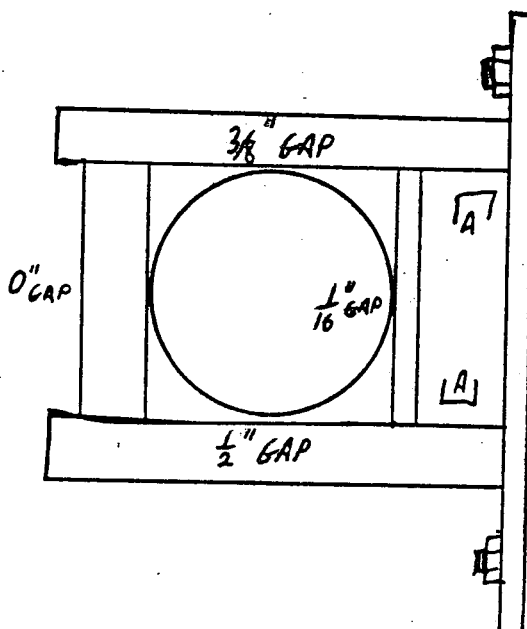
FOR INFORMATION ONLY

ANII REVIEW: _____ DATE: _____

1125

PAGE 2 OF 2
DATA SHEET NO. 1077-132
EXAM ITEM CPL-329-B
ISO DWG. NO. CPL 329 REV. 0

SKETCH SHEET



SECT A
CUT SECTION OF
I BEAM WELDED
IN PLACE
TO BASE
PLATE +
TUBE STEEL

FOR INFORMATION ONLY

EXAMINER Edmund R. Donovan
EXAMINER NA
REVIEWER Leif R. Rasmussen
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE 4/14/92
DATE _____

DATE 4-10-92
DATE NA
DATE 4-14-92

(11)

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-329-B

Visual Exam Report No. 1097-132

- [X] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH A
HORIZONTAL RESTRAINT IN N-S DIRECTION. REF. STRESS ISO
AC-6, SHT. 1 D.P. 303. THE GAPS MEET THE TOLERANCES OF
SPEC. CPL-HBR2-C-011.

Clement Rajendra / 4-24-92
NED Engineer Date

CP&L
Caroline Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-134

WR&A # N/A

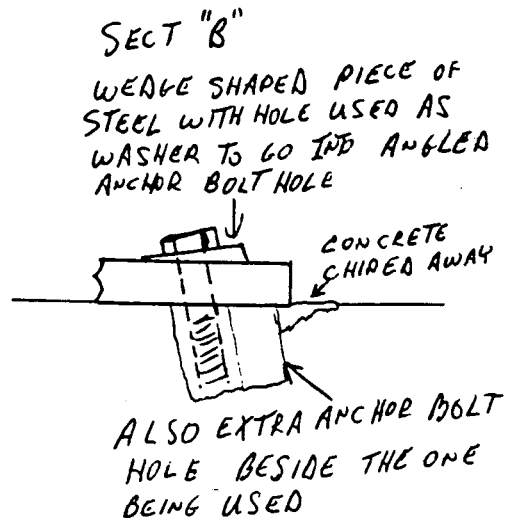
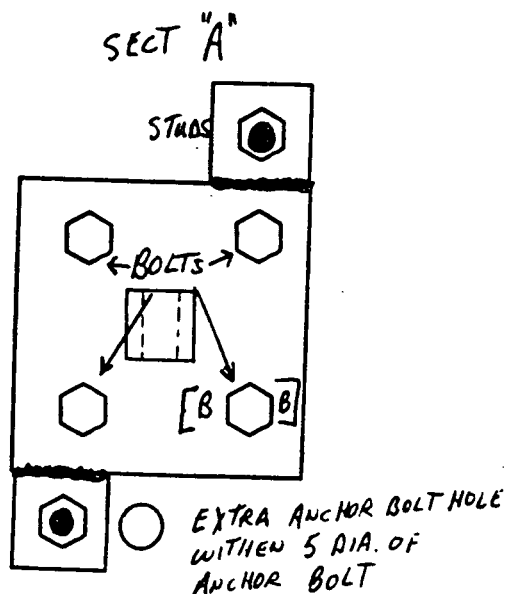
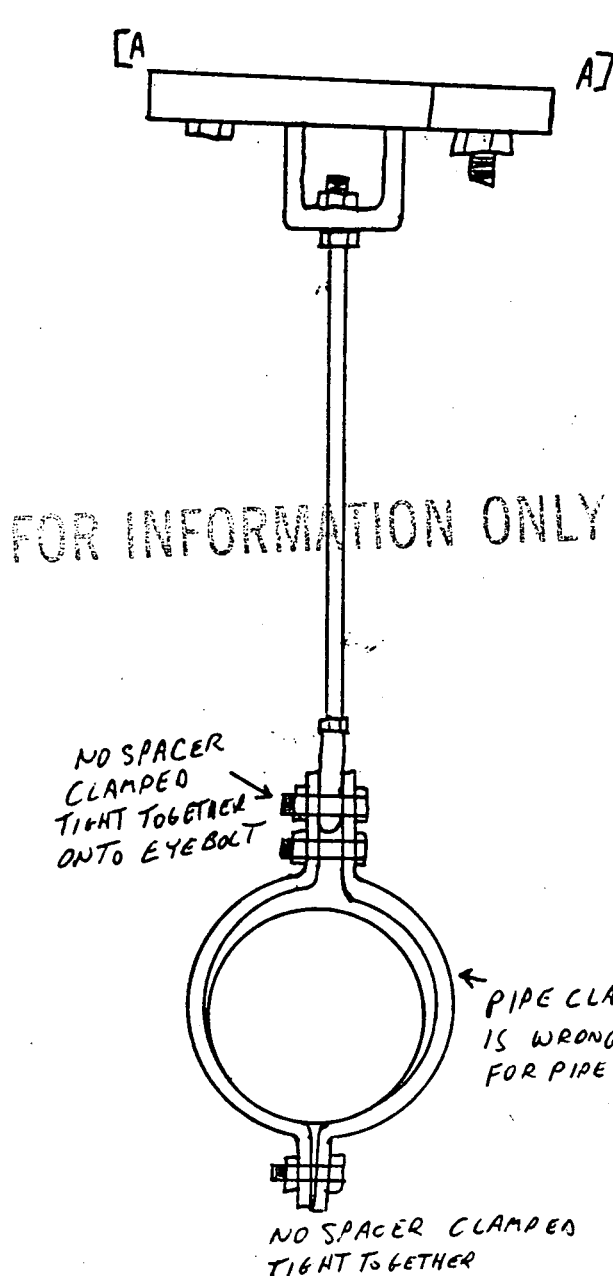
PAGE 1 OF 2

PLANT:		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: COMPONENT COOLANT	COMPONENT NAME: ROD HANGER	COMPONENT ID NO.: CPL-329-E	
DWG./LOC.: CPL 329 REV-0 / PIPE ALLEY			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: ^{SP 1097} NDEP-613 ERO 4-10-92 REV.: 0		<input type="checkbox"/> VT-4 PROCEDURE: 614 REV.:	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATION</u>			
EXAMINER: <u>Edmund R Donovan</u>		LEVEL: <u>II</u>	DATE: <u>4-10-92</u>
REVIEWER: <u>Curt P...</u>		LEVEL: <u>II</u>	DATE: <u>4-14-92</u>
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: <u>Richard B. Weber</u> 4/14/92			
REVIEWERS COMMENTS:			
INFORMATION ONLY			
ANII REVIEW:		DATE:	

1125

PAGE 2 OF 2
 DATA SHEET NO. 1097734
 EXAM ITEM CPL-329-E
 ISO DWG. NO. CPL 329 REV. 0

SKETCH SHEET



EXAMINER Edward L. Donovan
 EXAMINER NA
 REVIEWER Carl P. ...
 REVIEWER Richard B. Weber
 REVIEWER _____

LEVEL II
 LEVEL NA
 LEVEL III
 DATE 4/14/92
 DATE _____

DATE 4-10-92
 DATE NA
 DATE 4-14-92

210

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-329-E

Visual Exam Report No. 1097-134

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS CLASSIFIED AS "NON-SAFETY RELATED, NON-SEISMIC",
DEAD WEIGHT SUPPORT. THE SUPPORT IS CARRYING THE LOAD
WITHOUT DISTRESS AND IS THEREFORE FUNCTIONAL. INDICATIONS
NOTED ARE NOT SERVICE INDUCED. DUE TO HIGH FACTOR OF
SAFETY MINOR QUALITY PROBLEMS^{FOUND} IN ORIGINAL CONSTRUCTION
NEED NOT BE CORRECTED.

Clement Rajendra 14-24-92
NED Engineer Date

CP&L

Cleveland Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-123

WR&A # N/A

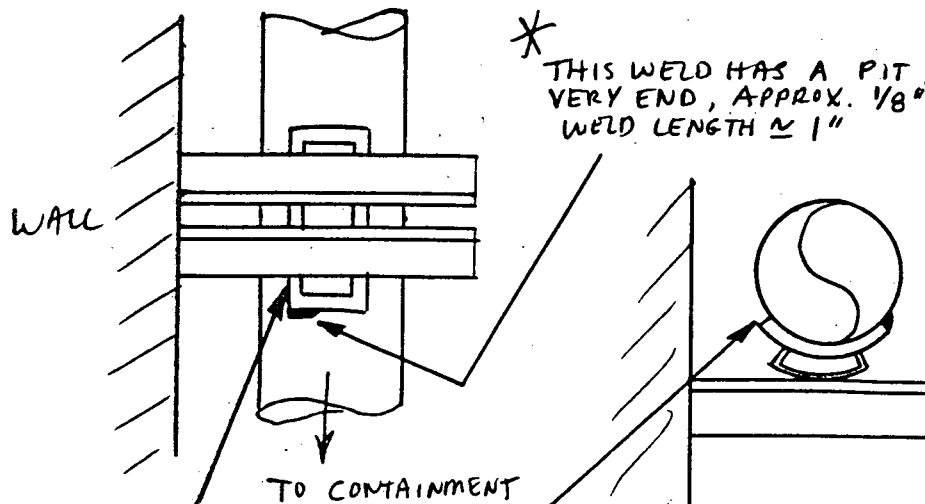
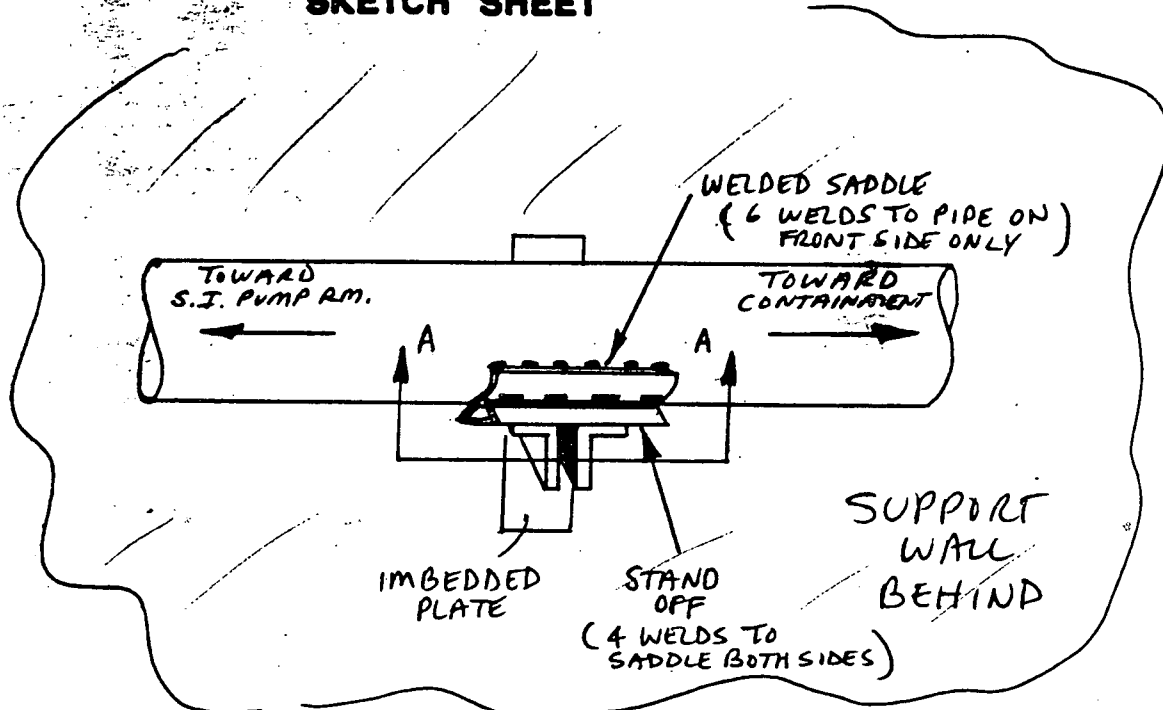
PAGE 1 OF 2

PLANT: <u>HB ROBINSON</u>		UNIT <u>11</u> <input checked="" type="checkbox"/> <u>12</u> <input type="checkbox"/> <u>1</u> <input type="checkbox"/> <u>PSI</u> <input checked="" type="checkbox"/> <u>ISI</u>	
SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-234A-I</u>	
DWG./LOC.: <u>CPL-234A Rev 2 / PIPE ALLEY</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097</u> <u>Rev 4-11-92</u> <u>NDP-613</u> REV.: <u>0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614</u> REV.: <u></u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> <u>N/A</u>	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" RULE</u>		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES			<input checked="" type="checkbox"/> <u>N/A</u>
MISALIGNMENT		<input checked="" type="checkbox"/>	
DEBRIS	<input checked="" type="checkbox"/>		<u>Horizontal surfaces covered with light debris</u>
CORROSION/EROSION		<input checked="" type="checkbox"/>	<u>N/A</u>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>		<u>See page #2 for details; missing weld, weld pit.</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/> <u>N/A</u>
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATIONS - see page #2 for details.</u>			
EXAMINER: <u>Chf Mass</u> <u>CD</u>	LEVEL: <u>II</u>	DATE: <u>4-11-92</u>	
REVIEWER: <u>Edward L. Davoren</u> <u>DN</u>	LEVEL: <u>II</u>	DATE: <u>4-14-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: <u>Richard B. Weber</u> <u>4/15/92</u>			
REVIEWERS COMMENTS:			
ANII REVIEW: DATE:			

1125

DATA SHEET NO. 1097-123
 EXAM ITEM CPL-234A-I
 ISO DWG. NO. CPL-234A REV. 2

SKETCH SHEET



* BACKSIDE OF
 SADDLE TO PIPE
 NOT WELDED

FOR INFORMATION ONLY

EXAMINER Cliff Moss
 EXAMINER N/A
 REVIEWER Edward R. Donagan
 REVIEWER Richard S. Weber
 REVIEWER _____

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE 4/15/92
 DATE _____

DATE 4-11-92
 DATE N/A
 DATE 4-14-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-234A-I

Visual Exam Report No. 1097-123

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. The indications noted are irrelevant to the structural integrity of the support.

Clement Rajendra / 4-24-92
NED Engineer Date

CP&L

Crestline Power & Light Company
VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-127

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 111 ☒ 12 ☐ 1 PSI ☒ ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-239-G</u>
---------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-239 Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CP 4-11-92
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	<u>N/A</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			<u>Light debris on all horizontal surfaces</u>
CORROSION/EROSION		<input checked="" type="checkbox"/>		<u>N/A</u>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>See page #2 for missing welds</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	<u>N/A</u>
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: <u>Cliff Moss</u> <u>CP</u>	LEVEL: <u>III</u>	DATE: <u>4-11-92</u>
REVIEWER: <u>Edmund R. Dargatzis</u> <u>AW</u>	LEVEL: <u>II</u>	DATE: <u>4-14-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92 **FOR INFORMATION ONLY**

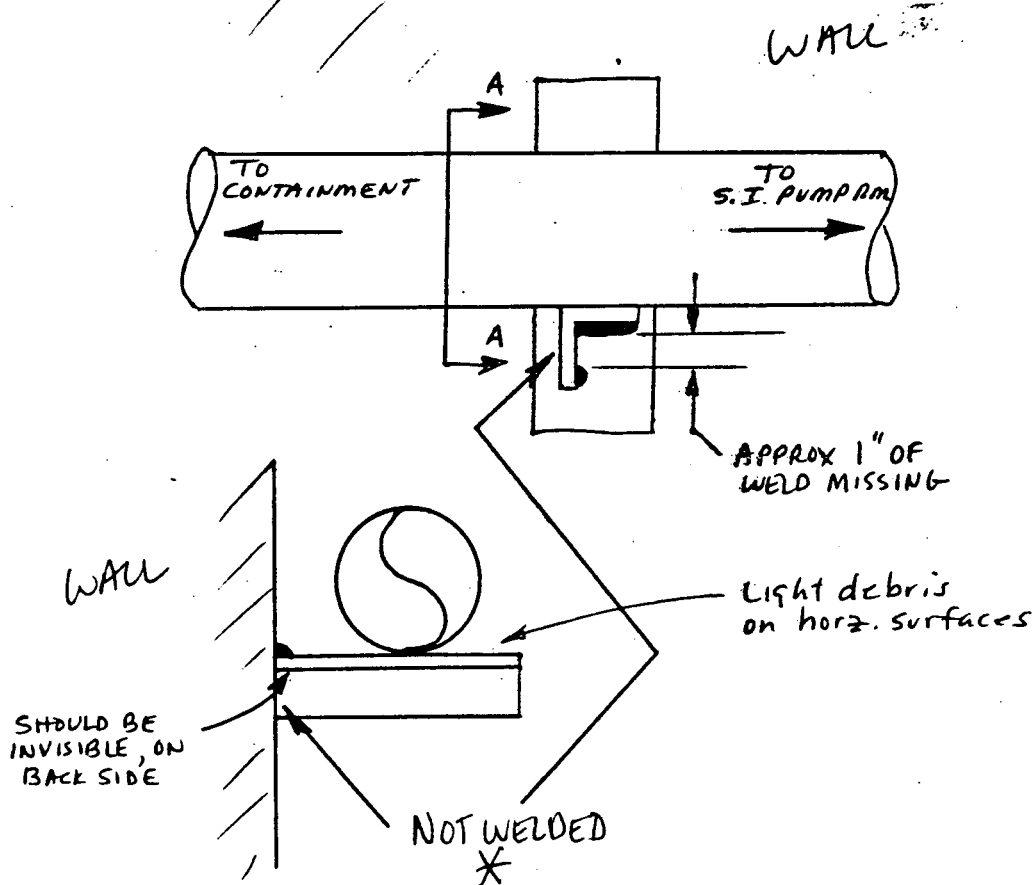
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-727
EXAM ITEM CPL-239-G
ISO DWG. NO. CPL-239 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Cliff Moss
EXAMINER N/A
REVIEWER Edward R. Dorman
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/15/92
DATE _____

DATE 4-11-92
DATE N/A
DATE 4/14/92

PM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-239-G

Visual Exam Report No. 1097-127

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. The indications noted are irrelevant to the structural integrity of the support.

Clement Rajendra / 4-24-92
NED Engineer Date

CP&L

Cavitation Pumps & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-125

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-239-E</u>
---------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-239, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CD 4-11-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	See page #2 for comment
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS	<input checked="" type="checkbox"/>			Light dust/debris on horizontal surfaces
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details.

EXAMINER: Cliff Moss CD LEVEL: III DATE: 4-11-92

REVIEWER: Edmund R. Donovan SR LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW:

DATE:

1105

PAGE 2 OF 2
DATA SHEET NO. 1097-W5
EXAM ITEM CPL-239-E
ISO DWG. NO. CPL-239 REV. 0

SKETCH SHEET

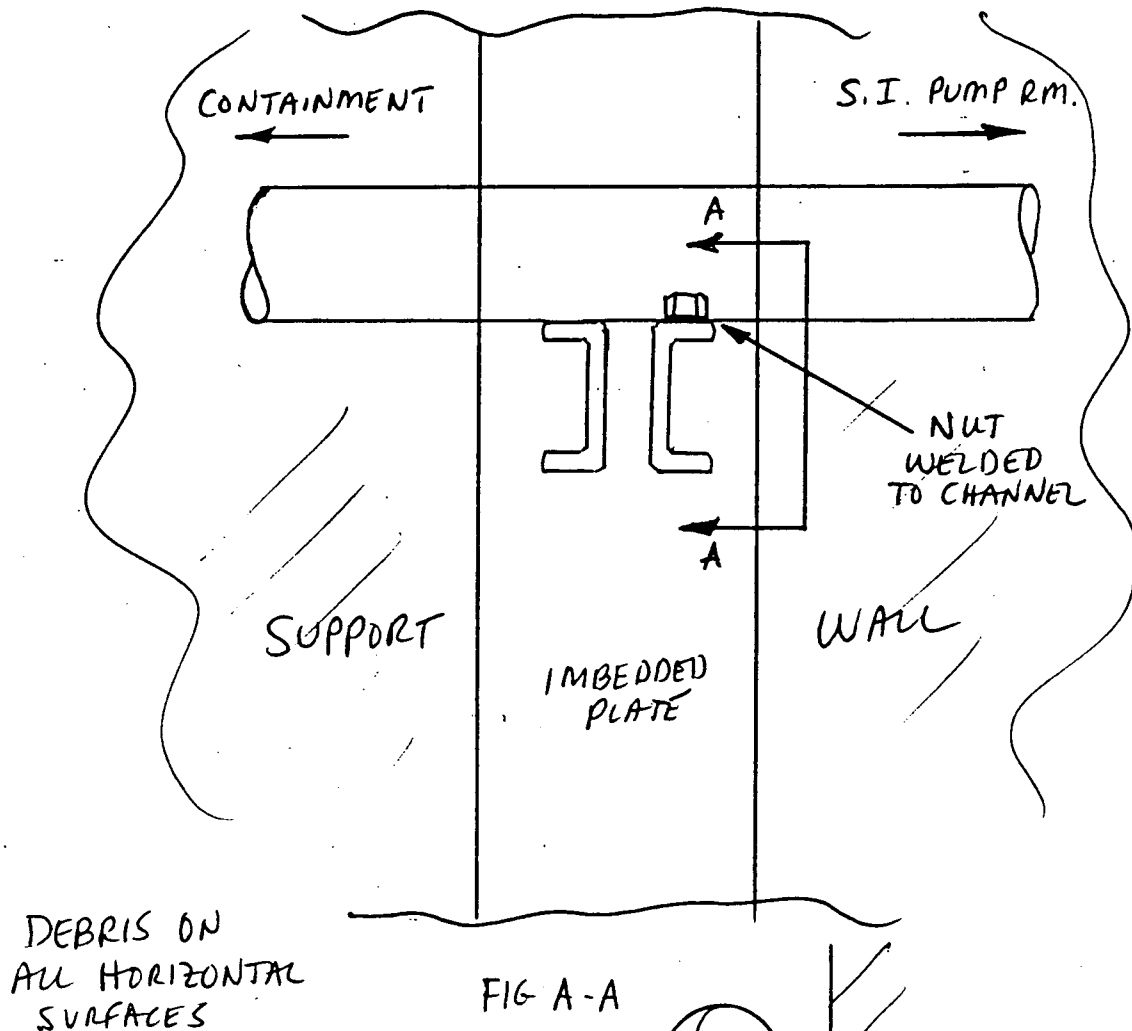
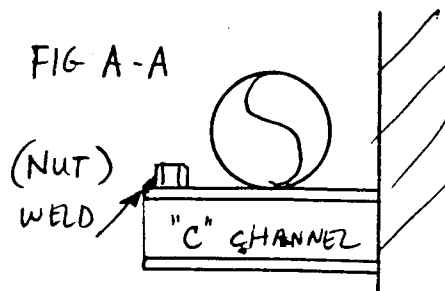


FIG A-A



FOR INFORMATION ONLY

EXAMINER Cliff Moss
EXAMINER N/A
REVIEWER _____
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL _____
DATE 4/15/92
DATE _____

DATE 4-11-92
DATE N/A
DATE _____

Qm

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-239-E

Visual Exam Report No. 1097-125

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic". dead weight support. The indications noted are irrelevant to the structural integrity of the support.

Clement Rajendra / 4-24-92
NED Engineer Date

CP&L

Cable Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-122

WR&A # 2/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 2 1 PSI ISI

SYSTEM: <u>ST</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-233-F</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 233 REV-0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP 1097 ERS 4-14-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			<u>SEE ATTACHED</u>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Charles E. Dorman LEVEL: II DATE: 4-10-92

REVIEWER: Art Ruman RD LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92 **FOR INFORMATION ONLY**

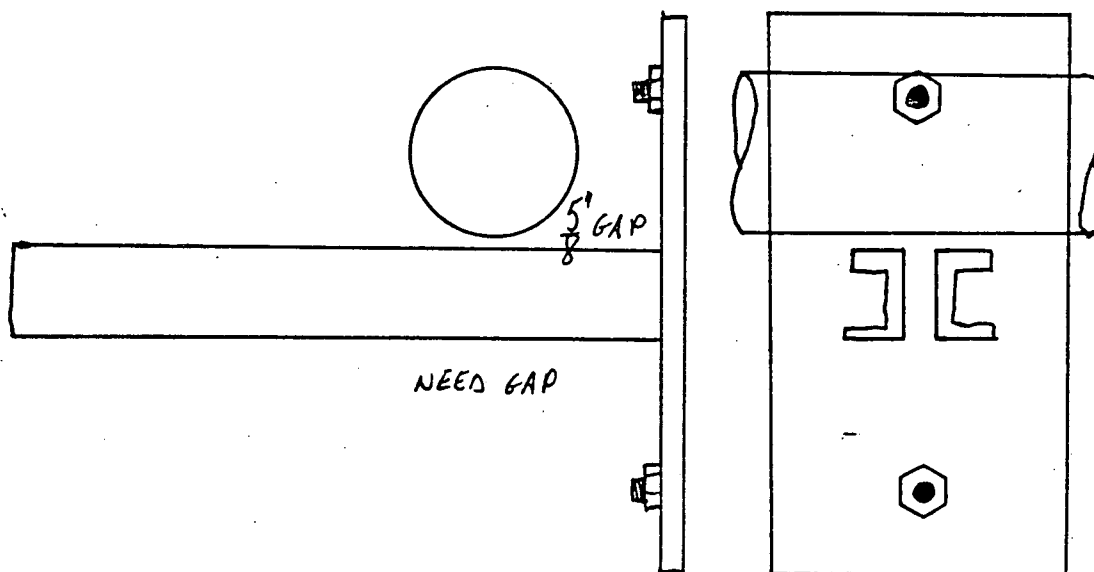
REVIEWERS COMMENTS:

ANII REVIEW: _____ DATE: _____

105

PAGE 2 OF 2DATA SHEET NO. 1097-122EXAM ITEM CPL-233-FISO DWG. NO. CPL 233 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edmund L. DoreyLEVEL IIDATE 4-10-92EXAMINER NALEVEL NADATE NAREVIEWER Art PinnerLEVEL IIDATE 4-14-92REVIEWER Richard B. WeberDATE 4/15/92

REVIEWER _____

DATE _____

AMC

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-233-F

Visual Exam Report No. 1097-122

- ☒ CSR 5/19/92
Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☒ Support is not functional. ~~The following corrections must be performed prior to return to service.~~ CSR 5/19/92

Corrective Actions:

N/A TAG SUPPORT AS "ABANDONE IN PLACE PER
CSR RFO #14 ISI EXAM EVALUATIONS"
5/19/92

Basis:

THIS SUPPORT WAS INTENDED TO BE A DEAD WEIGHT SUPPORT
AND IS THEREFORE NON-SAFETY RELATED AND NON-SEISMIC.
THE RUN OF RECORD DOES NOT CONSIDER THE PIPE TO BE
SUPPORTED AT THIS LOCATION. THERE IS A DEAD WEIGHT SUPPORT
ADJACENT TO THIS LOCATION SO THAT B31.1 SPAN TABLE FOR 6"
PIPE IS NOT EXCEEDED

NOTE: SINCE THIS SUPPORT IS NOT REQUIRED TO SUPPORT THE 6"
PIPING, A SAMPLE EXPANSION IS NOT NECESSARY. THIS IS
ALSO NOT AN IN-SERVICE DAMAGE.

Clement Rajendra / 4-24-92
NED Engineer Date

CP&L

Cable Pliers & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-24

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-234A-J

DWG./LOC.: CPL-234, Rev 2 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 (EN) 4-10-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
☒ OTHER 6" Rule

TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT	<input checked="" type="checkbox"/>			Side plates bent/crooked - see pg. 2
DEBRIS		<input checked="" type="checkbox"/>		N/A
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Bad welds; under lower "C" shape and behind pipe - box to side plate. (see pg. 2)
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input checked="" type="checkbox"/>			Gouge under lower "C" shape - see pg. 2.
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details
See page # 2 (for clearances not proper)

EXAMINER: Chiff Moss @ LEVEL: IA DATE: 4-10-92

REVIEWER: Edmund R. Donovan @ LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/15/92

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW: DATE:

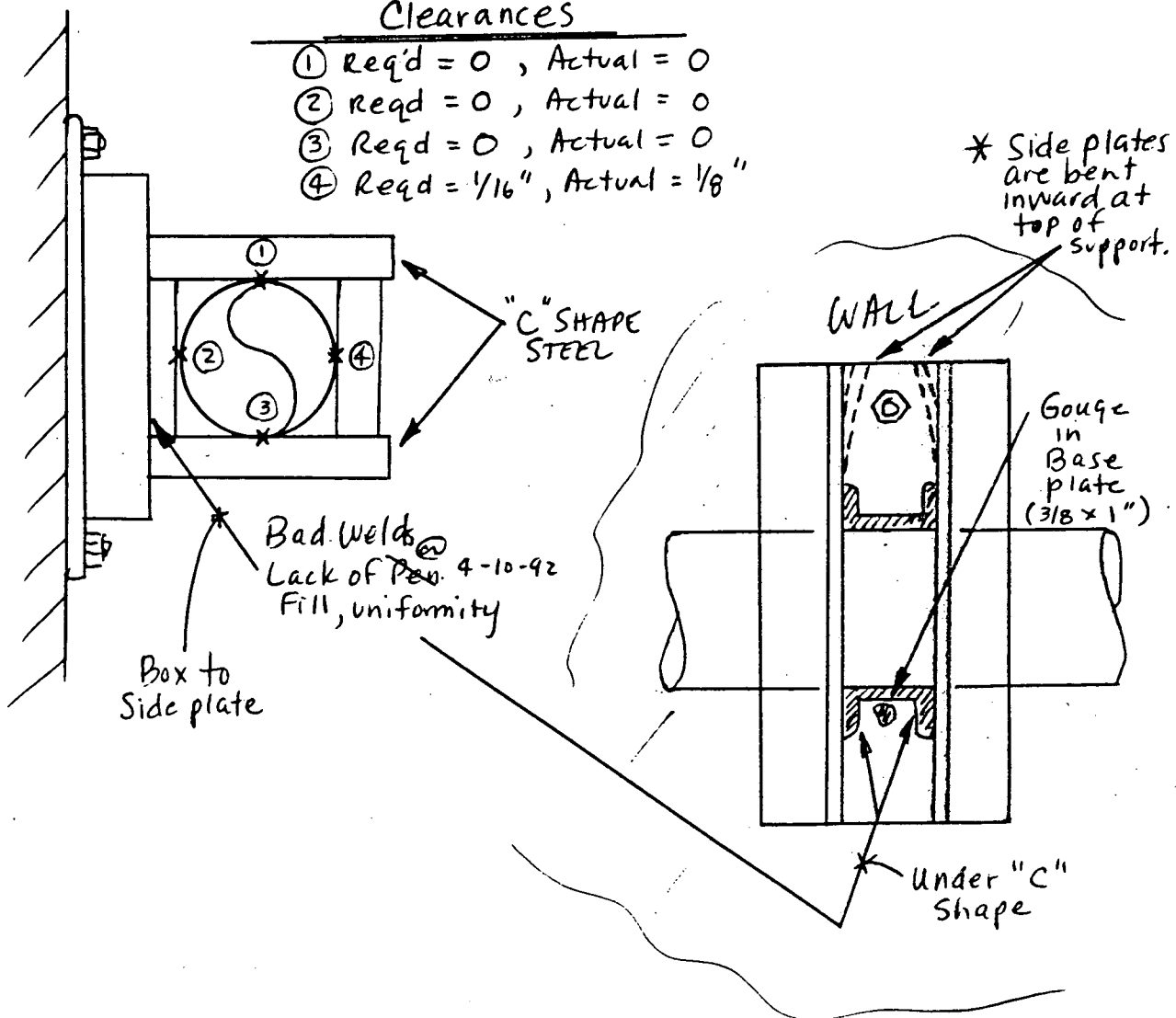
1125

PAGE 2 OF 2
DATA SHEET NO. 1097-124
EXAM ITEM CPL-234A-J
ISO DWG. NO. CPL-234A REV. 2

SKETCH SHEET

Clearances

- ① Req'd = 0 , Actual = 0
- ② Req'd = 0 , Actual = 0
- ③ Req'd = 0 , Actual = 0
- ④ Req'd = $\frac{1}{16}$ " , Actual = $\frac{1}{8}$ "



FOR INFORMATION ONLY

EXAMINER Chiff Moss
EXAMINER N/A
REVIEWER Edmund R. Dawson
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/15/92
DATE _____

DATE 4-10-92
DATE N/A
DATE 4-14-92

(AM)

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-234A-J

Visual Exam Report No. 1097-124

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC REPORT WITH
HORIZONTAL AND VERTICAL RESTRAINTS. REF. STRESS ISO SI-10,
SHT. 2 DP 36. THE CLEARANCES MEET TOLERANCES OF SPEC.
CPL-HBR2-C-011. ALL THE INDICATIONS FOUND ARE DUE TO
ORIGINAL CONSTRUCTION AND NOT SERVICE INDUCED. BENT
SIDE PLATE APPEARS TO HAVE BEEN DUE TO WELD SHRINKAGE
PULLING IN METAL PLATE. THIS CONDITION DOES NOT AFFECT
STRUCTURAL INTEGRITY. GOUGE IN BASE PLATE IS NOT SIGNIFICANT
DUE TO GUSSET PLATES. BASED ON SAMPLING STUDIES DONE
BY EBASCO, ORIGINAL WELDS ARE CONSIDERED QUALIFIED.

Clement Rajendra /4-24-92
NED Engineer Date

ATTACHMENT 1
PAGE 1 OF 2

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>WARREN FARMER</u>	UNIT: ^{TECH} <u>SUPPORT</u>	SITE MEMO # <u>ETS-92-AO</u>
ATTN:		SHEET <u>1 OF 1</u>
SUBJECT: <u>RESOLUTION OF ISI INDICATIONS</u>		MOD <u>M-</u>
THE ATTACHED VISUAL EXAMINATION REPORTS		PCN
WERE RECEIVED BY TSE-92-CX. FOR EACH COMPONENT		RET-R-G-8X
RECEIVED A CORRECTIVE ACTION/EVALUATION SHEET IS ATTACHED.		
LIST OF COMPONENTS:		
<u>CPL-327-B</u>		
<u>CPL-327-R</u>		
<u>CPL-327-C</u>		
<u>CPL-328-AA</u>		
<u>CPL-328-C</u>		
<u>CPL-328-D</u>		
		DISTRIBUTION

SIGNED: Clement Rajendra

RESPOND BY:
ACKNOWLEDGE
RECEIPT ONLY

*RELEASING AUTHORITY: C. A. Jones

DATE: 4/25/92

RESPONSE:

	DISTRIBUTION

SIGNED:

*RELEASING AUTHORITY:

DATE: / /

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.



Operating Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-143

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI CP 4-13-92
SYSTEM: COMPONENT COOLANT COMPONENT NAME: SUPPORT COMPONENT ID NO.: 327 CPL-237-B

DWG./LOC.: CPL-237, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 (cm) 4-13-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT ☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT ☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			Light debris ^{CP 4-16-92} just on horizontal surfaces.
CORROSION/EROSION		<input checked="" type="checkbox"/>		N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			See page #2 for details
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A **FOR INFORMATION ONLY**

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details.

This hanger is double support - see also CPL-328-AA

EXAMINER: Chiff Moss (cm) LEVEL: II DATE: 4-13-92

REVIEWER: Art Pinner (dm) LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

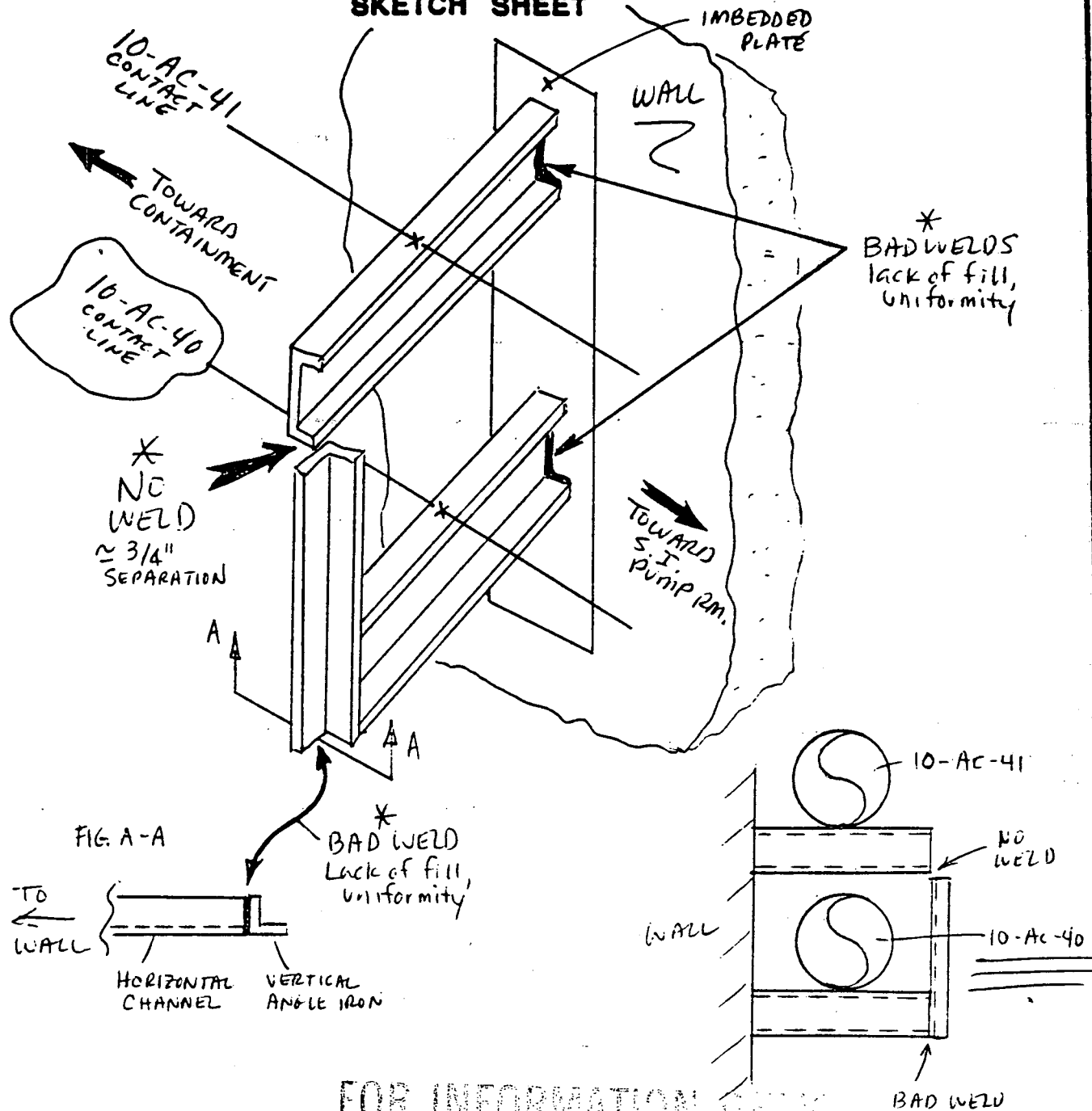
PAGE 2 OF 2

DATA SHEET NO. 1097-143

(10-AC-40) EXAM ITEM CPL-327-B

ISO DWG. NO. CPL-327 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Chiff Moss
EXAMINER N/A
REVIEWER Art P...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-13-92
DATE N/A
DATE 4-16-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-B

Visual Exam Report No. 1097-143

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Debris does not affect the structural integrity of a passive support. There are no service induced indications. Based on sampling done by Ebasco, welds made during the original construction are considered qualified. SUPPORT FOR 10-AC-41 LINE ABOVE IS INDEPENDENT.

Clement Rajendra / 4-25-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-145

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-327-R</u>
------------------------------	-----------------------------------	---------------------------------------

DWG./LOC.: CPL-327, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 EN 4-13-92 NDP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	<u>N/A</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		<u>EN</u>
DEBRIS	<input checked="" type="checkbox"/>			<u>Light dust + debris on horizontal surfaces.</u>
CORROSION/EROSION		<input checked="" type="checkbox"/>		<u>4-18-92</u> <u>N/A</u>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>See page # 2 for details</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	<u>N/A</u>
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A **FOR INFORMATION ONLY**

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS—see page # 2 for details.

NOTE: This support is physically tied to CPL-327-C (see pg.# 2)

EXAMINER: Chet Mass EN LEVEL: II DATE: 4-13-92

REVIEWER: Art P... EN LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

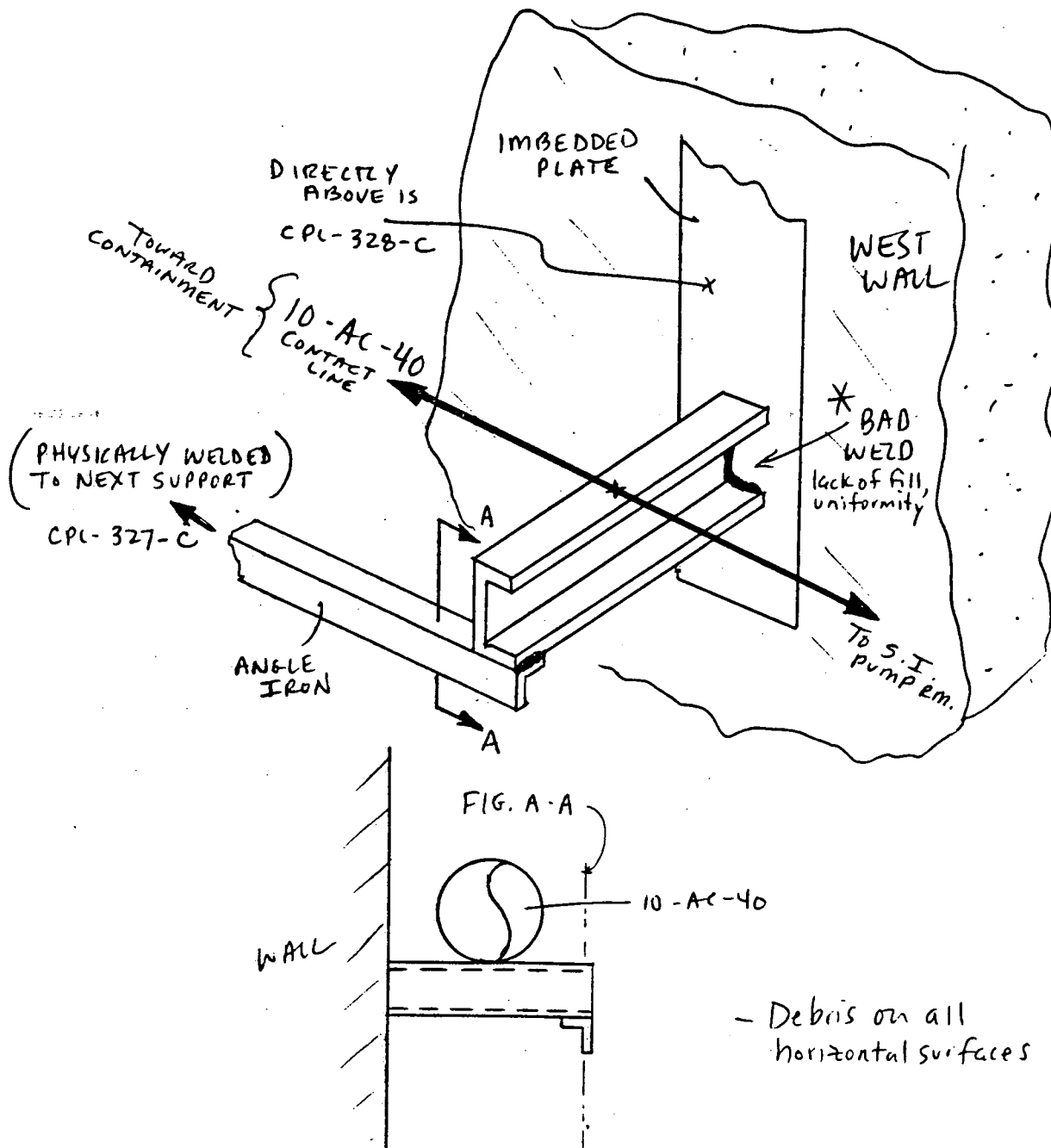
VIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-445EXAM ITEM CPL-327-RISO DWG. NO. CPL-327 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Cliff MossEXAMINER N/AREVIEWER Leo P. ...

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL N/ALEVEL II

DATE _____

DATE _____

DATE 4-13-92DATE N/ADATE 4-16-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-R

Visual Exam Report No. 1097-145

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Debris does not affect the structural integrity of a passive support. There are no service induced indications. Based on sampling done by Ebasco, welds made during the original construction are considered qualified.

Clement Rajendra / 4-25-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-144

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [1] ☒ 2 [] PSI ☒ ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: SUPPORT	COMPONENT ID NO.: CPL-327-C
------------------------------	----------------------------	--------------------------------

DWG./LOC.: CPL-327, Rev 0 | PIPE ALLEY

<input checked="" type="checkbox"/> VT-3 PROCEDURE: ^{SP-1097 (en) 4-13-92} NDP-613 REV.: 0	<input type="checkbox"/> VT-4 PROCEDURE: 614 REV.:
---	--

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> OTHER _____		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION
Present

YES	NO	N/A
-----	----	-----

COMMENTS

FASTENING DEVICES

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

RESISTANCE TO MOVEMENT

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A	INFORMATION: N/A
---------------------------	-------------	------------------

SNUBBER	ACTUAL: N/A	STROKE: N/A	S/N N/A
---------	-------------	-------------	---------

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details.

NOTE: This support is physically tied to CPL-327-R (see pg. #2)

EXAMINER: *Ch Moss* (C) LEVEL: *II* DATE: *4-13-92*

REVIEWER: *[Signature]* LEVEL: *PI* DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

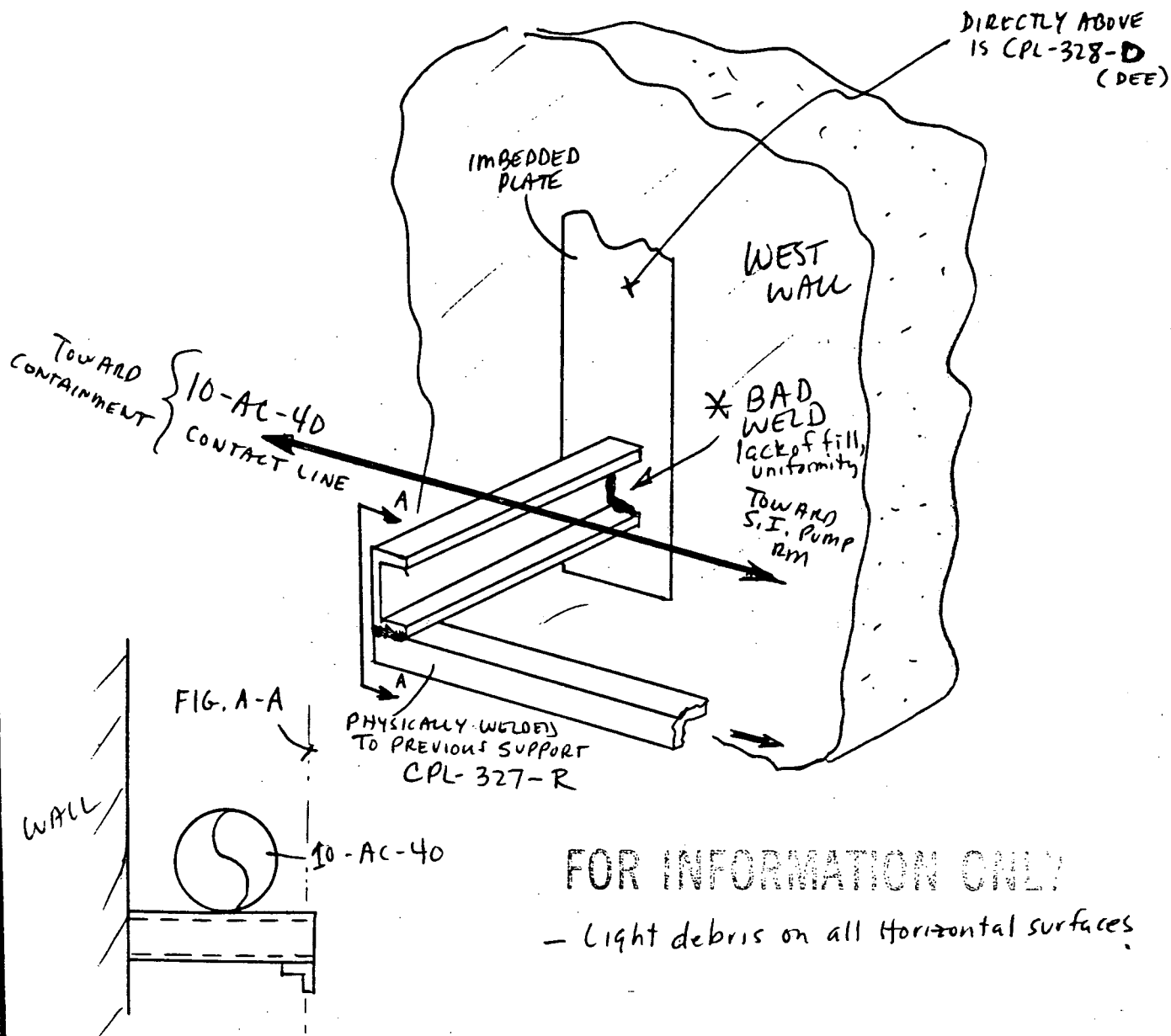
AN II REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097744
EXAM ITEM CPL-327-C
ISO DWG. NO. CPL-327 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

- Light debris on all horizontal surfaces

EXAMINER	<u>Cliff Moss</u>	LEVEL	<u>II</u>	DATE	<u>4-13-92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Art P...</u>	LEVEL	<u>II</u>	DATE	<u>4-16-92</u>
REVIEWER	_____	DATE	_____		
REVIEWER	_____	DATE	_____		

Am

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-C

Visual Exam Report No. 1097-144

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Debris does not affect the structural integrity of a passive support. There are no service induced indications. Based on sampling done by Ebasco, welds made during the original construction are considered qualified.

Clement Rajendra / 4-25-92
NED Engineer Date

CP&L
 Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-140

WR&A # N/A

PAGE 1 OF 2

EQUIPMENT: HB ROBINSON UNIT 11 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-328-AA</u>
------------------------------	-----------------------------------	--

DWG./LOC.: CPL-328, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 (C) 4-13-92 ~~NOEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>@ 4-13-92</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input checked="" type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	<u>N/A</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		<u>@ 4-18-92</u>
DEBRIS	<input checked="" type="checkbox"/>			<u>Light debris & dust on horizontal surfaces.</u>
CORROSION/EROSION		<input checked="" type="checkbox"/>		<u>N/A</u>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>See page #2 for details</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	<u>N/A</u>
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A **FOR INFORMATION ONLY**

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details

This hanger is a double support - see also CPL-327-B

EXAMINER: Chf Moss (C) LEVEL: II DATE: 4-13-92

REVIEWER: Chf Purnell (C) LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

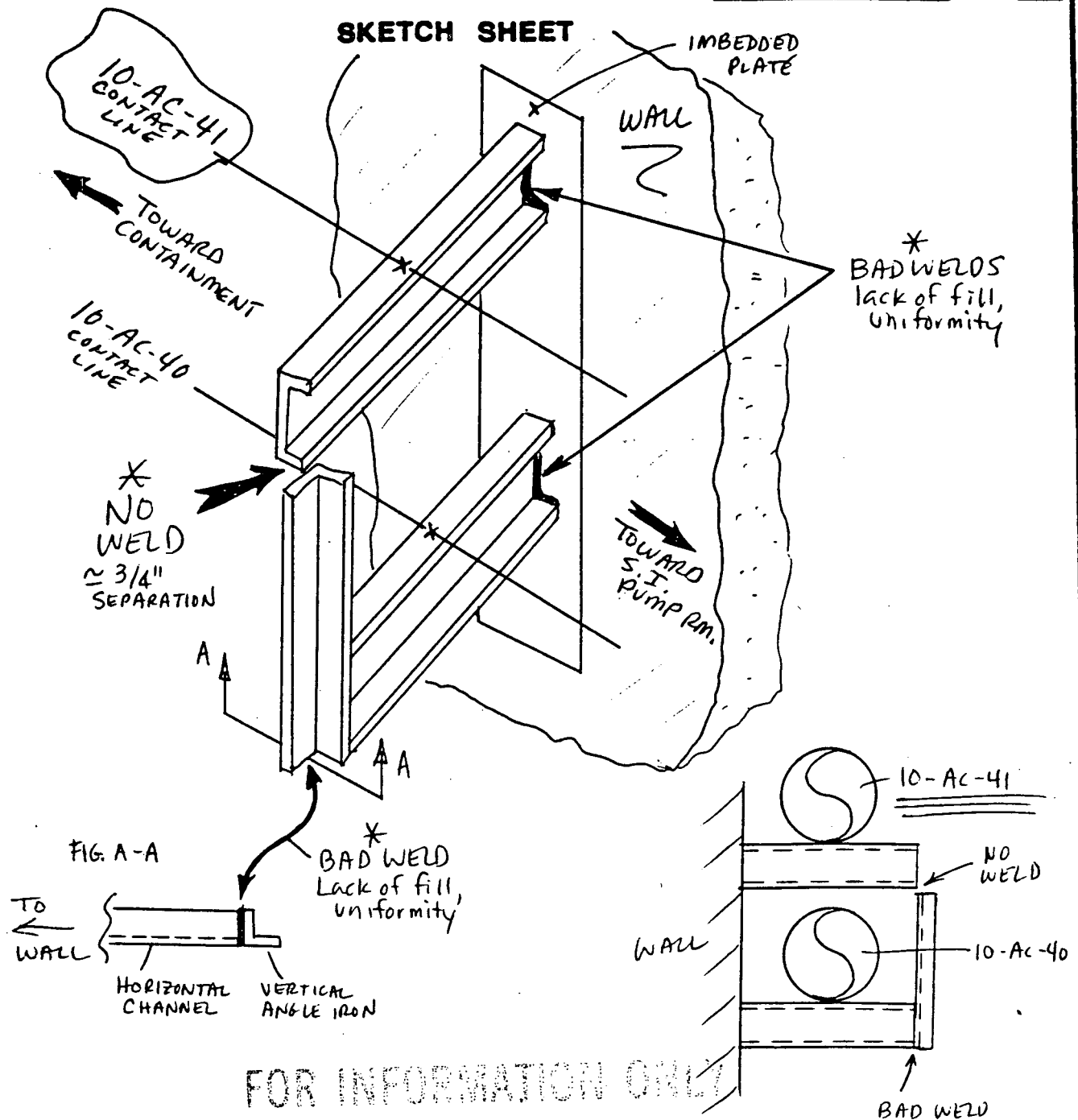
ANII REVIEW:

DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097740(10-AC-41) EXAM ITEM CPL-328-AAISO DWG. NO. CPL-328 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Chiff MossLEVEL IIDATE 4-13-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Curt P...LEVEL IIDATE 4-16-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-AA

Visual Exam Report No. 1097-140

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Debris does not affect the structural integrity of a passive support. There are no service induced indications. Based on sampling done by Ebasco, welds made during the original construction are considered qualified. SUPPORT FOR LINE 10-AC-40 BELOW IS INDEPENDENT.

Clement Rajendra / 4-25-92
NED Engineer - Date

* CPL-328-D is now assigned to the 4th Support after penetration into pipe alley. This number was not on ISO# CPL-328, Rev 0.

CP&L
Cleveland Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097746
WR&A # N/A
PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 ☒ 12 ☐ PSI ☒ ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: SUPPORT	COMPONENT ID NO.: CPL-328-C
------------------------------	----------------------------	--------------------------------

DWG./LOC.: CPL-328 Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: ^{SP-1097 on 4-13-92} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> MIRROR	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER	<input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
---	--	---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			Light dust debris on horizontal surfaces.
CORROSION/EROSION		<input checked="" type="checkbox"/>		4-16-92 N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			See page #2 for details
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A FOR INFORMATION ONLY

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

NOTE: This support is physically tied to *CPL-328-D (see pg #2)

EXAMINER: Chf Moss on LEVEL: II DATE: 4-13-92

REVIEWER: Art Runcorn on LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

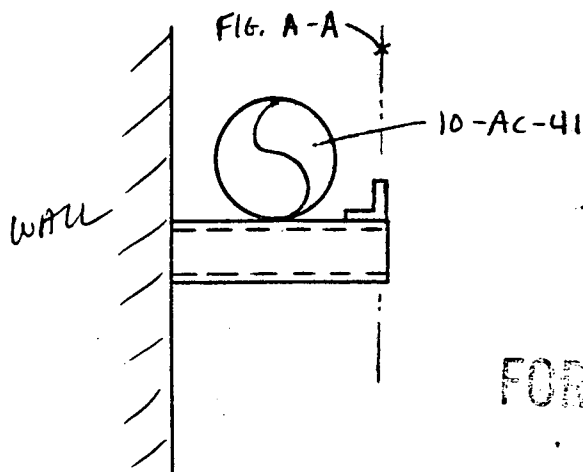
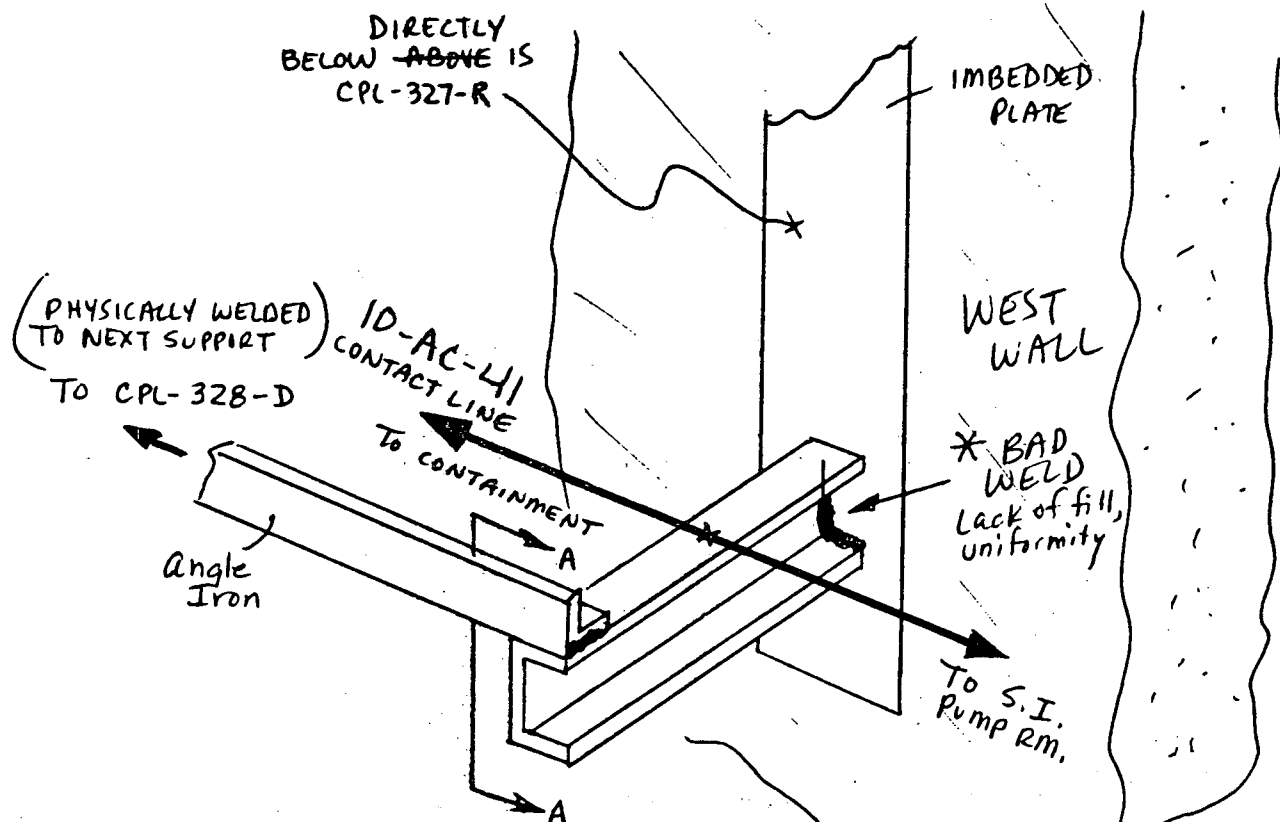
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-146EXAM ITEM CPL-328-CISO DWG. NO. CPL-328 REV. 0

SKETCH SHEET



light,
— Debris on all horizontal
surfaces.

FOR INFORMATION ONLY

EXAMINER Cliff MossEXAMINER N/AREVIEWER Art Pinner

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL N/ALEVEL II

DATE _____

DATE _____

DATE 4-13-92DATE N/ADATE 4-16-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-C

Visual Exam Report No. 1097-146

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Debris does not affect the structural integrity of a passive support. There are no service induced indications. Based on sampling done by Ebasco, welds made during the original construction are considered qualified.

Clement Rajendra / 4-25-92
NED Engineer Date

CPL-328-D is now assigned to the 4th support after penetration into pipe alley. This number was not on ISO # CPL-328, Rev 0

CP&L
Canadian Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 109747

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 ☒ 12 ☐ PSI ☒ ISI

SYSTEM: COMPONENT COOLANT COMPONENT NAME: SUPPORT COMPONENT ID NO.: * CPL-328-D

DWG./LOC.: CPL-328 Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 @ 4-13-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	<u>N/A</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			<u>Light ^{on} debris on all horizontal surfaces</u> <u>4-18-92</u>
CORROSION/EROSION		<input checked="" type="checkbox"/>		<u>N/A</u>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>See page # 2 for details</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	<u>N/A</u>
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u> FOR INFORMATION ONLY			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details

NOTE: This support is physically tied to CPL-328-C (see page # 2)

EXAMINER: Chf Moss @ LEVEL: II DATE: 4-13-92

REVIEWER: Carl Runc @ LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

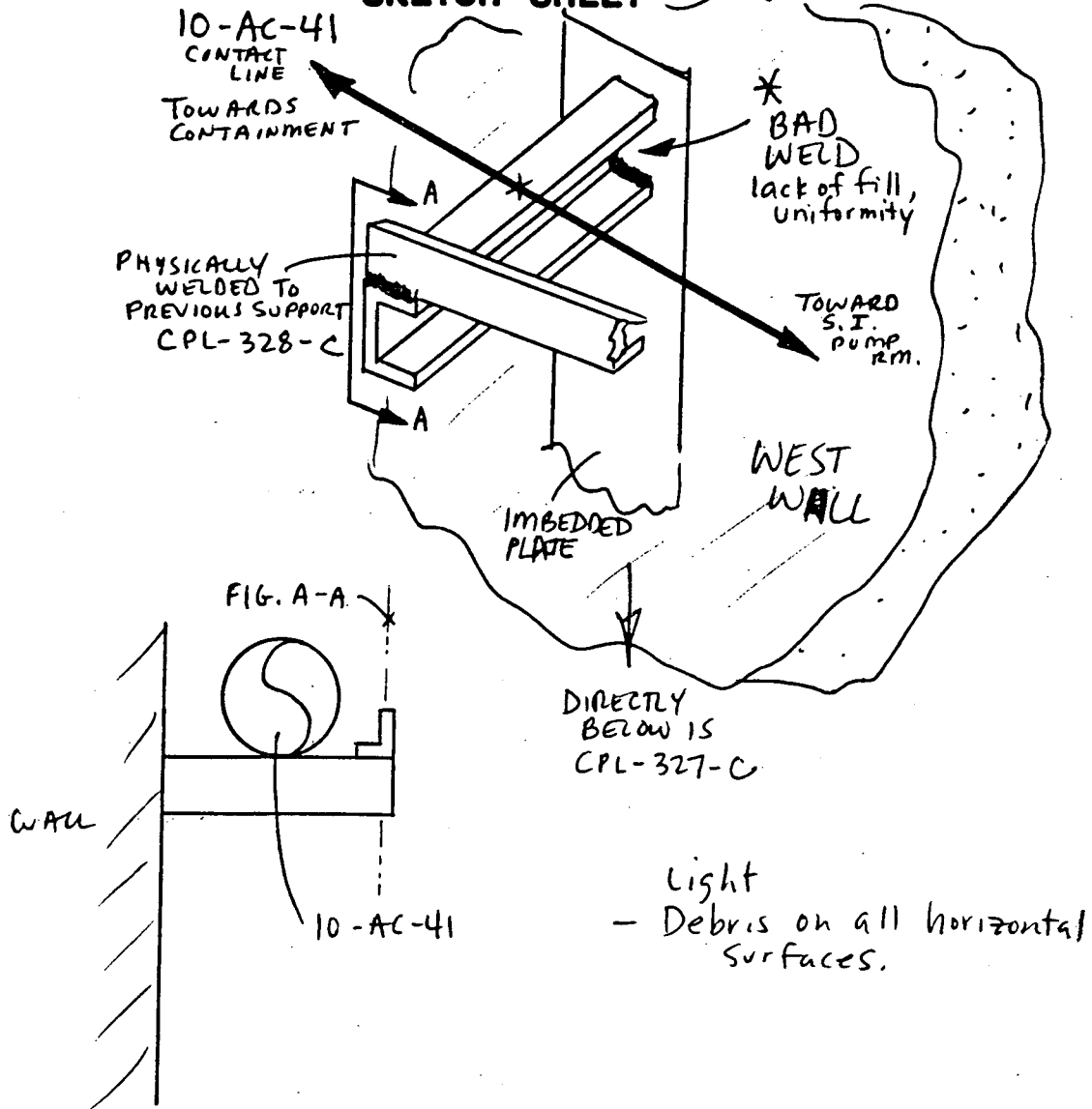
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-147EXAM ITEM CPL-328-DISO DWG. NO. CPL-328 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Chiff Mass
EXAMINER N/A
REVIEWER Crest Pinner
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-13-92
DATE N/A
DATE 4-16-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-D

Visual Exam Report No. 1097-147

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Debris does not affect the structural integrity of a passive support. There are no service induced indications. Based on sampling done by Ebasco, welds made during the original construction are considered qualified.

Clement Rajendra /4-25-92
NED Engineer Date

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>WARREN FARMER</u>	UNIT: <u>TECH SUPPORT</u>	SITE MEMO #
ATTN: _____		<u>ETS -92 - AM</u>
SUBJECT: <u>RESOLUTION OF ISI INDICATIONS</u>		SHEET <u>1 OF 1</u>
<u>THE ATTACHED VISUAL EXAMINATION REPORTS</u>		MOD <u>M-</u>
<u>WERE RECEIVED BY TSE-92-CF & TSE-92-CG</u>		PCN
<u>FOR EACH COMPONENT RECEIVED A CORRECTIVE</u>		RET-R-G-Bx

4249
91

ACTION/EVALUATION SHEET IS ATTACHED PLEASE NOTE THAT
COMPONENT CPL-222A-F WAS REMOVED BY MOD M-1087 BEFORE
THE VT-3 EXAM AND WILL NOT BE RE-INSTALLED ISI DRAWINGS
AND DATABASE SHOULD BE UPDATED TO REFLECT THIS.

<u>LIST OF COMPONENTS: CPL-325-E1, CPL-221B-E</u> <u>CPL-222A-F (DELETED), CPL-233-C, CPL-331B-B</u>	DISTRIBUTION
SIGNED: _____	RESPOND BY: _____
<u>Clement Rajendra</u>	<u>ACKNOWLEDGE</u> <u>RECEIPT ONLY</u>

*RELEASING AUTHORITY: C.A. Jones DATE: 4/23/92

RESPONSE:

_____	DISTRIBUTION

SIGNED: _____

*RELEASING AUTHORITY: _____ DATE: ____/____/____

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-29

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X2 1 PSI X ISI

SYSTEM: COMPONENT COOLANT COMPONENT NAME: BOX RESTRAINT COMPONENT ID NO.: CPL-325-E1

DWG./LOC.: CPL 325-REV-1 / COMPONENT COOLANT ROOM

X VT-3 PROCEDURE: S.P. 1097 ERO 4692 NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR
1 OTHER 6" SCALE
TYPE OF COMPONENT SUPPORT:
1 HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>X</u>		
MISALIGNMENT		<u>X</u>		
DEBRIS		<u>X</u>		
CORROSION/EROSION		<u>X</u>		
STRUCTURAL INTEGRITY		<u>X</u>		
RESISTANCE TO MOVEMENT	<u>X</u>			<u>SEE ATTACHED SKETCH</u>
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edmund R. Donovan LEVEL: II DATE: 4-4-92

REVIEWER: Art Purnell LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY: Richard A. Weber 4/9/92

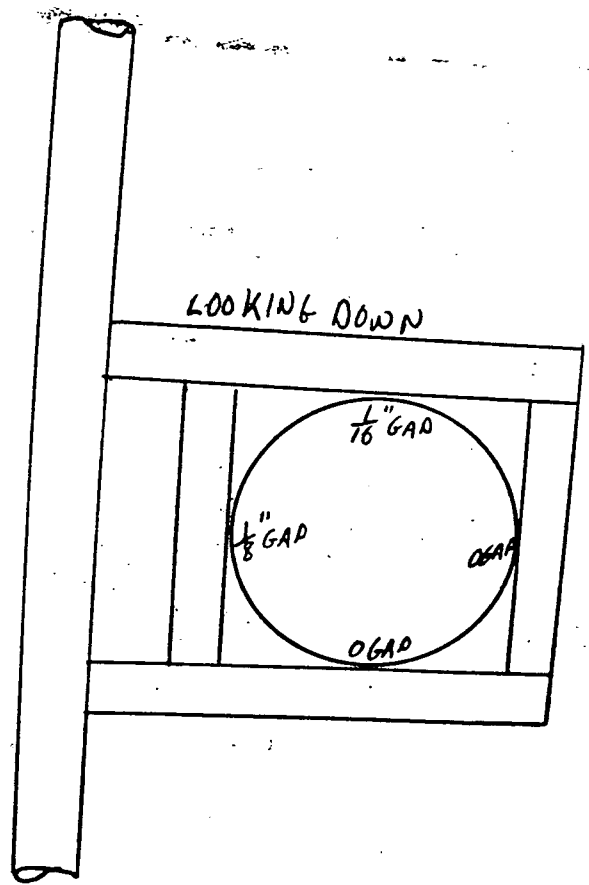
REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4.9.92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-29
EXAM ITEM CPL-325-E1
ISO IDING NO. CPL-325 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edward R. Dore
EXAMINER SA
REVIEWER Art Pinner
REVIEWER Richard B. Weber
EXAMINER SA
REVIEWER Richard B. Weber

LEVEL II
LEVEL 1 1/2
LEVEL II
DATE 4/9/92
DATE _____
DATE _____

DATE 4-4-92
DATE SA
DATE 4-9-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-325-E1

Visual Exam Report No. 1097-29

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH
TWO-WAY HORIZONTAL RESTRAINTS. REF. STRESS ISD AC-1, DP 250.
THE CLEARANCES MEET TOLERANCES OF SPEC. CPL-HBR2-C-011.

Clement Rajendra / 4-23-92
NED Engineer Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-2

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 111 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: RHR COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-221B-E

DWG./LOC.: CPL-221B Rev 1 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CD 4-1-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____
TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☒ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☒ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	<u>N/A</u>
MISALIGNMENT		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
DEBRIS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Top surface of box (upper) is covered with apparent concrete residue (light-medium)</u>
CORROSION/EROSION	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Very light rust (<10% loss of wall) on backside surfaces where they're not painted.</u>
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>N/A</u>
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: Conditions listed above do NOT appear to effect structural integrity.

RECORDABLE INDICATIONS

EXAMINER: Chiff Moss CD LEVEL: II DATE: 4-1-92

REVIEWER: Art Pinner LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

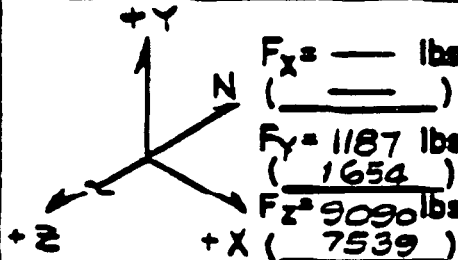
REVIEWED BY: Richard D. Weber 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: JP Valladares DATE: 4-9-92

10-AC-1-LC-131

BASE PLATE IDENTIFICATION



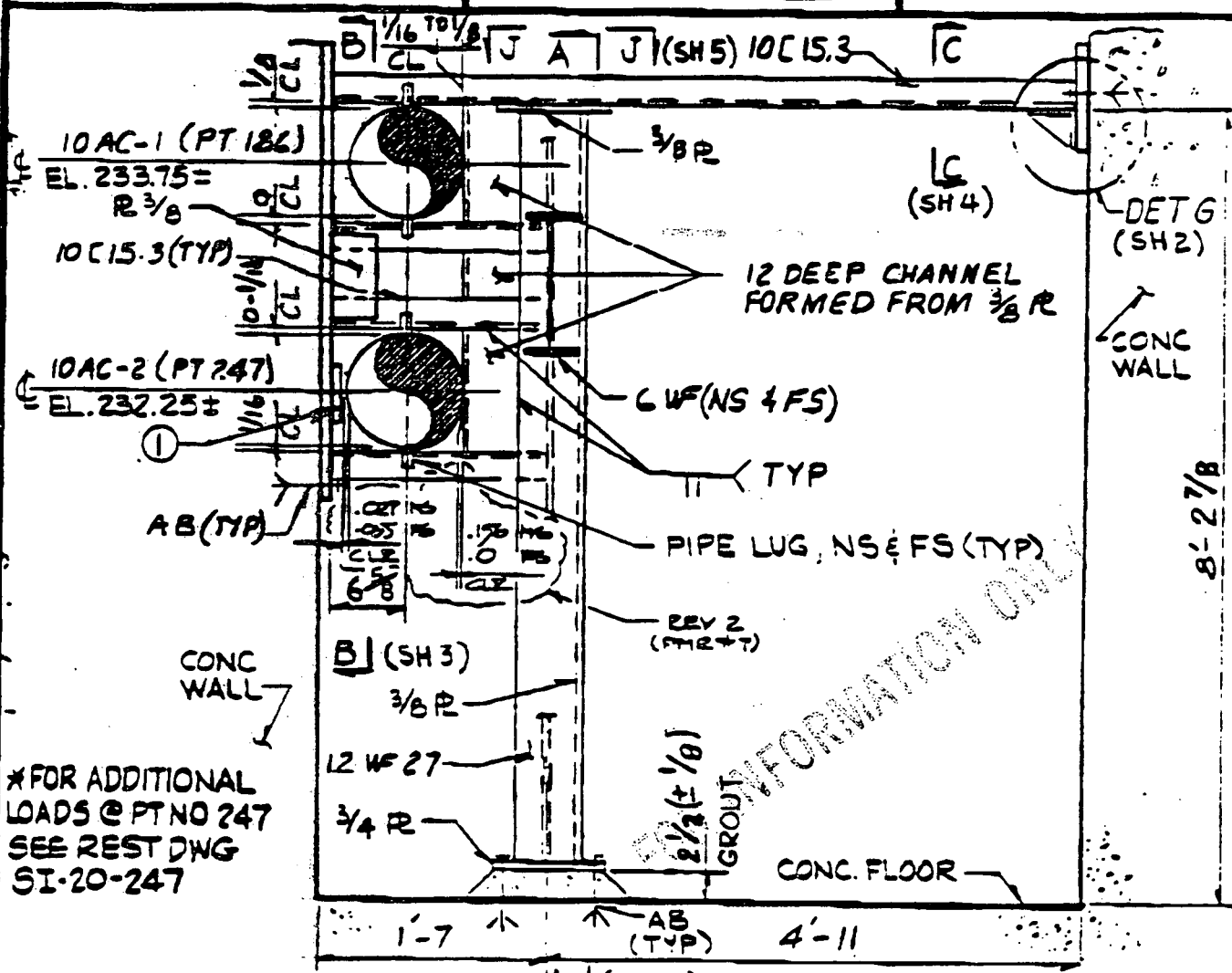
LOAD CASE THRM+OBE
(THRM+OBE)
EBASCO CMPTR RUN
DATE: 8-23-84 TIME: 5:30 PM
RESTRAINT LOADS *

RESTRAINT LOCATION:
SEE ISO NO. SI-20
PT NO. 186 (18)

REACTOR AUX BLDG
PIPE ALLEY

REST CALC NO SI-20-186
MOD NO M492-REV 3
PMR NO 6

Support E



NUCLEAR SAFETY RELATED ELEV LKG SOUTH

REV 1 INCORPORATES "AS-BUILT" CONDITION

2	5-3-87	RB	Hsw	JD
1	4-14-85	RB	Hsw	JD
REV	DATE	BY	CHK	APP

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. VT
DATE 9-15-84 CHJM
SCALE NTS 3/8

APPROVED
[Signature]
MNC

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: SAFETY INJECTION
ISO NO./POINT NO. SI-20/186

AB-CAR
SI-20-18
SH. 1 OF 1



SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221B-E

Visual Exam Report No. 1097-2

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

CONCRETE RESIDUE DOES NOT AFFECT STRUCTURAL INTEGRITY.
SMALL AMOUNT OF RUST DOES NOT AFFECT THE STRUCTURAL
INTEGRITY OF SUPPORT. DEPENDING ON ENVIRONMENTAL CONDITIONS, RUST
CAN IN FACT FORM A PROTECTIVE LAYER. CLEANING THE RUST AND
REPAINTING THE SUPPORT DOES NOT NECESSARILY STOP CORROSION
UNLESS THE CLEANING IS DONE VERY CAREFULLY TO ENSURE ALL
RUST IS REMOVED BEFORE REPAINTING.

Clement Rajenebre / 4-23-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-32

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-222A-F

DWG./LOC.: CPL-222A, Rev 0 / PIPE ALLEY

X VT-3 PROCEDURE: SP-1097 CW 4-4-92 NOEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE 1 VIDEO RECORDING NO: X N/A

EQUIPMENT USED: 1 FLASHLIGHT 1 MIRROR 1 OTHER _____
TYPE OF COMPONENT SUPPORT:
X HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT
1 SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	
MISALIGNMENT			<u>X</u>	
DEBRIS			<u>X</u>	
CORROSION/EROSION			<u>X</u>	
STRUCTURAL INTEGRITY	<u>X</u>			<u>This support is missing. A saddle is welded to the pipe and Hitti bolt holders are in the wall.</u>
RESISTANCE TO MOVEMENT			<u>X</u>	
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES			<u>X</u>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION - see page #2 for details

EXAMINER: Cliff Moss @ LEVEL: II DATE: 4-4-92

REVIEWER: Edmund L. Dora LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY: Richard A. Weber 4/9/92

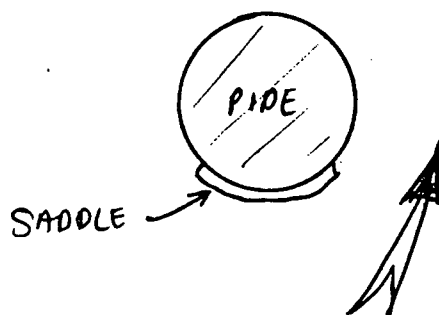
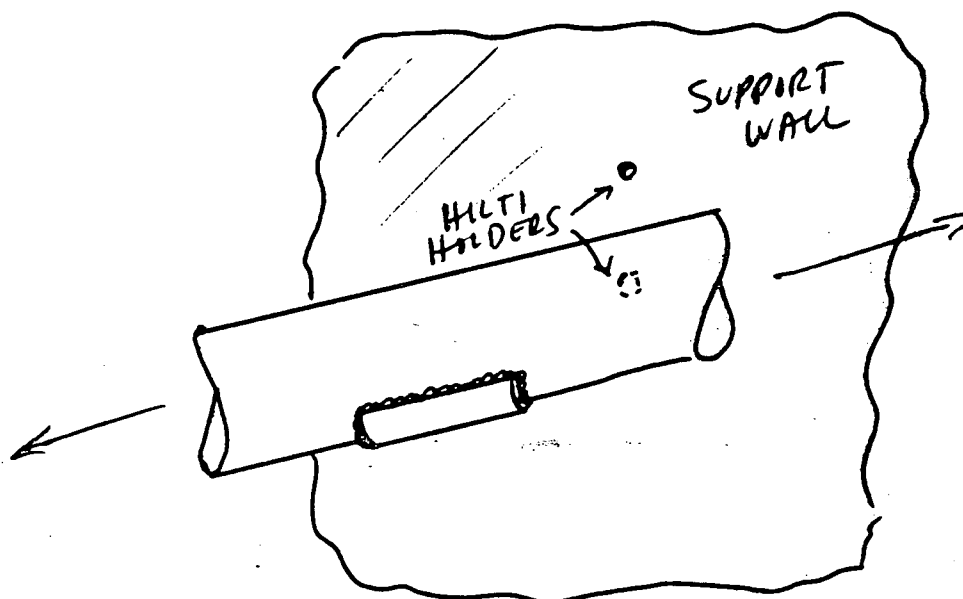
REVIEWERS COMMENTS:

ANII REVIEW: AP Valladares DATE: 4-9-92

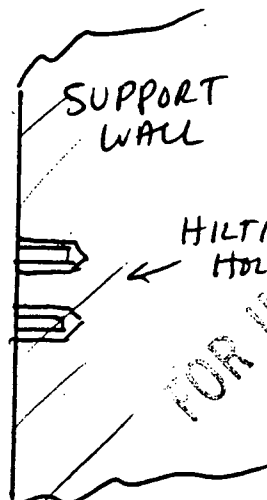
1125

PAGE 2 OF 2DATA SHEET NO. 1097-32 Q 9-4-92EXAM ITEM CPL-222A-A-FISO DWG. NO. CPL-222A REV. 0

SKETCH SHEET



Nothing connects them.



FOR INFORMATION ONLY

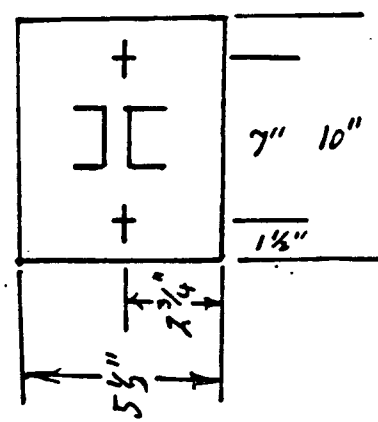
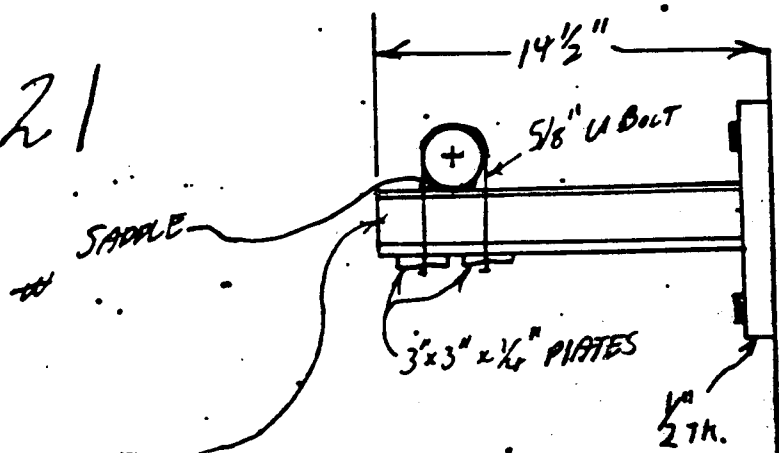
NOTE: the saddle weld is partially covered with a lead blanket. (It should be removed for proper inspection)

EXAMINER Chf Mass
EXAMINER N/A
REVIEWER Edmund R. D. D. D.
REVIEWER Richard B. D. D.
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/9/92
DATE _____

DATE 4-4-92
DATE N/A
DATE 4-6-92 ERD 4-8-92

H21



2x3x1 1/2x1/4" CHANNEL BACK TO BACK

SUPPORT "F"
PT#6021

FOR INFORMATION ONLY

Inspected By L. Campbell

Date Feb 29-1980

SKETCH #5

rmd

670F7

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-22A-F

Visual Exam Report No. 1097-32

N/A

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Basis:

*This support has been removed by Mod M-1087.
ISI data base and drawings should be revised to
delete this support. This support will not be
re-installed.*

Clement Rajendra / 4-23-92
NED Engineer Date

CPL
Carroll Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-30

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON		UNIT <u>1</u> <u>1</u> <input checked="" type="checkbox"/> <u>2</u> <u>1</u> <u>1</u> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>S. I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-233-C</u>	
DWG./LOC.: <u>CPL-233, Rev 0 / PIPE ALLEY</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097 @w 4/4/92</u> <u>NDEP-613 REV.: 0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/>	REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		Washer plate on front U-Bolt leg is rotated slightly - see page # 2.
DEBRIS		<input checked="" type="checkbox"/>		Flammastic sprayed on support (light)
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER N/A	ACTUAL: N/A		STROKE: N/A	S/N N/A
COMMENTS: See page #2 for misalignment conditions.				

RECORDABLE INDICATIONS

EXAMINER: <u>Cliff Moss</u>	LEVEL: <u>II</u>	DATE: <u>4/4/92</u>
REVIEWER: <u>Edmund R Dorman</u>	LEVEL: <u>II</u>	DATE: <u>4.8.92</u>

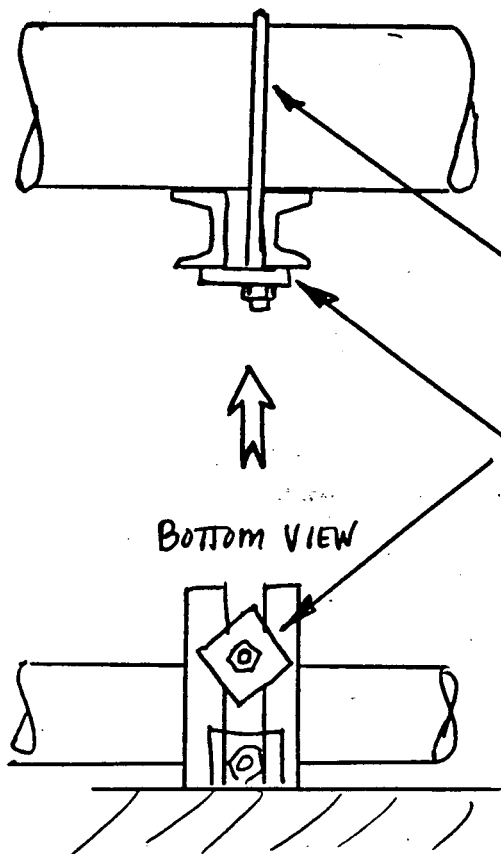
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard A. Weber 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: AP Valladares DATE: 4.9.92

SKETCH SHEET



Clamp is forced
to one side of
"C" steel.

Washer plate
is turned
~ 15-20°
BUT, is
structurally sound.

BOTTOM VIEW

Neither condition appears
to be detrimental to
the structural integrity
of the support.

FOR INFORMATION ONLY

EXAMINER

Cliff Mass

EXAMINER

N/A

REVIEWER

Richard R. Darrow

REVIEWER

Richard B. Selzer

REVIEWER

LEVEL

II

LEVEL

N/A

LEVEL

II

DATE

4/9/92

DATE

DATE

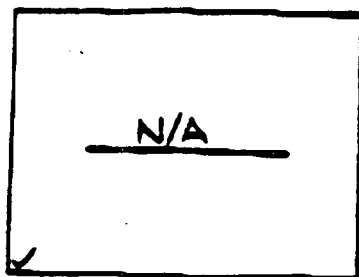
4-4-92

DATE

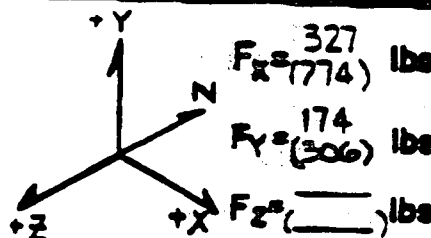
N/A

DATE

4-6-92



BASE PLATE IDENTIFICATION



LOAD CASE THRM+DBE
(THRM+DBE)

EBASCO CMPTR RUN

DATE: 11-15-84 TIME: 8:12 PM
(THRM) 1-15-86 9:58 AM

RESTRAINT LOADS

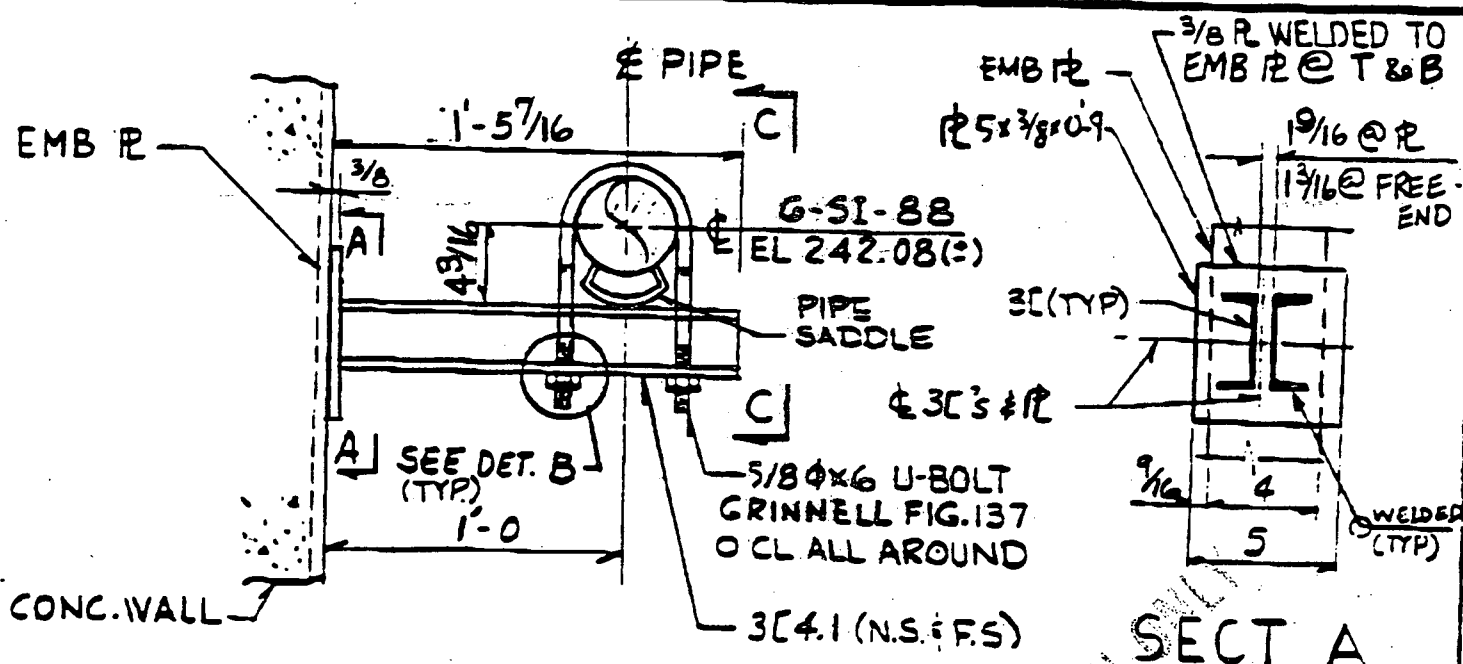
RESTRAINT LOCATION:
SEE ISO NO. SI-20
PT NO. 943 (943)

REACTOR AUX BLDG
PIPE ALLEY

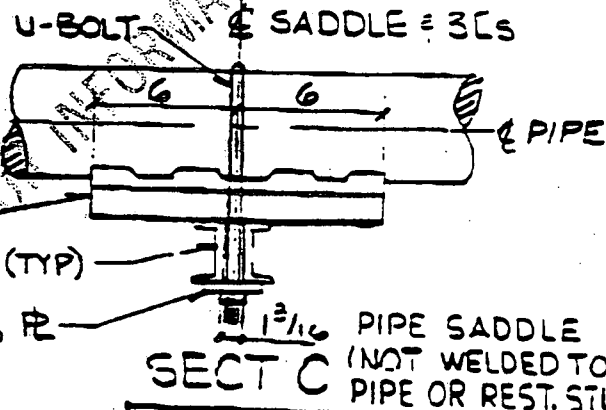
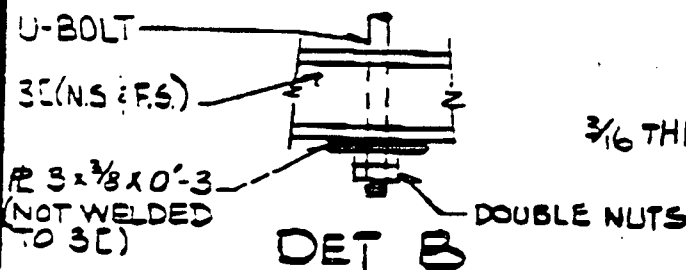
REST. CALC NO: SI-20-943

MOD. NO N/A

PMR NO N/A



ELEV LKG NORTH



NUCLEAR SAFETY RELATED

2	4/9/86	JB	ES	MD
REV	DATE	BY	CHK	APPD

1	1/18/85	WG	HEW	MD
REV	DATE	BY	CHK	APPD

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. UHNG/UP APPROVED
DATE 1/18/84 CH. LC
SCALE NTS

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: SAFETY INJECTION
ISO NO./POINT NO. SI-20/943

AB-CAR-
SI-20-943

SH. 1 OF 1

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-233-C

Visual Exam Report No. 1097-30

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SLIGHT MISALIGNMENT OF U-BOLT IS NOTED ON THE
DRAWING. ALTHOUGH WASHER IS TURNED 15°-20°, THERE IS
ADEQUATE BEARING FOR LOAD TRANSFER.

Clement Rajendra 14-23-92.
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-72

WR&A # N/A

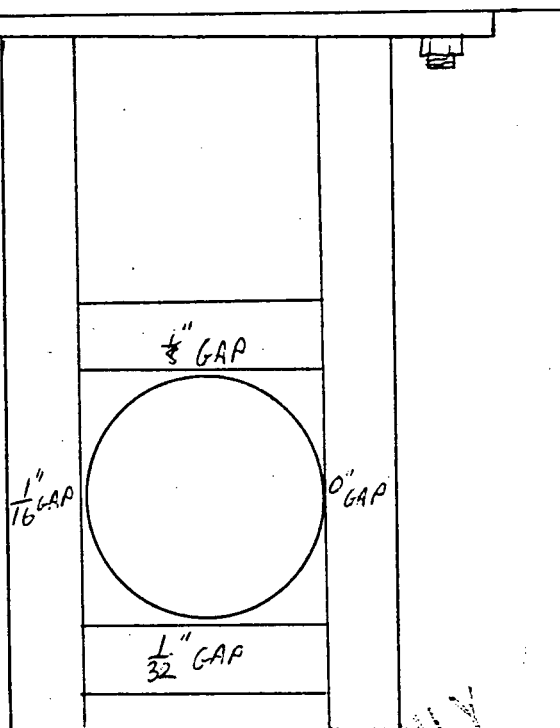
PAGE 1 OF 2

PLANT: <u>HB ROBINSON</u>		UNIT [] 1 [X] 2 [] PSI [X] ISI	
SYSTEM: <u>Aux. FEED</u>	COMPONENT NAME: <u>Box RESTRAINT</u>	COMPONENT ID NO.: <u>CPL-331B-B</u>	
DWG./LOC.: <u>CPL-331B REV. 0 / COMPONENT COOLANT ROOM</u>			
[X] VT-3 PROCEDURE: <u>SP-1097 ERS 4-6-92</u> <u>NOEP-613 REV.: 0</u>		[] VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT [X] REMOTE [X]		VIDEO RECORDING NO: [] N/A	
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" Scale</u>		TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES		[X]	
MISALIGNMENT		[X]	
DEBRIS		[X]	
CORROSION/EROSION		[X]	
STRUCTURAL INTEGRITY	[X]		SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	[X]		SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS		[X]	
ARC STRIKES/GOUGES		[X]	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATIONS</u>			
EXAMINER: <u>Edmund R. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4/6/92</u>	
REVIEWER: <u>Cliff Moss</u> <u>DM</u>	LEVEL: <u>II</u>	DATE: <u>4-9-92</u>	
COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY			
REVIEWED BY:			
REVIEWERS COMMENTS: <u>NOTE NOT per ATTACHED SKETCH TUBE used not channel</u> <u>Also 4 studs in BASE PLATE NOT "2"</u> <u>DM</u>			
ANII REVIEW:		DATE:	

1125

PAGE 2 OF 2DATA SHEET NO. 1097-77EXAM ITEM CPL-331B-BISO DWG. NO. CPL-331BREV. 0

SKETCH SHEET

DRAWING CALL
FOR 0" CLEARANCE

FOR INFORMATION ONLY

EXAMINER

Edmund R. Donovan

LEVEL

II

DATE

4-6-92

EXAMINER

SA

LEVEL

II

DATE

4-7-92

REVIEWER

W. T. Korman

LEVEL

II

DATE

4-7-92

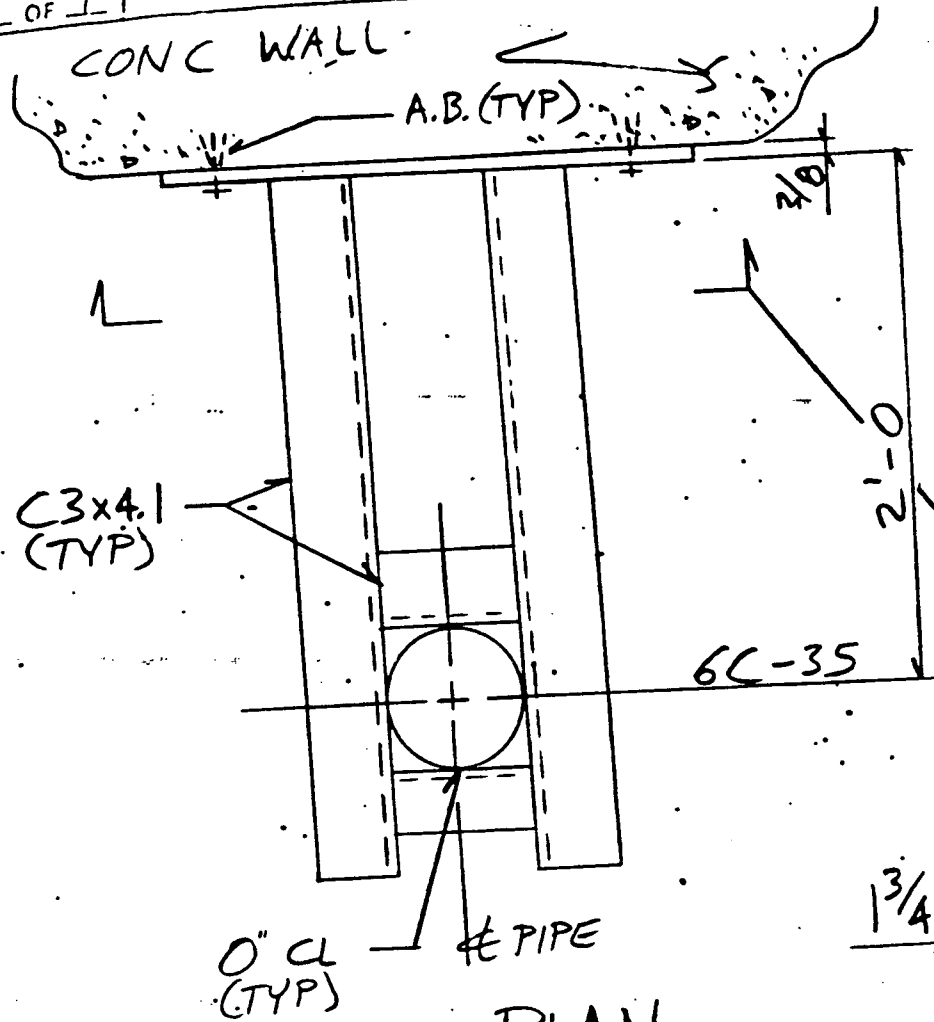
REVIEWER

DATE

REVIEWER

DATE

DM

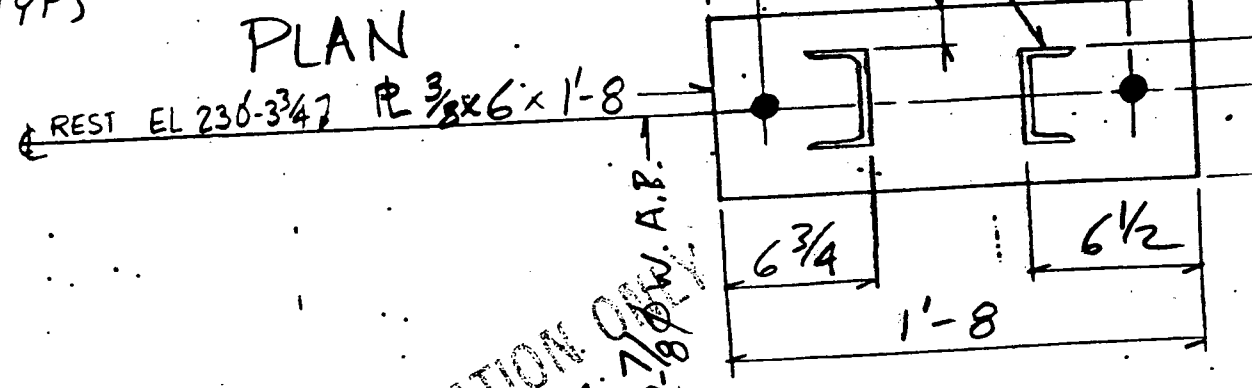


N ←

BASE #

CW-93-LC-176

SUPPORT "B"



PLAN

REST EL 230-3347 R 3/8 x 6 x 1'-8

FOR INFORMATION ONLY

PT# 1356

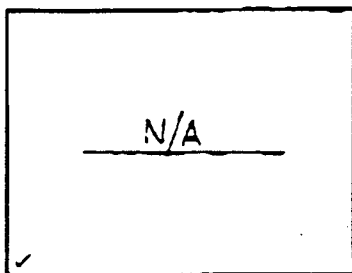
42-8 W.A.B.

C-1 / 35/6

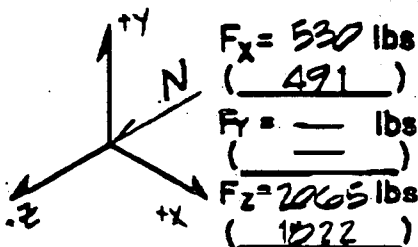
Inspected By Lin McLean

Date 12-20-83

AF 16245



**BASE PLATE
IDENTIFICATION**



LOAD CASE THRM+D+DBE
(THRM+D+DBE)
EBASCO CMPTX RUN
DATE: 8-5-84 TIME: 10:54 AM
8-6-84 10:35 AM
RESTRAINT LOADS

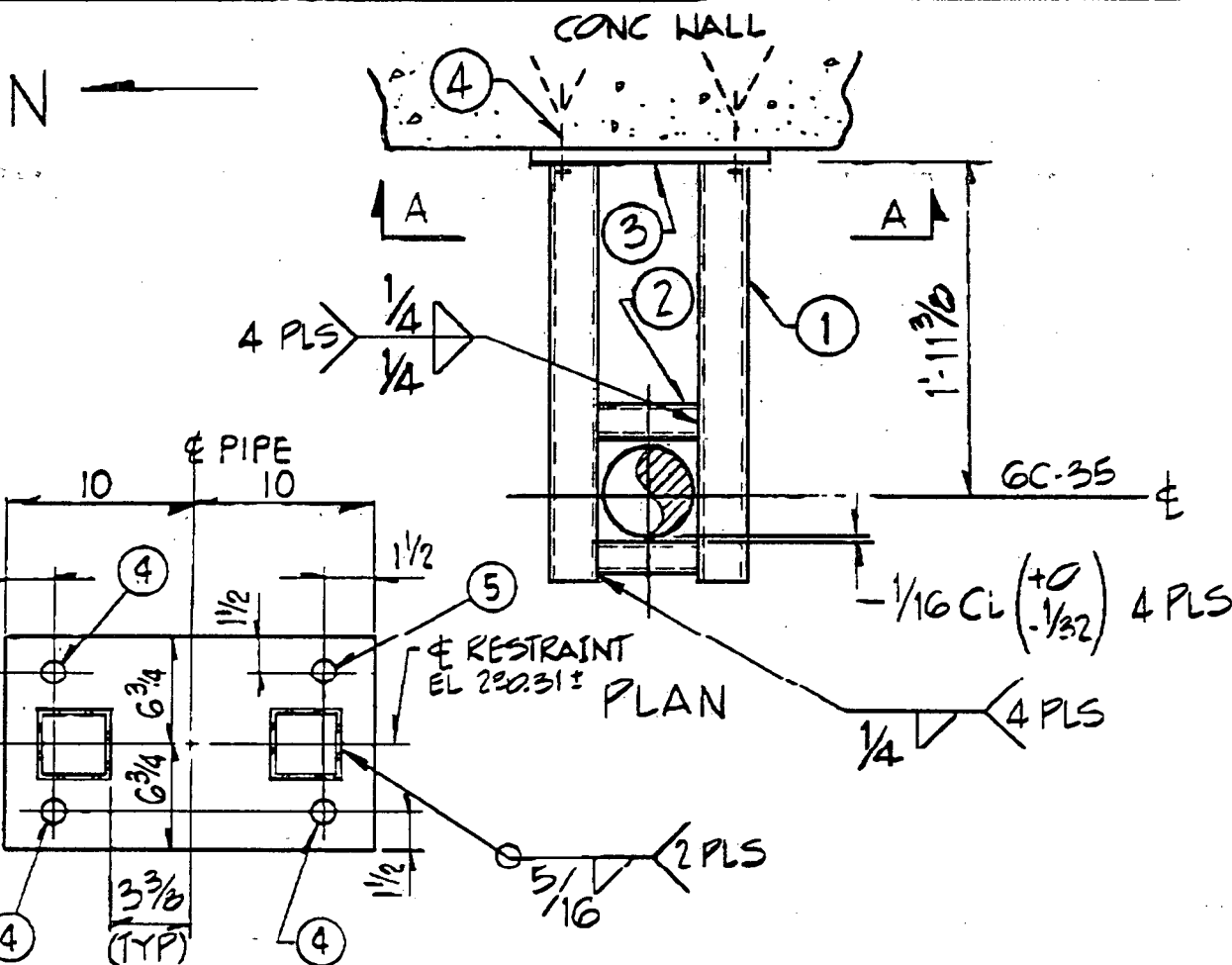
RESTRAINT LOCATION:
SEE ISO NO. C-1
PT NO. 35/G (1356)

RAB
NEAR COMPONENT
COOLING HEAT
EXCHANGER, EAST WALL

REST CALC NO. C-1-35/G

MOD NO M492-REV 3

PMR NO. 2



SECT A

NUCLEAR SAFETY RELATED

REV 1 INCORPORATES "AS-BUILT" CONDITION

2	6/28/85	E	HSW	MD
1	5/10/85	TN	HSW	MD
REV	DATE	BY	CHK	APP'D

EBASCO SERVICES INCORPORATED

DIV. **CIVIL** DR. *DR.*
DATE **8-9-84** CH. *PK*
SCALE **NTS**

APPROVED
[Signature]
GSR PC

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: CONDENSATE PIPING
ISO NO./POINT NO. C-1/35/G

AB-CAR-
C-1-35/G
SH. 1 OF 2

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-B

Visual Exam Report No. 1097-77

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS IN ACCORDANCE WITH THE LATEST DWG.
AB-CAR-C-1-35/6, REV. 2 DATED 6/28/85 EXCEPT FOR
CLEARANCES.

IN X DIR. SUM OF AS-FOUND CLEARANCES = $1/16"$
SUM OF AS-DESIGNED CLEARANCES = $1/16 + 1/16 = 1/8"$
THIS IS ACCEPTABLE

IN Z-DIR. SUM OF AS-FOUND CLEARANCES = $1/8 + 1/32 = \frac{5}{32}"$
SUM OF AS-DESIGNED CLEARANCES = $1/16 + 1/16 = \frac{4}{32}"$

MAX. DEVIATION IS $1/32$. THIS IS CONSIDERED ACCEPTABLE.

Clement Rajendra / 4-23-92
NED Engineer Date

DICK WALKER

(W) MEMORANDUM

RSPO-92-019
APRIL 17, 1992

TO: ED ROSSMAN
RHONDA RICHARDSON

FROM: RUSS MUTH

SUBJECT: H.B. Robinson - Recommendation for RCP Motor Flywheel Gouge

THE ISI DATA SHEET 1097-115 PAGE 2 OF 2, EXAM ITEM CPL-144-SPARE. WHICH IS THE ISI DONE ON SITE OF THE REFURBISHED RCP FLYWHEEL WAS FORWARDED TO (W) EMD ENGINEERING FOR RECOMMENDATION. THE FOLLOWING IS THE (W) DESIGN ENGINEERING DISPOSITION. IT SHOULD BE NOTED THIS WAS SUPPLIED ON A RUSH BASIS BY (W) AT NO COST TO CPL AND THAT CPL DOES NOT HAVE A CONTRACT FOR (W) SUPPORT (TECH REVIEW) OF THE ISI WORK BEING DONE DURING THE OUTAGE.

RJM
R.J. MUTH (W) SSM

=====

Ltr. # LME-92-139

The small gouge on the outside diameter does not affect the integrity of the flywheel. At the earliest convince (next time work is done in the flywheel area) the gouge should be blended to 3 to 1 taper to remove any sharp corners or raised metal. Reworked area should be liquid penetrant examined to ensure that no cracks or linear indications are present. Apply red primer (908A912H03) over reworked areas.

M. H. Weyant
(W)EMD Large Motor Engineering

CC: B.A. HARWARD
M.F. PAGE
S.W. FARMER

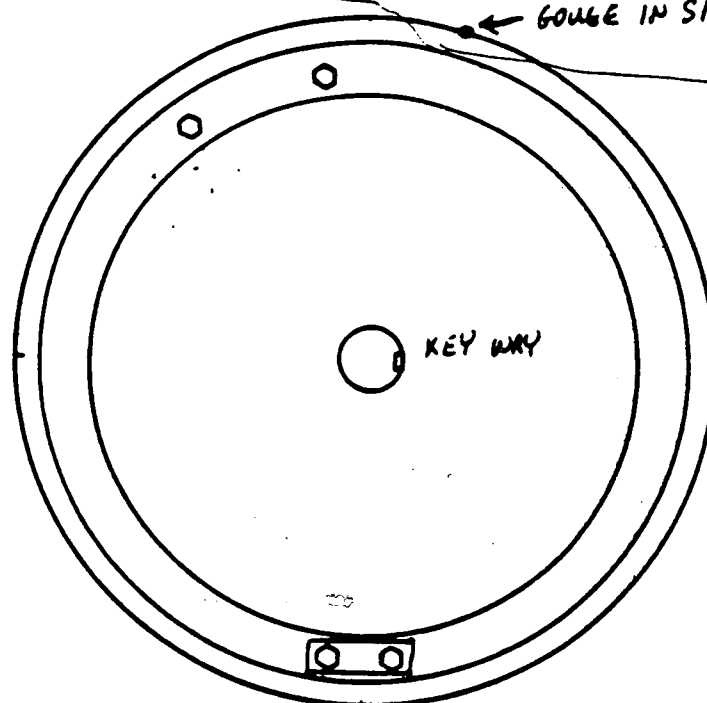
1025

PAGE 2 OF 2
DATA SHEET NO. 1077-115
EXAM ITEM CPL -144-SPARE
ISO DWG. NO. CPL -144 REV. 0

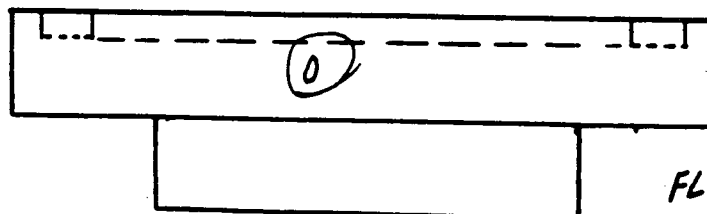
SKETCH SHEET

LOOKING DOWN ON FLYWHEEL

GOUGE IN SIDE OF FLYWHEEL
SEE BELOW



GOUGE INSIDE OF FLYWHEEL $1\frac{1}{4}$ " LONG $\frac{3}{8}$ " WIDE
 $\frac{3}{16}$ " DEEP



FLY WHEEL EXAMINED IN
PLACE BOTTOM NOT EXAM.

EXAMINER Edward R. Donora
EXAMINER A
REVIEWER Carl R. ...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL III
LEVEL II
DATE _____
DATE _____

DATE 4-11-92
DATE 4
DATE 4-14-92

Don

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>WARREN FARMER</u>	UNIT: <u>TECH SUPPORT</u>	SITE MEMO #
ATTN:		<u>ETS - 92-AH</u>
SUBJECT: <u>RESOLUTION OF ISI INDICATIONS</u>		SHEET <u>1</u> OF <u>1</u>
<u>THE ATTACHED VISUAL EXAMINATION</u>		MOD <u>M-</u>
<u>REPORTS WERE RECEIVED BY TSE-92-BM.</u>		PCN
<u>FOR EACH REPORT RECEIVED RECOMMENDED</u>		RET-R-6-BX

CORRECTIVE ACTION OR EVALUATION IS ATTACHED. THE REMAINING
TWO SUPPORTS RECEIVED ON THIS TSE-92-BM CANNOT BE REVIEWED
AT THE PRESENT TIME DUE TO THAT RESTRICTING ACCESS.
COMPONENT ID'S: 'CPL-230-C

<u>'CPL-221A-L</u>	DISTRIBUTION
<u>'CPL-221A-K</u>	
<u>'CPL-221A-Y</u>	
<u>'CPL-221A-X</u>	
<u>'CPL-221A-W</u>	
SIGNED: <u>Clement Rajendra</u>	RESPOND BY: <u>ACKNOWLEDGE RECEIPT</u>

*RELEASING AUTHORITY: L.A. Jones DATE: 4/8/92

RESPONSE:

	DISTRIBUTION

SIGNED: Richard B. Weber 4/10/92

*RELEASING AUTHORITY: _____ DATE: / /

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

VISUAL EXAMINATION DATA SHEET

REPORT NO. _____

 WR&A # N/A

 PAGE 1 OF 2

 PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-230-C</u>
--------------------	--------------------------------	------------------------------------

 DWG./LOC.: CPL-230 REV 0 / PIPE ALLEY

[X] VT-3 PROCEDURE: <u>SP109794 4-1-92</u> NDEP-613 REV.: <u>0</u>	[] VT-4 PROCEDURE: <u>614</u> REV.:
--	--------------------------------------

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <u>[X] N/A</u>
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>GREY CARD</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHED SKETCH
MISALIGNMENT		✓		
DEBRIS	✓			SEE ATTACHED SKETCH
CORROSION/EROSION	✓			MODERATE RUST ON STANCHION AND JOINTS. METAL LOSS < 10%.
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

 COMMENTS: N/A

EXAMINER: <u>Art Purnan</u>	LEVEL: <u>II</u>	DATE: <u>4-1-92</u>
-----------------------------	------------------	---------------------

REVIEWER:	LEVEL:	DATE:
-----------	--------	-------

 COMPONENT CONDITION: [] SATISFACTORY [X] UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

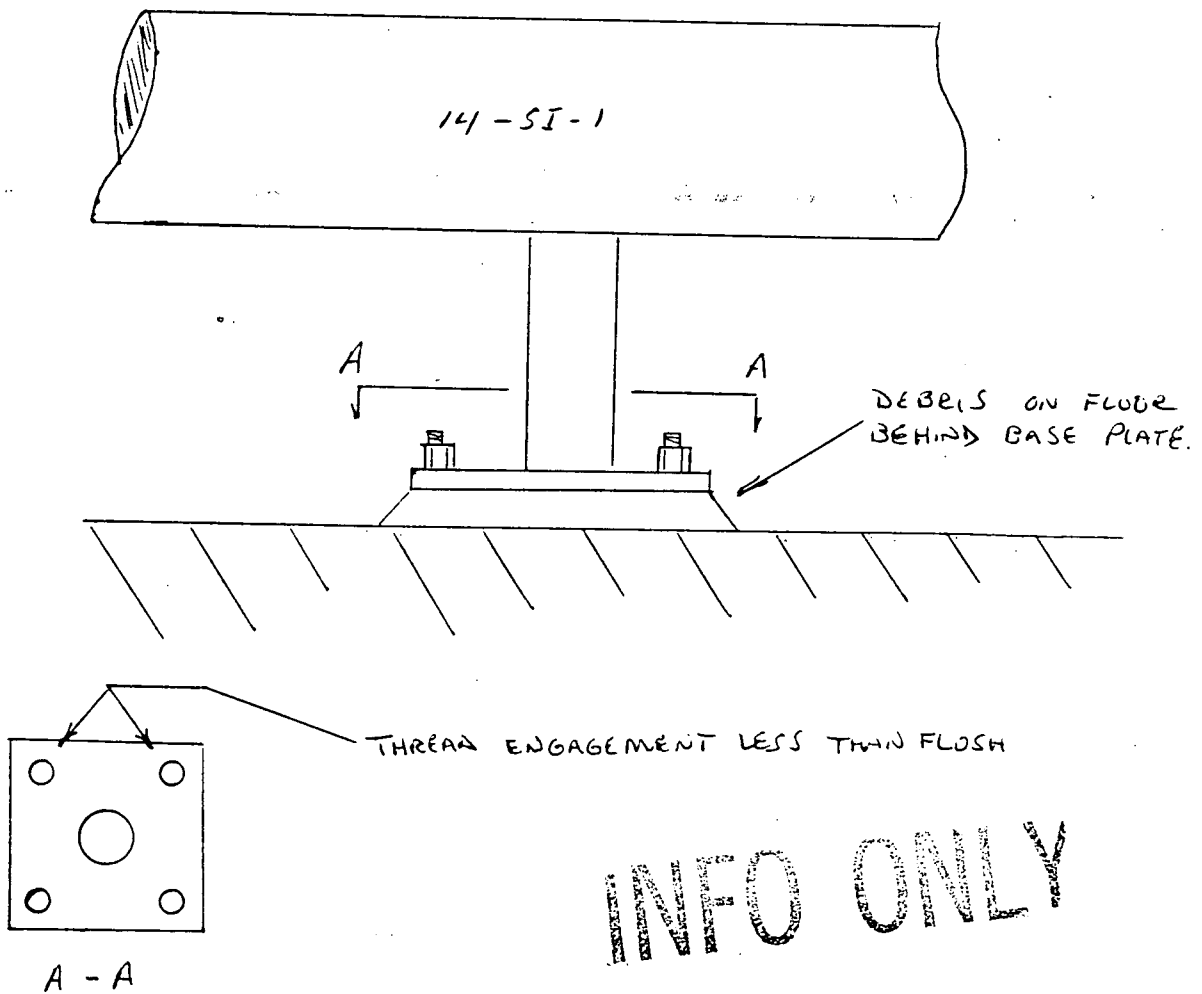
ANII REVIEW:	DATE:
--------------	-------

DATA SHEET NO. _____

EXAM ITEM CPL - 230 - C

ISO DWG. NO. CPL - 230 - REV. 0

SKETCH SHEET



EXAMINER At Purnen
 EXAMINER NA
 REVIEWER _____
 REVIEWER _____
 REVIEWER _____

LEVEL II
 LEVEL N/A
 LEVEL _____
 DATE _____

DATE 4-1-92
 DATE N/A
 DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-230-C

Date of VT-3 Exam 4-1-92

[] Recommended Corrective Action:

[X] Corrective Action is not required. Basis:

THIS SUPPORT IS CLASSIFIED AS A "DEAD WEIGHT, NON-SAFETY RELATED NON-SEISMIC SUPPORT." THE DEBRIS BEHIND BASE PLATE HAS NO EFFECT ON STRUCTURAL INTEGRITY. SINCE THE ONLY LOADING IS DEAD LOAD ACTING DOWN, CONCRETE ANCHORS ARE NOT SUBJECT TO TENSION. LACK OF FULL THREAD ENGAGEMENT IS NOT A CONCERN. MODERATE RUST IS ACCEPTABLE DUE TO LOW LOADS.

THIS SUPPORT IS CONSIDERED OPERABLE.

Clement Rajendra / 4-8-92
NED Engineer Date



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. _____

WR&A # N/APAGE 1 OF 2PLANT: HB ROBINSONUNIT N/A 1 X 2 N/A PSI X ISI

SYSTEM:

RHR

COMPONENT

NAME:

SUPPORT

COMPONENT

ID NO.:

CPL-221A-LDWG./LOC.: CPL-221A REV 1 / PIPE ALEYX VT-3 PROCEDURE: SP-1097 (rev 4-1-92)REV.: 0N/A VT-4 PROCEDURE: 614 REV.:DIRECT XREMOTE N/A

VIDEO RECORDING NO:

X N/A

EQUIPMENT USED:

X FLASHLIGHTX MIRRORX OTHER N.G.C.

TYPE OF COMPONENT SUPPORT:

X HYDRAULIC SNUBBERX MECHANICAL SNUBBERX SUPPORT/HANGERN/A CONSTANT SUPPORTX VARIABLE SUPPORTCONDITION
Present

YES

NO

N/A

COMMENTS

FASTENING DEVICES

N/AN/AXN/A

MISALIGNMENT

N/AXN/AN/A

DEBRIS

XN/AX

Top surface of box is covered with apparent concrete residue (medium-heavy)

CORROSION/EROSION

N/AXXN/A

STRUCTURAL INTEGRITY

XXX

Upper Box weld to support steel is generally in bad condition due to lack of fill, insufficient throat and a series of grapelike suspensions over the entire length.

RESISTANCE TO MOVEMENT

XN/AX

CLEARANCES OF MOVING PARTS

XN/AXN/A

ARC STRIKES/GOUGES

VXN/A

VARIABLE/CONSTANT SUPPORT

ACTUAL:

N/A

SNUBBER

N/A

ACTUAL:

N/ASTROKE: N/AS/N N/A

COMMENTS:

See page #2 for details concerning lack of structural integrity.

EXAMINER:

Chf Moss @

LEVEL:

II

DATE:

4-1-92

REVIEWER:

LEVEL:

DATE:

COMPONENT CONDITION:

N/A

SATISFACTORY

X

UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

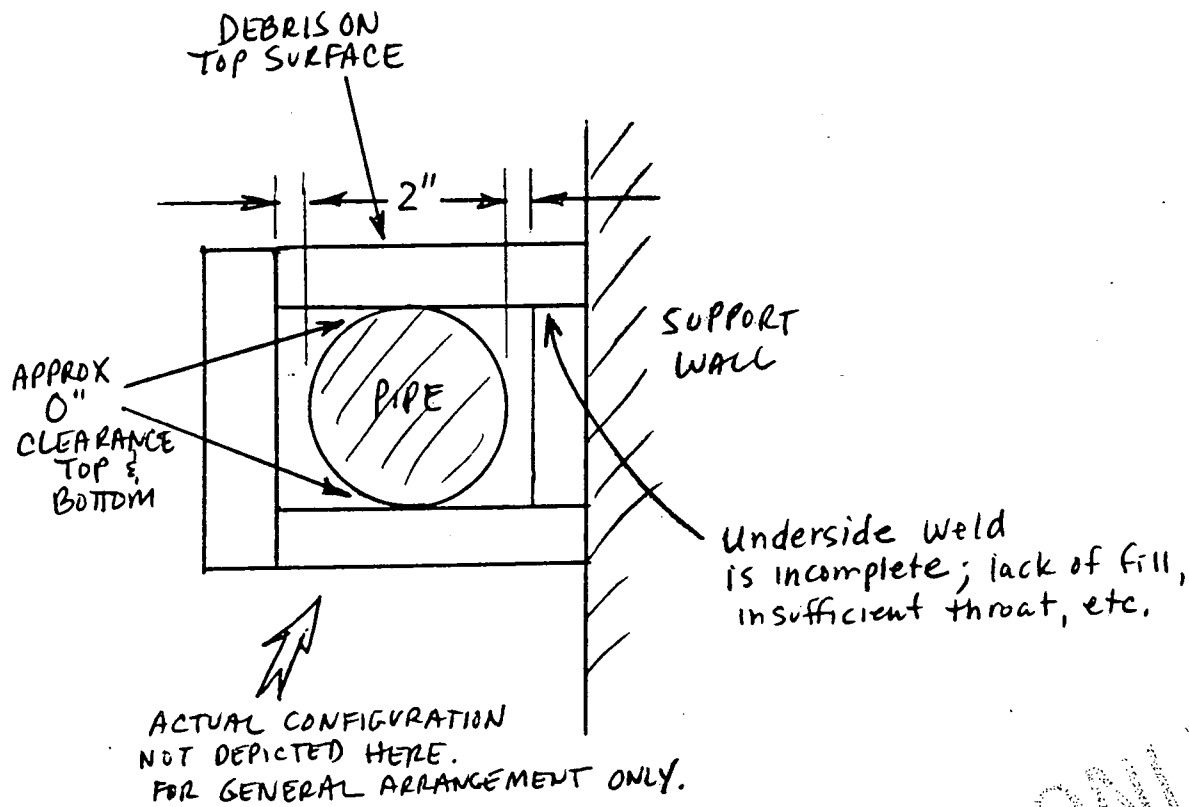
DATE:

INFO ONLY

DATA SHEET NO. _____

EXAM ITEM CPL-221A-LISO DWG. NO. CPL-221A REV. 1

SKETCH SHEET



INFO ONLY

EXAMINER

Chffmass

LEVEL

II

DATE

4-1-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

LEVEL

DATE

REVIEWER

DATE

REVIEWER

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221A-L

Date of VT-3 Exam 4-1-92

[] Recommended Corrective Action:

[X] Corrective Action is not required. Basis:

1. CONCRETE RESIDUE DOES NOT AFFECT THE STRUCTURAL INTEGRITY OF SUPPORT.

2. THE MEMBER THAT HAS A POOR WELD IS NOT RELIED UPON TO RESTRAIN THE PIPE. BAD WELDS HAVE ZERO STRESSES UNDER DESIGN LOAD CONDITIONS.

THIS SUPPORT IS CONSIDERED OPERABLE.

Clement Rajendra / 4-8-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT N/A1 X2 N/APSI XISI

SYSTEM: RHR COMPONENT NAME: Support COMPONENT ID NO.: CPL-221A-K

DWG./LOC.: CPL-221A, Rev 1 / PIPE ALLEY

X VT-3 PROCEDURE: SP-1097, EN 4-1-92 N/A VT-4 PROCEDURE: 614 REV.: 0

DIRECT X REMOTE N/A VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR
X OTHER N.G.C.

TYPE OF COMPONENT SUPPORT:
N/A HYDRAULIC SNUBBER N/A CONSTANT SUPPORT
N/A MECHANICAL SNUBBER N/A VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<u>X</u>			<u>N/A</u>
MISALIGNMENT	<u>X</u>			<u>Hanger support is misaligned slightly (approx 5'-18") in direction of flow and away from support wall.</u>
DEBRIS		<u>X</u>		<u>N/A</u>
CORROSION/EROSION		<u>X</u>		<u>N/A</u>
STRUCTURAL INTEGRITY	<u>X</u>			<u>See page 2 for questionable condition.</u>
RESISTANCE TO MOVEMENT			<u>X</u>	<u>N/A</u>
CLEARANCES OF MOVING PARTS			<u>X</u>	<u> </u>
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>			STROKE: <u>N/A</u> S/N <u>N/A</u>

COMMENTS: See page #2 for details of misalignment and questionable condition regarding structural integrity.

EXAMINER: Cliff Moss @ LEVEL: II DATE: 4-1-92

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: N/A SATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____

DATE: _____

INFO ONLY

DATA SHEET NO. _____

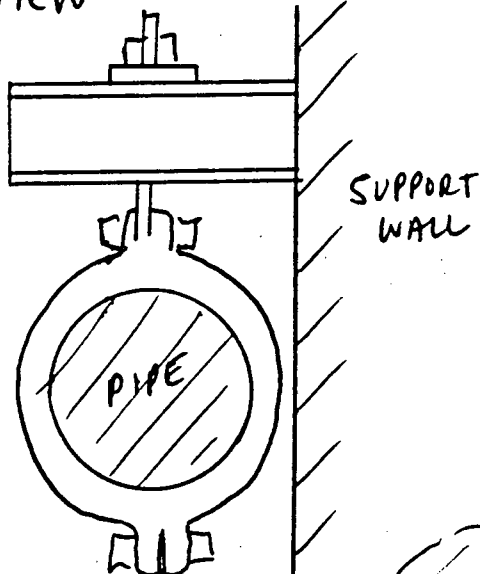
EXAM ITEM CPL-221A-K

ISO DWG. NO. CPL-221A

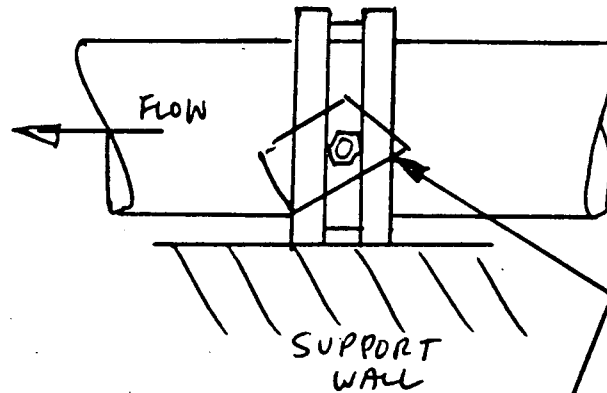
REV. 1

SKETCH SHEET

HORZ.
END VIEW



TOP VIEW



5-10°
AWAY
FROM
WALL

MISALIGNMENT

5-10°

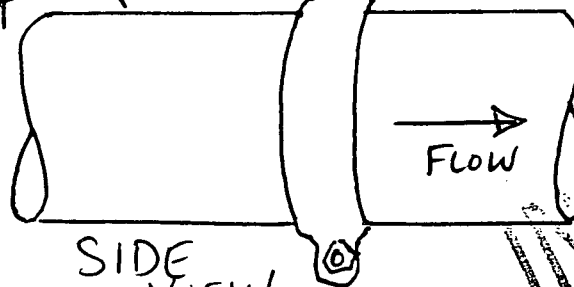
IN DIRECTION
OF FLOW

SUPPORT
WALL

UPPER SUPPORTING
PLATE IS ROTATED
APPROX. 45° SUCH
THAT ONLY THE
CORNERS ARE IN
CONTACT WITH THE
SUPPORTING "C"
SHAPED STEEL

QUESTIONABLE
CONDITION

SIDE
VIEW



INFO ONLY

EXAMINER Chiff Moss
EXAMINER N/A
REVIEWER _____
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL _____
LEVEL _____
DATE _____

DATE 4-1-92
DATE N/A
DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221A-K

Date of VT-3 Exam 4-1-92

☒ Recommended Corrective Action:

LOOSEN PIPE CLAMP AND TOP BEARING NUT AND CORRECT
MISALIGNMENT IN PIPE.

NOTE: THIS SUPPORT IS CLASSIFIED AS A "DEAD WEIGHT,
NON-SAFETY RELATED, ~~NON-SEISMIC~~ NON-SEISMIC SUPPORT".
CHR 4/8/92

DUE TO HIGH FACTOR OF SAFETY THIS SUPPORT IS CONSIDERED
OPERABLE.

☐ Corrective Action is not required. Basis:

Clement Rajendra / 4-8-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT 1 ☒ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221A-Y</u>
-----------------------	-----------------------------------	--

DWG./LOC.: CPL-221A REVD / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-10979114.192 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: _____

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: _____ ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>GREY CARD</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHED SKETCH
MISALIGNMENT	✓			SUPPORT IS DISPLACED APPROXIMATELY 10° UPSTREAM.
DEBRIS			✓	
CORROSION/EROSION			✓	
STRUCTURAL INTEGRITY			✓	
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES			✓	

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
--------------------	--------------------	--------------------	----------------

COMMENTS: N/A

EXAMINER: Art Purnell LEVEL: II DATE: 4-1-92

REVIEWER: _____ LEVEL: _____ DATE: _____

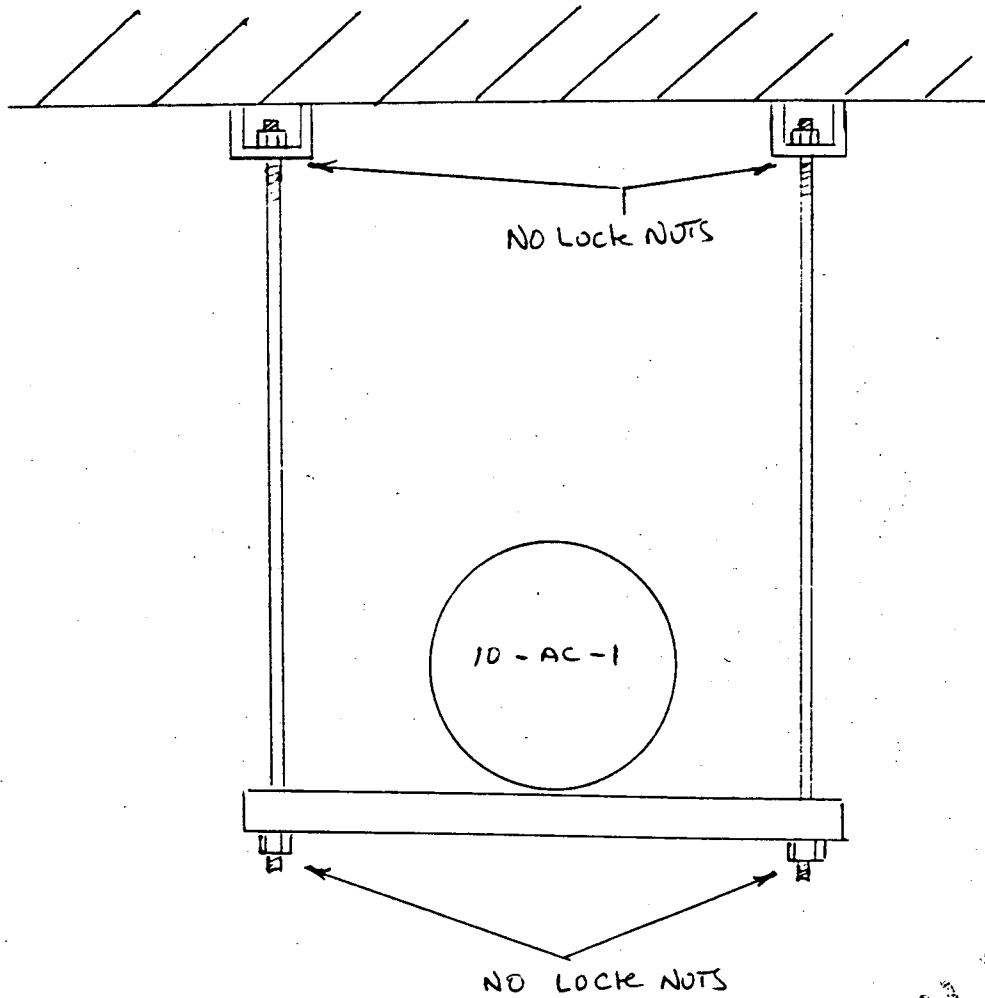
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

SKETCH SHEET



INFO ONLY

EXAMINER	<u>Act Pinner</u>	DATE	<u>4-1-92</u>
EXAMINER	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	_____	DATE	_____
REVIEWER	_____	DATE	_____
REVIEWER	_____	DATE	_____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221A-Y

Date of VT-3 Exam 4-1-92

[] Recommended Corrective Action:

☒ Corrective Action is not required. Basis:

SUPPORT IS BEING MODIFIED BY MOD M-1087 CURRENTLY
SCHEDULED FOR THIS OUTAGE.

SCHEDULED FOR THIS OUTAGE. RELATED
SUPPORT IS CLASSIFIED "NON-SAFETY, NON-SEISMIC" DEAD WEIGHT SUPPORT.
LOCK NUTS DO NOT PERFORM LOAD TRANSFER FUNCTION. MISALIGN-
MENT WILL NOT INOP SUPPORT DUE TO HIGH FACTOR OF SAFETY.
THIS SUPPORT IS CONSIDERED OPERABLE.

Clement Pajendra / 4-8-92
NED Engineer Date

NED Engineer

Date _____

VISUAL EXAMINATION DATA SHEET

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221A-X</u>
-----------------------	-----------------------------------	--

DWG./LOC.: CPL-221A REVO / PIPE ALLEY

[X] VT-3 PROCEDURE: SP-10974 4.1.92
NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.: _____

DIRECT [X] REMOTE [X]	VIDEO RECORDING NO: [X] N/A
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>GREY CARD</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHED SHEET
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHED SHEET
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/A

EXAMINER: Art Purnan LEVEL: II DATE: 4-1-92

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: [] SATISFACTORY [X] UNSATISFACTORY

REVIEWED BY: _____

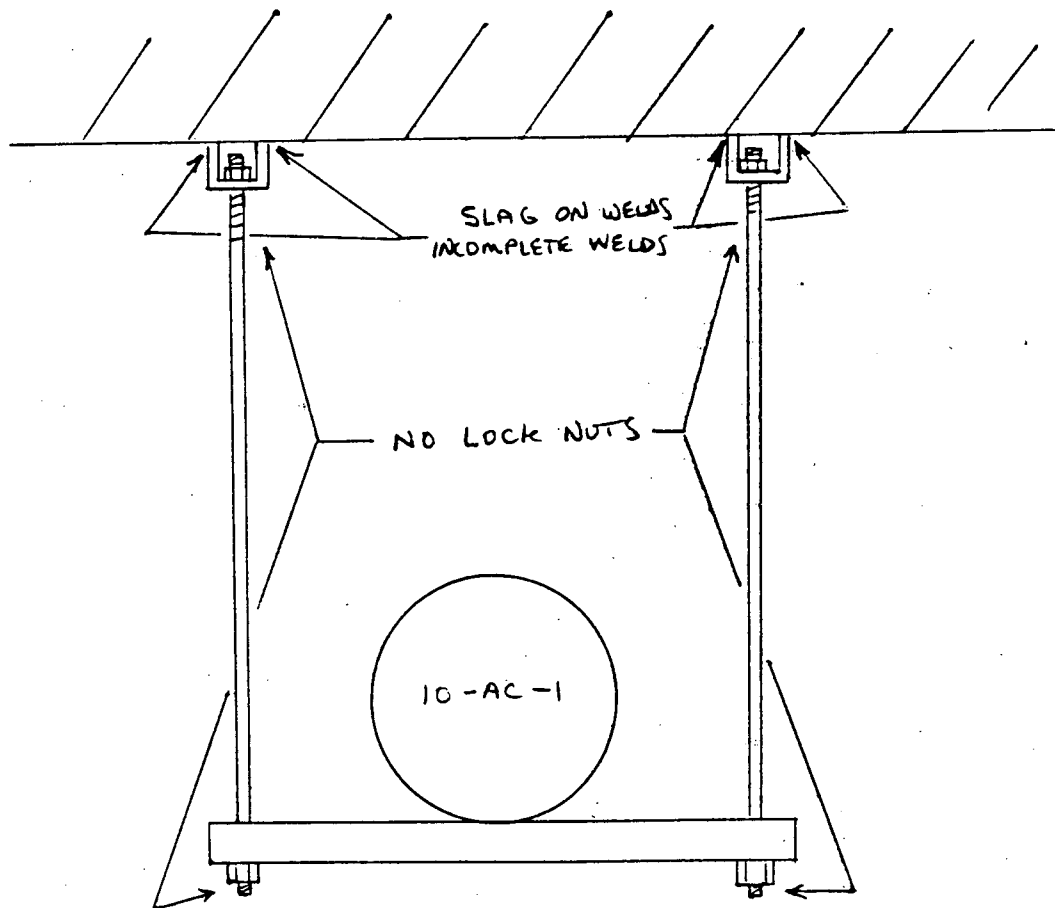
REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

DATA SHEET NO. _____

EXAM ITEM CPL-221A-XISO DWG. NO. CPL-221AREV. 0

SKETCH SHEET



INFO ONLY

EXAMINER

At PrinceLEVEL IIDATE 4-1-92

EXAMINER

N/ALEVEL N/ADATE N/A

REVIEWER

LEVEL

DATE

REVIEWER

LEVEL

DATE

REVIEWER

LEVEL

DATE

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL - 221A-X

Date of VT-3 Exam 4-1-92

[] Recommended Corrective Action:

[X] Corrective Action is not required. Basis:

SUPPORT IS BEING MODIFIED BY MOD M-1087 CURRENTLY SCHEDULED FOR THIS OUTAGE.

LOCKNUTS DO NOT PERFORM LOAD TRANSFER FUNCTION. DUE TO HIGH FACTOR OF SAFETY WELD STRESSES ARE LOW. SUPPORT IS CLASSIFIED "NON-SAFETY RELATED, NON-SEISMIC", DEAD WEIGHT SUPPORT. THIS SUPPORT IS CONSIDERED OPERABLE.

Clement Rajendra / 4-8-92

NED Engineer

Date _____



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-221A-W</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL-221A REUP / PIPE ALLEY

[X] VT-3 PROCEDURE: SP-1097 8/4/92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.: _____

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <u>[X] N/A</u>
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>GREY CARD</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHED SKETCH
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: N/A

EXAMINER: At Puma LEVEL: II DATE: 4-1-92

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: [] SATISFACTORY [X] UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

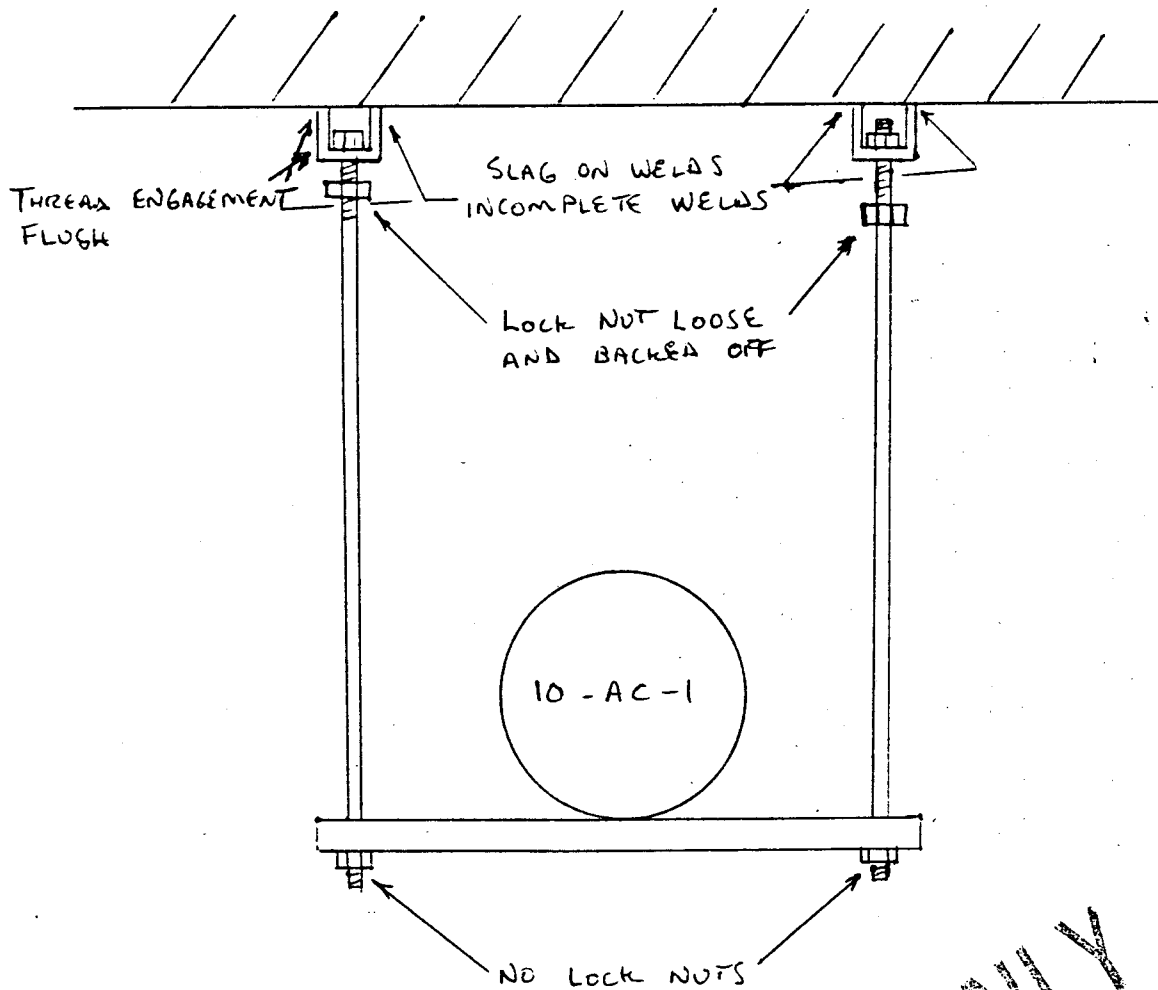
ANII REVIEW: _____ DATE: _____

INFO ONLY

DATA SHEET NO. _____

EXAM ITEM CPL - 221A - WISO DWG. NO. CPL - 221A REV. 0

SKETCH SHEET



INFO ONLY

EXAMINER Art PurnanLEVEL IIDATE 4-1-92EXAMINER N/ALEVEL N/ADATE N/A

REVIEWER _____

LEVEL _____

DATE _____

REVIEWER _____

LEVEL _____

DATE _____

REVIEWER _____

LEVEL _____

DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221A-W

Date of VT-3 Exam 4-1-92

[] Recommended Corrective Action:

[X] Corrective Action is not required. Basis:

SUPPORT IS BEING MODIFIED BY M-1087 CURRENTLY SCHEDULED FOR THIS OUTAGE.

LOCK NUTS DO NOT PERFORM LOAD TRANSFER FUNCTION. DUE TO HIGH FACTOR OF SAFETY WELD STRESSES ARE LOW. SUPPORT IS CLASSIFIED "NON SAFETY RELATED, NON-SEISMIC", DEAD WEIGHT SUPPORT. THIS SUPPORT IS CONSIDERED OPERABLE.

Clement Rajendra / 4-8-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C. A. Jones / Clement Rajendra</u>		<u>TSE - 92-BC</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF
<u>ATTACHED ARE ISI visual Reports and</u>		MOD M-
<u>SKETCHES Requiring NED Disposition</u>		PCN
<u>COMPONENT ID: CPL 232-C</u>		RET-R-G* 92-Bx
<u>CPL 233-A</u>		

	DISTRIBUTION
SIGNED: <u>Jan P. Supson X1888 4-4-92</u>	RESPOND BY: <u>4/21/92</u>

*RELEASING AUTHORITY: _____ DATE: 1 1

RESPONSE:

ATTACHED ARE DISPOSITIONS FOR COMPONENTS CPL-232-C
AND CPL-233-A.

	DISTRIBUTION

SIGNED: Clement Rajendra*RELEASING AUTHORITY: C. A. Jones DATE: 4/16/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-15

WR&A # 1004

PAGE 1 OF 1

PLANT: H B ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SI

COMPONENT

NAME:

Support

COMPONENT

ID NO.:

CPL 233 - A

DWG./LOC.: CPL 233 REVO / SI Pump RM

[X] VT-3 PROCEDURE: NDEP-613 REV.: C

[] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[] N/A

EQUIPMENT USED:

[X] FLASHLIGHT

[X] MIRROR

[] OTHER

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] CONSTANT SUPPORT

[] MECHANICAL SNUBBER

[] VARIABLE SUPPORT

[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			INADEQUATE THREAD ENGAGEMENT AT TURNBUCKLE AND BOTTOM WELDLESS EYE NOT.
MISALIGNMENT	✓			ROD BENT
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS:

NO CLAMP SPACER
HANGER NOT SUPPORTING LOAD.

EXAMINER:

At Puma

LEVEL: II

DATE: 4-3-92

REVIEWER:

Edmund R. Donovan

LEVEL: II

DATE: 4-4-92

COMPONENT CONDITION:

[] SATISFACTORY

[X] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL - 233-A

Visual Exam Report No. 1097-15

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [X] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROPERLY ENGAGE THREADED ROD (BOTTOM) IN TURNBUCKLE
AND ROTATE UNTIL ROD PICKS UP THE PIPING AND
CSR 4/15/92
THREADED ROD PROPERLY ENGAGED IN TURNBUCKLE. PROVIDE
LOCKNUTS AS REQUIRED. VERIFY TIGHTNESS OF CLAMP BOLTING.

Basis:

THE ROD BELOW TURNBUCKLE IS COMPLETELY LOOSE AND DOES
NOT SUPPORT PIPE. APPEARANCE OF BENT ROD IS DUE TO
MISALIGNMENT.
THIS SUPPORT IS CLASSIFIED AS "NON-SAFETY RELATED, NON-
SEISMIC" DEAD WEIGHT SUPPORT. SYSTEM IMPACT DUE TO
SUPPORT BEING "NON-FUNCTIONAL" NEED NOT BE ADDRESSED.
CLAMP SPACER DOES NOT CONTRIBUTE TO STRUCTURAL INTEGRITY.
ITS FUNCTION IS TO PREVENT OVERTIGHTENING OF CLAMP
BOLTING AND THEREFORE MAY BE OMITTED.

Clement Rajendra 14-15-92
NED Engineer Date

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>WARREN FARMER</u>	UNIT: <u>TECH SUPPORT</u>	SITE MEMO #
ATTN:		<u>ETS - 92-HI</u>
SUBJECT: <u>RESOLUTION OF ISI INDICATIONS</u>		SHEET <u>1</u> OF <u>1</u>
<u>THE ATTACHED VISUAL EXAMINATION REPORTS</u>		MOD M-
<u>WERE RECEIVED BY TSE-92-CD. SUPPORT</u>		PCN
<u>CORRECTIVE ACTION/EVALUATION SHEETS ARE</u>		RET-R-G-BX
<u>ATTACHED FOR THE FOLLOWING COMPONENT ID'S: CPL-241-A, CPL-241-C,</u>		
<u>CPL-239-A, CPL-220A-J, CPL-220A-K & CPL-239-C.</u>		
<u>THERE ARE NO INDICATIONS FOR COMPONENT ID CPL-229-A.</u>		
<u>DISCREPANCY BETWEEN SUPPORT AND HANGER SKETCH 1934 IS DUE TO</u>		DISTRIBUTION
<u>THE FACT THAT GRINELL SKETCHES ARE NOT</u>		
<u>CONTROLLED DRAWINGS. AN EVALUATION SHEET IS</u>		
<u>NOT REQUIRED FOR CPL-229-A.</u>		
SIGNED: <u>Clement Rajendra</u>		RESPOND BY:
		<u>ACKNOWLEDGE RECEIPT</u>

*RELEASING AUTHORITY: C.A. Jones DATE: 4/16/92

RESPONSE:

	DISTRIBUTION

SIGNED: _____

*RELEASING AUTHORITY: _____ DATE: ____/____/____

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

CP&L
Charlotte Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-38

WRZA # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-241-A</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 241 REV 0 / SI PUMP Rm

[X] VT-3 PROCEDURE: SP 1097 APR-7-92 #SEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	VIDEO RECORDING NO: <u>[X] N/A</u> TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHMENT
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: SCALE PAINTED OVER. SET AT 1/8" ABOVE COLD SET.			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: <u>Art P...</u>	LEVEL: <u>II</u>	DATE: <u>4-6-92</u>
REVIEWER: <u>Chf Moss</u>	LEVEL: <u>II</u>	DATE: <u>4-8-92</u>

COMPONENT CONDITION: [] SATISFACTORY FOR INFORMATION ONLY [] UNSATISFACTORY

REVIEWED BY:

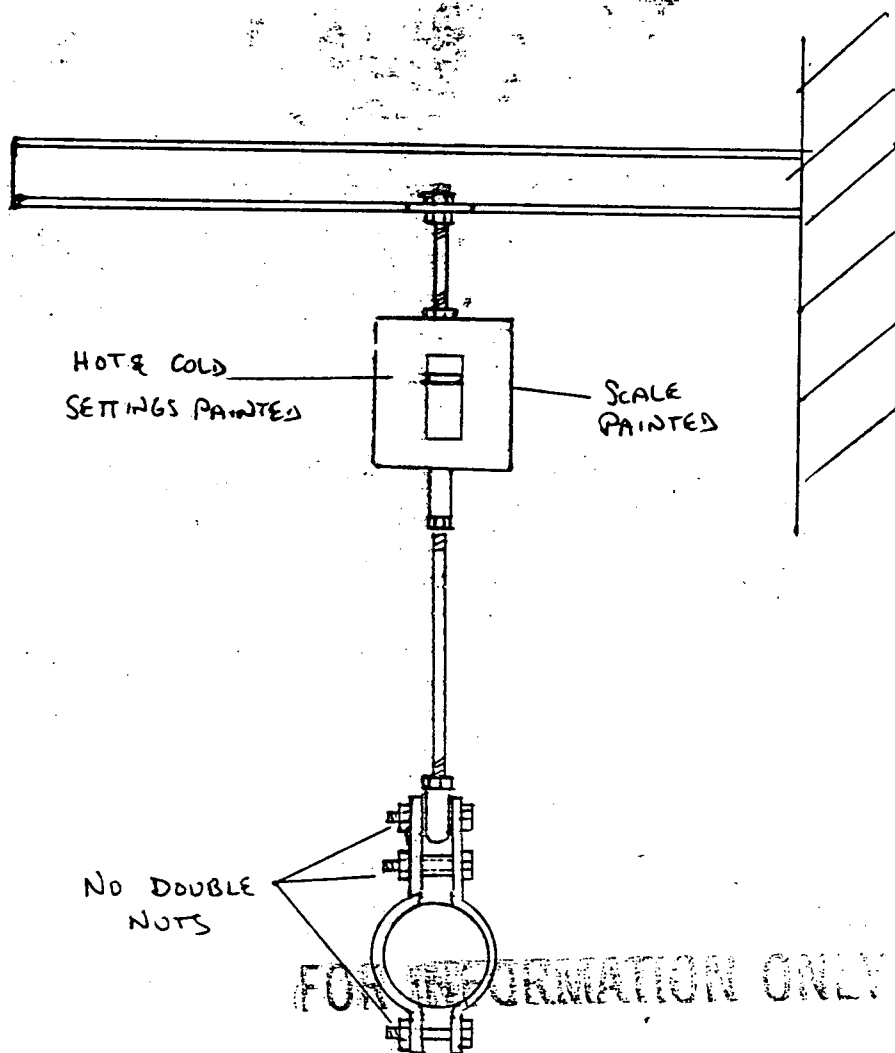
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

105

PAGE 2 OF 2
DATA SHEET NO. 1097-38
EXAM ITEM CPL 241-A
ISO DWG. NO. CPL 241 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Oct P...
EXAMINER N/A
REVIEWER Richard R. Donovan
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-6-92
DATE N/A
DATE 4-7-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-241-A

Visual Exam Report No. 1097-38

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

PER VENDOR CATALOG THIS TYPE OF CLAMP WAS NOT
PROVIDED WITH A LOCK NUT.
DEVIATION OF 1/8" ABOVE COLD SET ACCEPTABLE.

Clement Rajendra / 4-15-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-39

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SI

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL 241-C

DWG./LOC.: CPL 241 REVO / SI PUMP RM.

[X] VT-3 PROCEDURE: SP 1097 AP 4-7-92
NDEP 613 REV.: D

[] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT

[X] MIRROR

[] OTHER

TYPE OF COMPONENT SUPPORT:

[] HYDRAULIC SNUBBER

[] MECHANICAL SNUBBER

SUPPORT/HANGER

[] CONSTANT SUPPORT

[X] VARIABLE SUPPORT

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT		✓		
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: $\frac{1}{8}$ " ABOVE COLD SET, $\frac{5}{8}$ " DEFLECTION, 400#			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: GRINNELL FIG. 82, SIZE 6, TYPE A

RECORDABLE INDICATIONS

EXAMINER:

Art P...

LEVEL: II

DATE: 4-6-92

REVIEWER:

Chiff Mass da

LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION:

[] SATISFACTORY

FOR INFORMATION ONLY
[] UNSATISFACTORY ONLY

REVIEWED BY:

REVIEWERS COMMENTS:

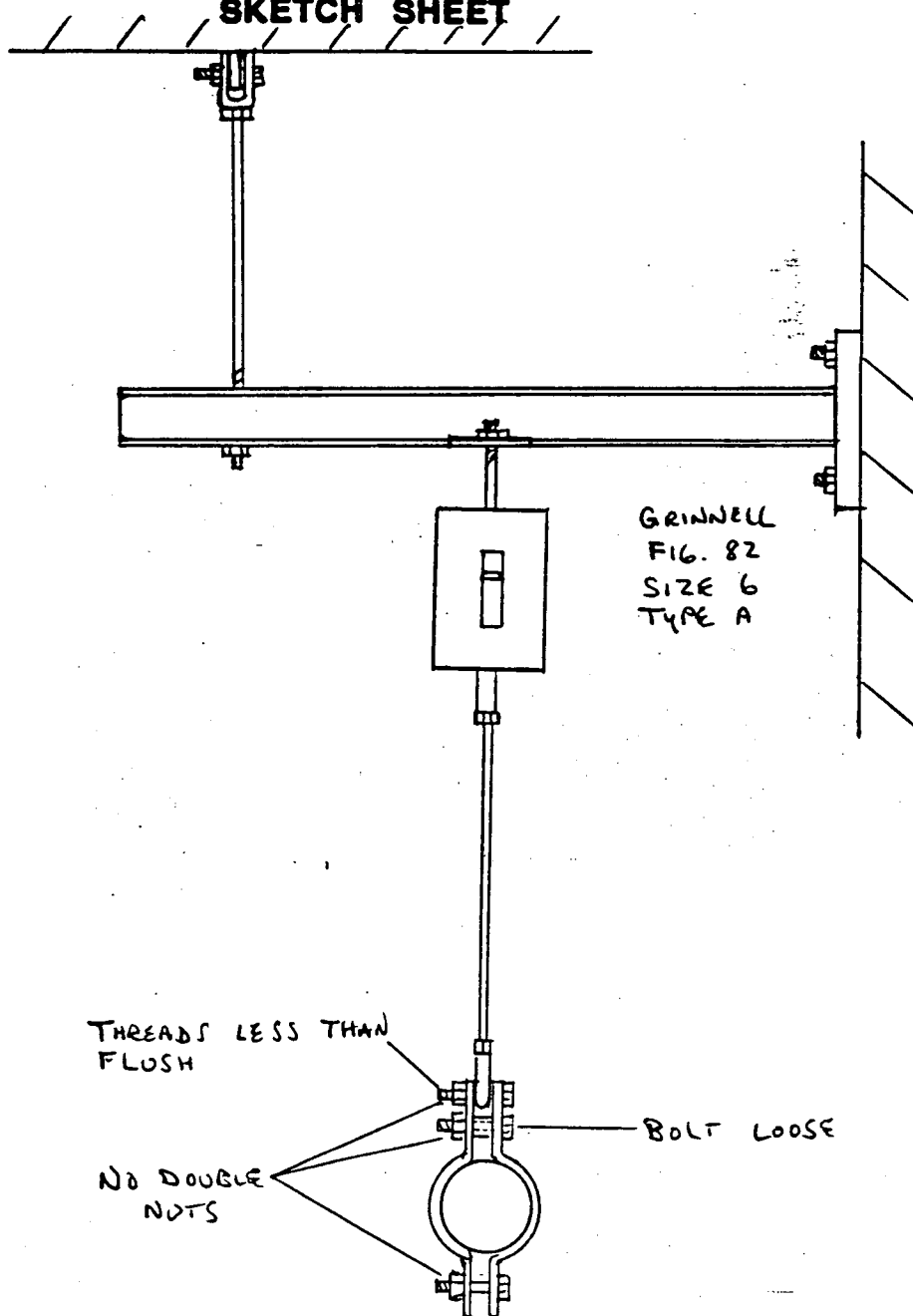
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-39EXAM ITEM CPL 241-CISO DWG. NO. CPL 241 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Carl P. [Signature]LEVEL IIDATE 4-6-92EXAMINER N/ALEVEL NADATE NAREVIEWER Charles R. DanovonLEVEL IIDATE 4-7-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

DM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-241-C

Visual Exam Report No. 1097-39

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN LOOSE BOLT. NO OTHER CORRECTIVE ACTION REQUIRED.

Basis:

PER VENDOR CATALOG. THIS TYPE OF CLAMP WAS NOT PROVIDED WITH
A LOCK NUT.
DEVIATION OF 1/8" ABOVE COLD SET IS ACCEPTABLE. THREAD
ENGAGEMENT AT TOP BOLT NOT CRITICAL FOR STRUCTURAL INTEGRITY.
THIS SUPPORT IS CLASSIFIED AS 'NON-SEISMIC NON SAFETY
RELATED' DEAD WEIGHT SUPPORT. SINCE THE LOADING IS
VERTICAL, TIGHTNESS OF CLAMP BOLTING NOT CRITICAL FOR
STRUCTURAL INTEGRITY.

Clement Rajendra 14-15-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-41

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 239-A</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 239 REV 0 / SI PUMP RM

[X] VT-3 PROCEDURE: SP 1097 RP 4-6-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: BOLT HOLES IN CONCRETE WITHIN 5 DIAMETERS OF THE BASE PLATE ATTACHMENT. SEE ATTACHED SKETCH.
RECORDABLE INDICATIONS

EXAMINER: Curt Purnan LEVEL: II DATE: 4-6-92

REVIEWER: Chf Mass DM LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

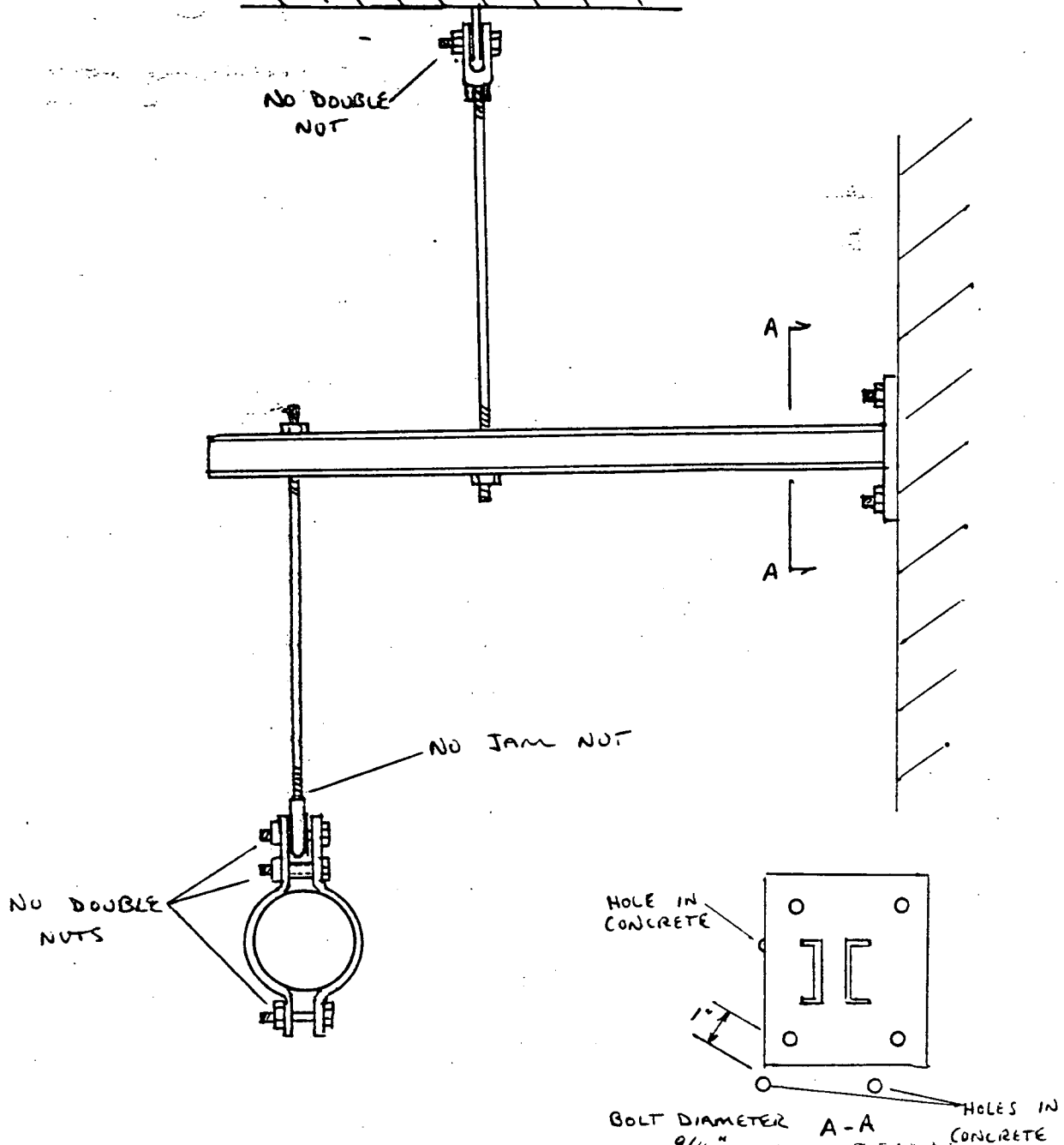
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

105

PAGE 2 OF 2
DATA SHEET NO. 1097-41
EXAM ITEM CPL 239-A
ISO DWG. NO. CPL 239 REV. 0

SKETCH-SHEET



FOR INFORMATION ONLY

EXAMINER Art P...
EXAMINER MA
REVIEWER Cliff Moss
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-6-92
DATE MA
DATE 4-8-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-239-A

Visual Exam Report No. 1097-41

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions: ^{OR 4/15/92} FOR

PROVIDE ^{JAM} LOCK NUT & WELDLESS EYE NUT AT THE CLAMP.
NO OTHER CORRECTIVE ACTION REQUIRED.

Basis:

LOCKNUTS ARE NOT REQUIRED FOR CLAMP BOLTING BECAUSE PER
VENDOR CATALOG THIS TYPE OF CLAMP WAS NOT PROVIDED WITH
LOCKNUTS. LOCKNUTS SHOULD BE PROVIDED FOR WELDLESS EYE
NUTS DUE TO THE POTENTIAL FOR SUPPORT TO GET DISCONNECTED
DUE TO VIBRATION LOOSENING. DUE TO SHEAR LOADING ON
BASE PLATE, UNCONTAINED HOLES WITH 5X DIA. OF EXISTING
EXPANSION ANCHORS IS ACCEPTABLE.

Clement Rajendra 14-15-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-92

WRLA # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-220A-J</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL-220A REV 0 / RHR Pump RM

[X] VT-3 PROCEDURE: SP 1097 AP 4-7-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/A RECORDABLE INDICATION
AP 4-7-92

EXAMINER: Art Pinner LEVEL: II DATE: 4-7-92

REVIEWER: Edmund R. Davis AP LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

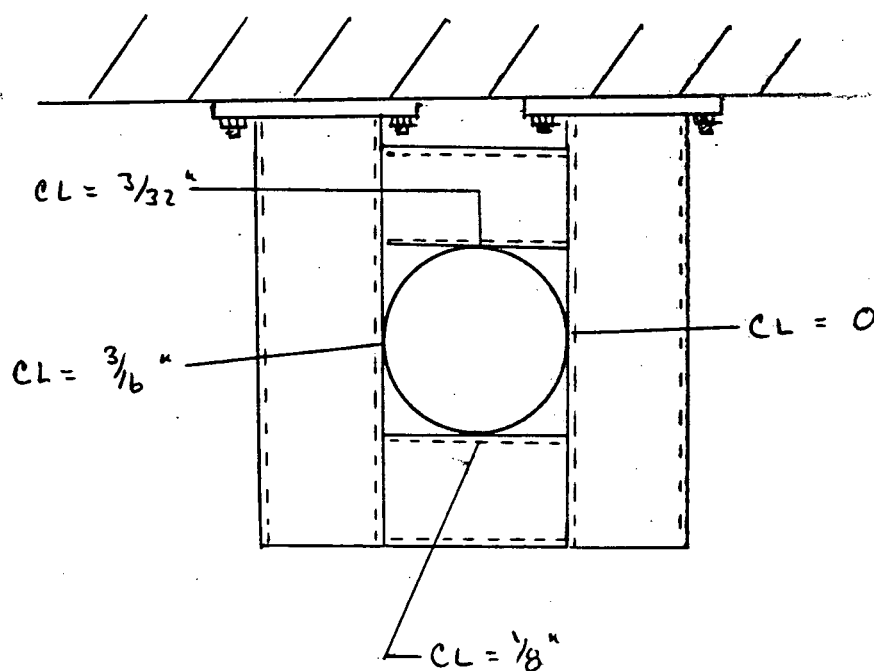
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-42EXAM ITEM CPL 220A - JISO DWG. NO. CPL 220A REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Art P...
EXAMINER NA
REVIEWER Calvin R. Dawson
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 4-7-92
DATE NA
DATE 4-9-92

W

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-220A-J

Visual Exam Report No. 1097-42

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

COMPARING 'AS FOUND' GAPS TO 'AS DESIGNED' GAPS SHOWN
ON DESIGN DRAWING AB-CAR-SI-20-210 SHOWS:
IN Z' DIRN. TOTAL 'AS-FOUND' (3/16") = TOTAL 'AS DESIGNED'
IN X' DIRN. TOTAL 'AS-FOUND' = 1/8" + 3/32" = 7/32"
TOTAL 'AS-DESIGNED' = 1/8" + 1/16" = 3/16"
THE DEVIATION IS 1/32". THIS IS CONSIDERED ACCEPTABLE.

Clement Rajendra / 4-15-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-93

WR&A # N/A

PAGE 1 OF 2

PLANT: H. R. ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-220A-K</u>
--------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL 220A REVO / RHR PUMP RM

☒ VT-3 PROCEDURE: SP 1097 AP 4-7-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT		✓		
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: $\frac{1}{8}$ " ABOVE THE COLD SETTING, 1" DEFLECTION, 1870°F			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/A 4-8-92 RECORDABLE INDICATIONS

EXAMINER: Art Purnum LEVEL: II DATE: 4-7-92

REVIEWER: Edmund R. Donovan ED LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY **FOR INFORMATION ONLY**

REVIEWED BY:

REVIEWERS COMMENTS:

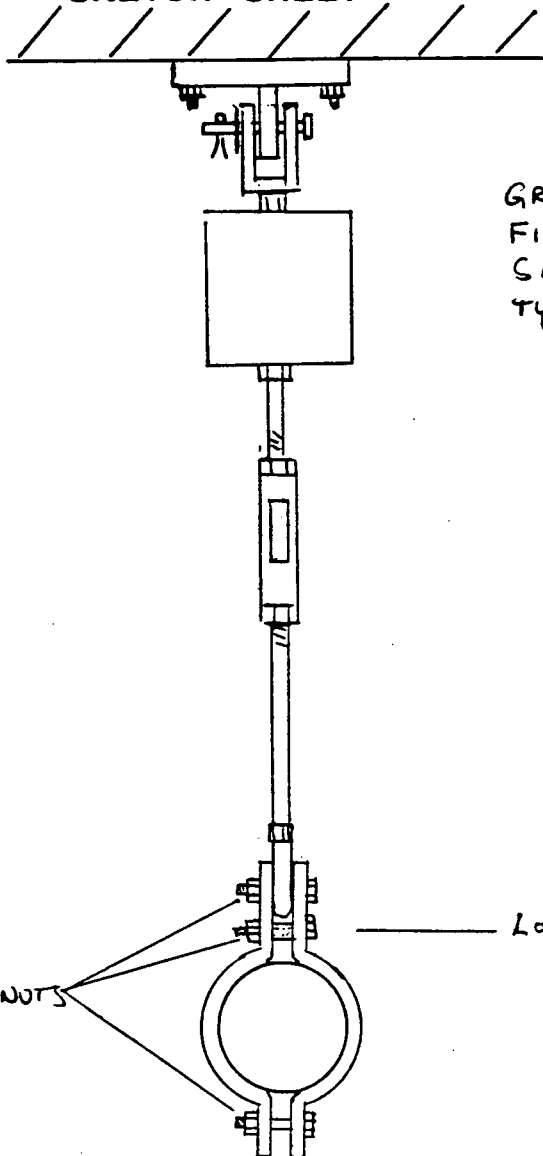
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-43EXAM ITEM CPL 220A-KISO DWG. NO. CPL 220A REV. 0

SKETCH SHEET

GRINWELL
FIG. 82
SIZE II
TYPE B

NO DOUBLE NUTS

LOOSE BOLT & NUT.

FOR INFORMATION ONLY

EXAMINER Art PurnanEXAMINER N/AREVIEWER Edmund R. Donovan

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL N/ALEVEL II

DATE _____

DATE _____

DATE 4-7-92DATE N/ADATE 4-8-92*JP*



PAGE 1 OF 1

QA NDE ISI 5, Revision 5 11/88

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-220A-K

Visual Exam Report No. 1097-43

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN LOOSE BOLT. NO OTHER CORRECTIVE ACTION REQUIRED.

Basis:

DEVIATION OF 1/8" ABOVE COLD SET IS ACCEPTABLE.
THIS SUPPORT IS CLASSIFIED AS 'NON-SEISMIC NON-SAFETY
RELATED' DEAD WEIGHT SUPPORT. SINCE THE LOADING IS
VERTICAL, TIGHTNESS OF CLAMP BOLTING IS NOT CRITICAL
FOR STRUCTURAL INTEGRITY. LOCKNUTS ARE NOT REQUIRED FOR
CLAMP BOLTING BECAUSE PER VENDOR CATALOG, THIS TYPE OF
CLAMP WAS NOT PROVIDED WITH LOCK NUTS.

Clement Rajendra / 4-15-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-49

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 239-C</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 239 REV 0 / SI PUMP RM

☒ VT-3 PROCEDURE: ^{SP 1097 RP4-7-92} ~~NDEP 613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			SEE ATTACHMENT
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Purnan LEVEL: II DATE: 4-6-92

REVIEWER: Edmund R Drown LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

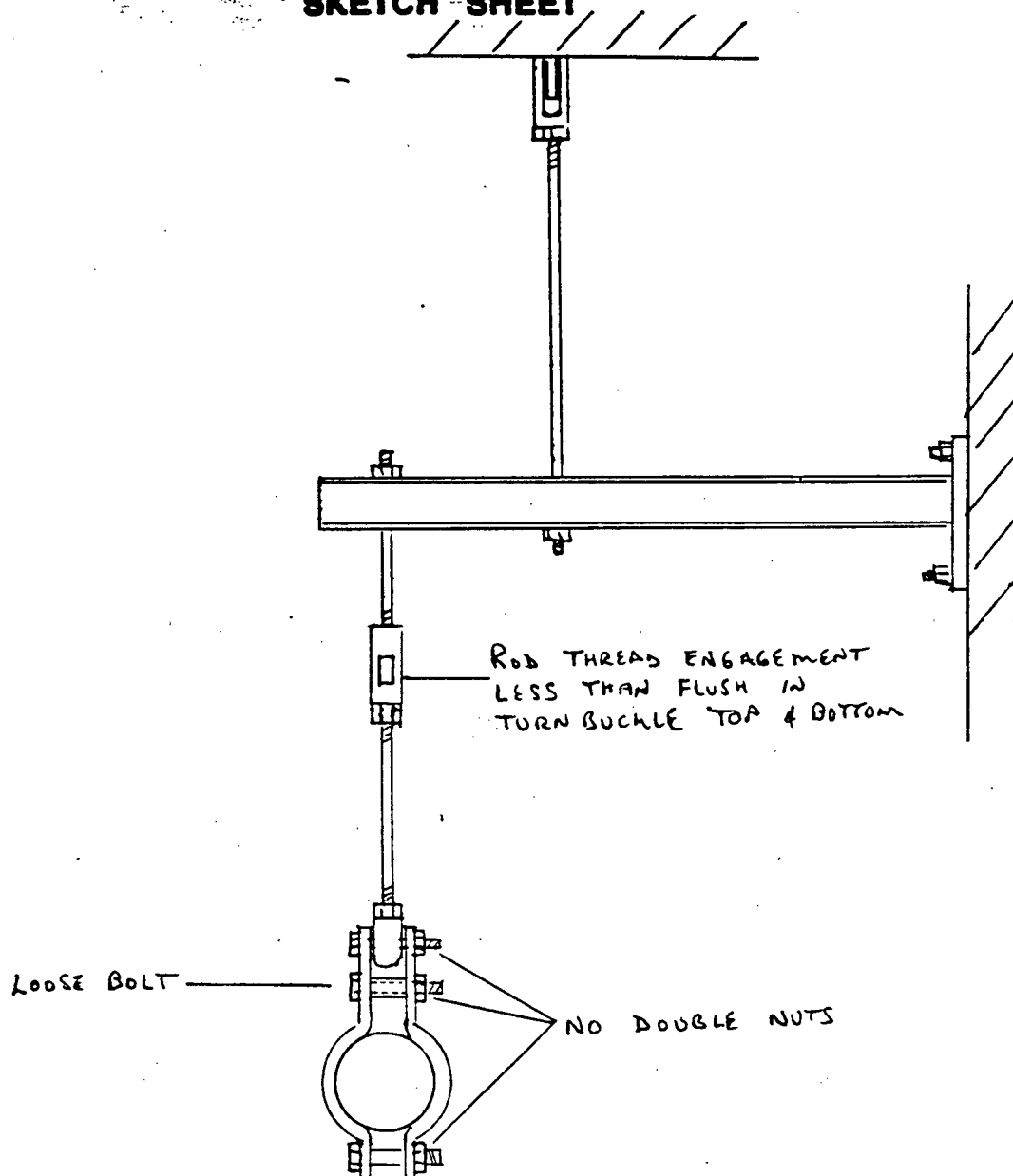
REVIEWERS COMMENTS:

ANII REVIEW: _____ DATE: _____

105

PAGE 2 OF 2DATA SHEET NO. 1097-49EXAM ITEM CPL 239-CISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER GT PuncenLEVEL IIDATE 4-6-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Charles R. BrownLEVEL IIDATE 4-9-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL- 239-C

Visual Exam Report No. 1097-49

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN CLAMP BOLT. LOOSEN LOCKNUTS ON THREADED ROD AND
ROTATE TURNBUCKLE TO ACHIEVE FULL THREAD ENGAGEMENT.
RE-TIGHTEN LOCKNUTS.

Basis:

THIS SUPPORT IS CLASSIFIED AS 'NON-SEISMIC NON-SAFETY
RELATED' DEAD WEIGHT SUPPORT. SINCE THE LOADING IS VERTICAL,
TIGHTNESS OF CLAMP BOLTING IS NOT CRITICAL FOR STRUCTURAL
INTEGRITY. LOCKNUTS ARE NOT REQUIRED FOR CLAMP BOLTING
BECAUSE PER VENDOR CATALOG, THIS TYPE OF CLAMP WAS NOT
PROVIDED WITH LOCK NUTS. DUE TO HIGH FACTOR OF SAFETY (5)
OF THREADED ROD ASSEMBLY, LESS THAN FLUSH ENGAGEMENT
OF TURNBUCKLE IS ALLOWED

Clement Rajendra / 4-15-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-45

WRLA # N/A

PAGE 1 OF 2

PLANT: H.B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 229 - A</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 229 REVD / RHR PUMP RM.

[X] VT-3 PROCEDURE: SP 1097 AP 4-8-92 ~~WDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT [X] REMOTE []	VIDEO RECORDING NO: [X] N/A
EQUIPMENT USED: [X] FLASHLIGHT [] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION PRESENT	COMMENTS
FASTENERS <u>DOES NOT MATCH DRAWING</u>	
MISALIGNMENT	
DEBRIS	
CORROSION	<u>N/A</u>
STRUCTURAL	
RESISTANCE	
CLEARANCE	
ARC STR	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>

COMMENTS: N/A 4-8-92 NO RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-7-92
 REVIEWER: Edward K Donovan LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [X] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: _____

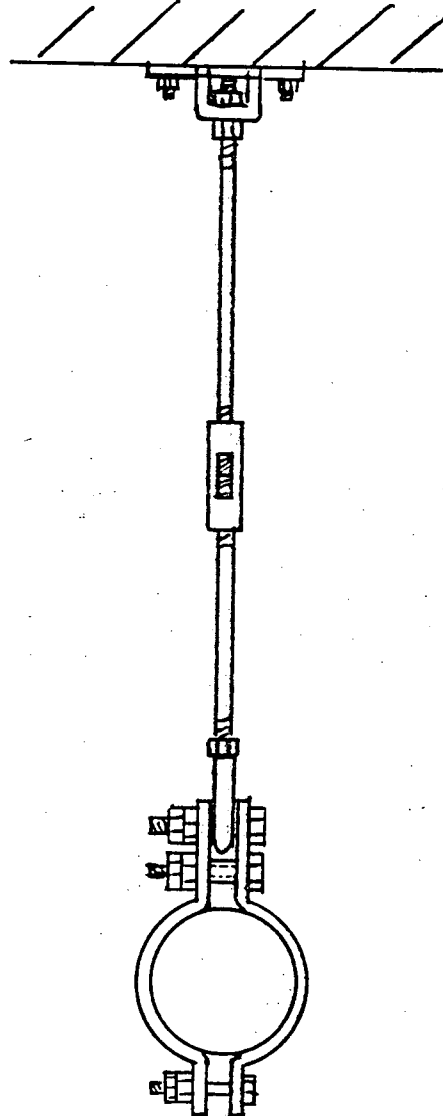
REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-45
EXAM ITEM CPL 229-A
ISO DWG. NO. CPL 229 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER	<u>Ed Pinner</u>	LEVEL	<u>II</u>	DATE	<u>4-7-92</u>
EXAMINER	<u>N/A</u>	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Edward R. Dawson</u>	LEVEL	<u>II</u>	DATE	<u>4-8-92</u>
REVIEWER	_____	DATE	_____		
REVIEWER	_____	DATE	_____		

ED

GRINNELL

CUSTOMER B. F. SHAW

ORDER OR CONT. NO. P. O. D-5930, D-5931

B NAME H. B. ROBINSON STATION UNIT #2

PIPE HANGER DEPARTMENT

DRAWN BY RJR DATE 10-18-66

HBR 91 12 13 6 REVISY BY WB DATE 12-14-68

CPL-229

PT. "A"

CONCRETE
EXISTS

EL. 229'-6"

OUTSIDE
EAST WALL RESIDUAL
HEAT PUMP PIT

OUTSIDE
NORTH WALL
RESIDUAL HEAT
PUMP PIT

EL. 213'-5"

EL. 212'-6"

APPROX. LD. = 4900 LBS

LOCATION PLAN



ITEM No.	MATERIALS AND OPERATIONS	QUAN.	SI
	HANGER ASSEMBLY CONSISTING OF:	ONE	
1	Plate/Sk. 1902A, TW-21#	1	
2	7/8" Fig S-7B Phillips snap off fast.	4	
3	7/8"x2" Tap bolts	4	
4	1 1/8" Fig. 66 w/P & C	1	
5	#3 Fig. 290L w/1 1/8" L.H. Tap	1	
6	Rod Assembly consisting of:	one	
	1 1/8"x10'-0" Fig. 140w/12" T.B.E.	1	
	1 1/8"x5'-2" Fig. 253 w/6" T.B.E.	1	
	1 1/8" Fig. 136	1	
	1 1/8" Jam Nut	1	
	#3 1 1/8" Tap fig. 299 w/pin	1	
	Fig/Sk. 1934A, TW-21#	1	
	Hanger Assembly Sketch & Eng.	1	
	Apply coat of ironoxide to above mat'l except th'ds which shall be greased. (NEW MATERIAL)	1	
(6)	1/8"x5'-3" FIG 253 W/6" T.B.E. MK: SI-H35 W/6" T.B.E.	1	
(9)	HS 55 1/8" ROD LONG	1	

INFO ONLY

APR 02 1992

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>WARREN FARMER</u>	UNIT: <u>TECH SUPPORT</u>	SITE MEMO #
ATTN:		<u>ETS-92 - AL</u>
SUBJECT: <u>RESOLUTION OF ISI INDICATIONS</u>		SHEET <u>1 OF 1</u>
<u>THE ATTACHED VISUAL EXAMINATION REPORTS</u>		MOD M-
<u>WERE RECEIVED BY TSE-92-CF. THESE</u>		PCN
<u>COMPONENTS VIZ CPL-330-E, CPL-330-E-WS,</u>		RET-R-G-BX
<u>CPL-330-F, CPL-330-WS-F, CPL-330-G, AND CPL-330-WS-G,</u>		
<u>WERE RECENTLY REVIEWED BY NED FOR 79-14 BULLETIN.</u>		
<u>THESE SUPPORTS ARE ON LINE 8-AC-G1. THE RESULTS OF THE</u>		
<u>REVIEW FOR OPERABILITY ARE DOCUMENTED IN CALCULATION</u>		
<u>RNP-C/STRS-1136.</u>		
		DISTRIBUTION
SIGNED: <u>Clement Rajendra</u>		RESPOND BY: ACKNOWLEDGE RECEIPT ONLY

*RELEASING AUTHORITY: L.A. York DATE: 4/23/92

RESPONSE:

	DISTRIBUTION

SIGNED: _____

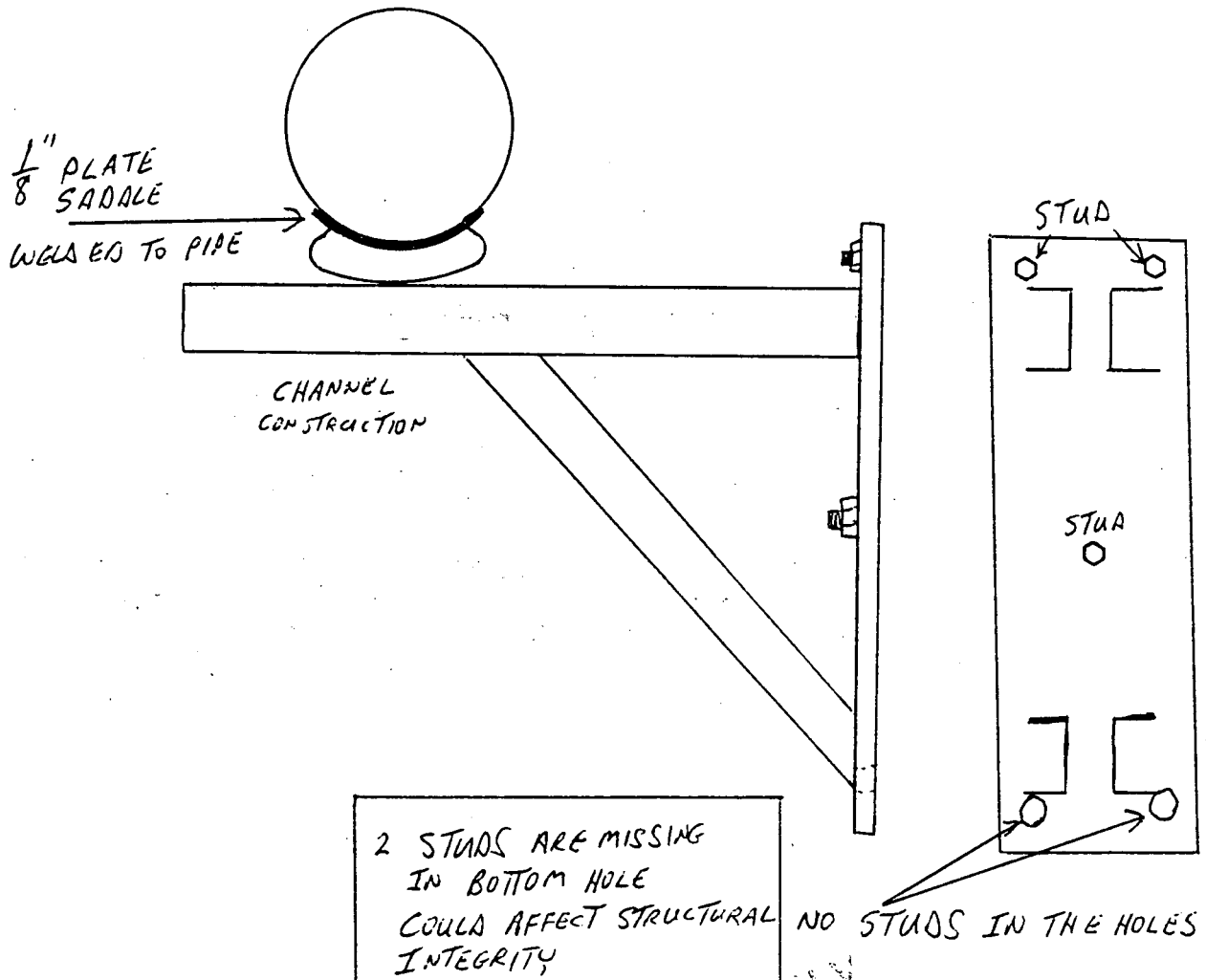
*RELEASING AUTHORITY: _____ DATE: / /

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

1125

PAGE 2 OF 2DATA SHEET NO. 1097-70EXAM ITEM CPL-330-FISO DWG. NO. CPL-330 REV. 0

SKETCH SHEET

EXAMINER Edmund E. DonovanLEVEL IIDATE 4-7-92EXAMINER NALEVEL NADATE NAREVIEWER W. R. ...LEVEL IIDATE 4-9-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

FOR INFORMATION ONLY

CP&L
Caroline Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-70

WR&A # N/A

PAGE 1 OF 2

PLANT: <u>HB ROBINSON</u>		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>SFP COOLANT</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-330 F</u>	
DWG./LOC.: <u>CPL 330 REV-0 / SFP HX ROOM</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1097 ERO 4-7-92</u> <u>NDEP-613 REV.: 0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES	<input checked="" type="checkbox"/>		<u>SEE ATTACHED SKETCH</u>
MISALIGNMENT		<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>	
CORROSION/EROSION		<input checked="" type="checkbox"/>	<u>ERO 4-7-92</u> <u>SEE ATTACHED SKETCH</u>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>		<u>SEE ATTACHED SKETCH</u>
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>N/A</u> <u>RECORDABLE INDICATIONS</u> <u>ERO 4-8-92</u>			
EXAMINER: <u>Edmund R. Donovan</u>	LEVEL: <u>III ONLY</u>	DATE: <u>4-7-92</u>	
REVIEWER: <u>Art Puma</u>	LEVEL: <u>II</u>	DATE: <u>4-9-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: _____			
REVIEWERS COMMENTS: _____			
ANII REVIEW: _____ DATE: _____			

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-69

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SFP COOLANT</u>	COMPONENT NAME: <u>SUPPORT LUGS</u>	COMPONENT ID NO.: <u>CPL-330-E-W5</u>
-------------------------------	--	--

DWG./LOC.: CPL-330 REV-0 / SFP HX ROOM

[X] VT-3 PROCEDURE: <u>SP 1097 ERD 4-792</u> <u>WBEP-613 REV.: 0</u>	[] VT-4 PROCEDURE: <u>614 REV.:</u>
---	--------------------------------------

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		N
STRUCTURAL INTEGRITY		X		A
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: LUGS ARE NOT WELD ALL AROUND

4 LUGS NO RECORDABLE INDICATIONS

EXAMINER: Edmund R. Doran LEVEL: II ONLY DATE: 4-7-92

REVIEWER: Art P... LEVEL: IC DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

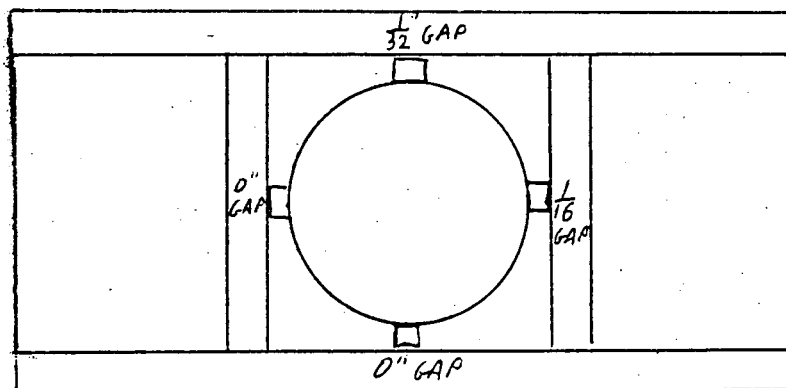
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-68EXAM ITEM ^{ERO}4-292 CPL 330 R CPL-330-EISO DWG. NO. CPL 330 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edmund R. DonovanLEVEL IIDATE 4-7-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER [Signature]LEVEL IIDATE 4-9-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

(CVA)

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-68

WR&A # N/A

PAGE 1 OF 2

PLANT: <u>H B ROBINSON</u>		UNIT <u>[] 1 [X] 2 []</u> PSI <u>[X] ISI</u>	
SYSTEM: <u>SFP COOLANT</u>	COMPONENT NAME: <u>BOX RESTRAINT</u>	COMPONENT ID NO.: <u>CPL 330 -E</u>	
DWG./LOC.: <u>CPL 330 REV-0 / SFP HX ROOM</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1097 ERD 4-7-92</u> NOEP-613 REV.: <u>0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u>6" SCALE</u>		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES		<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>	
CORROSION/EROSION		<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>		SEE ATTACHED SKETCH FOR GAPS
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>ERD 4892</u> <input checked="" type="checkbox"/> RECORDABLE INDICATION			
EXAMINER: <u>Edmund R. Donovan</u>	LEVEL: <u>III ONLY</u>	DATE: <u>4-7-92</u>	
REVIEWER: <u>Art Pinner</u>	LEVEL: <u>II</u>	DATE: <u>4-9-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY:			
REVIEWERS COMMENTS:			
ANII REVIEW:			
DATE:			

CP&L
 Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

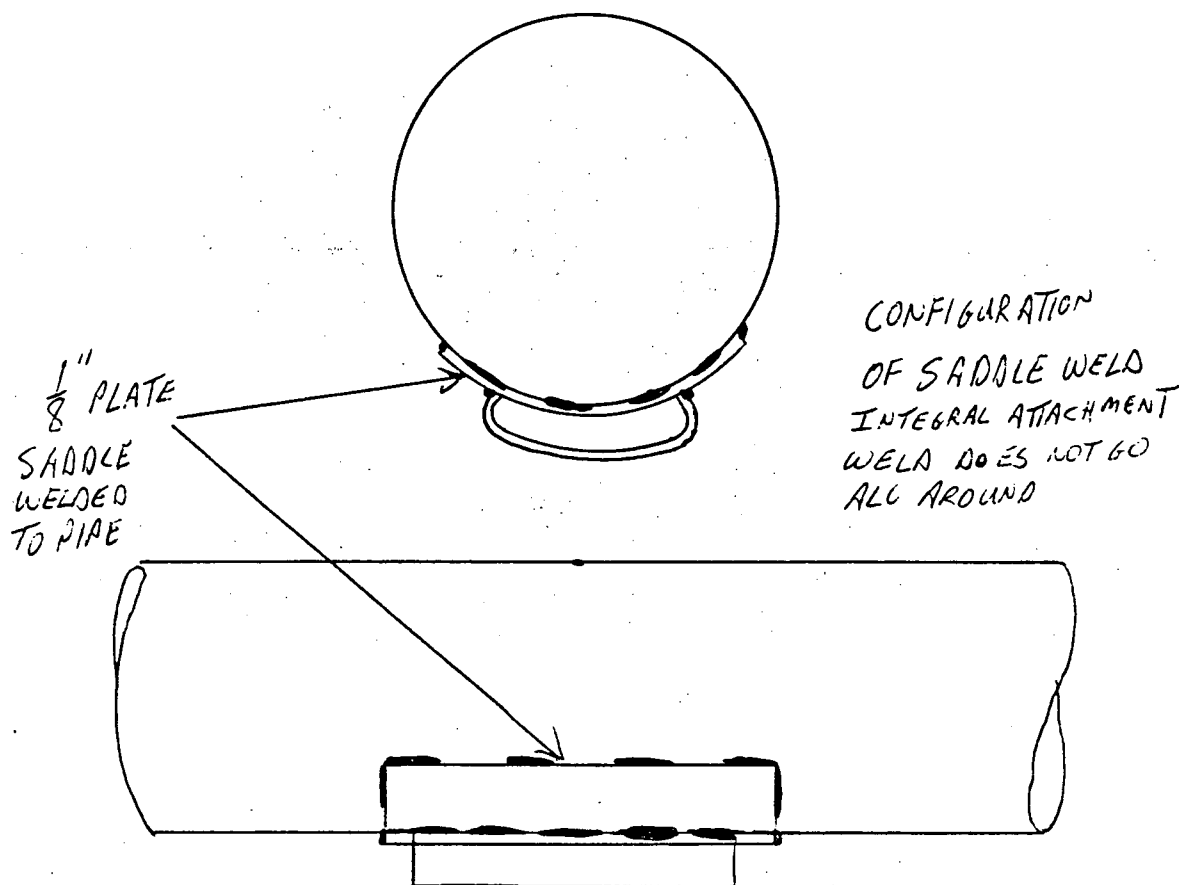
REPORT NO. 1097-71
 WR&A # N/A
 PAGE 1 OF 2

PLANT: <u>HB ROBINSON</u>		UNIT <u>[] 1</u> <input checked="" type="checkbox"/> <u>2</u> <u>[]</u> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>SFP COOLANT</u>	COMPONENT NAME: <u>SUPPORT SADDLE</u>	COMPONENT ID NO.: <u>CPL-330-WSF</u>	
DWG./LOC.: <u>CPL-330 REV-0 / SFP HX ROOM</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP1097 ERO 4-7-92</u> <u>NDEP-613 REV.: 0</u>		<u>[]</u> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <u>[] OTHER</u>		TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES			<input checked="" type="checkbox"/>
MISALIGNMENT		<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>	
CORROSION/EROSION		<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>SEE ATTACHED SKETCH FOR CONFIGURATION OF INTEGRAL ATTACHMENT WELD</u> <u>NO RECORDABLE INDICATIONS</u>			
EXAMINER: <u>Edmund R. Donovan</u>	LEVEL: <u>III</u>	DATE: <u>4-7-92</u>	
REVIEWER: <u>Art P...</u>	LEVEL: <u>II</u>	DATE: <u>4-9-92</u>	
COMPONENT CONDITION: <u>[]</u> SATISFACTORY <u>[]</u> UNSATISFACTORY			
REVIEWED BY:			
REVIEWERS COMMENTS:			
ANII REVIEW: DATE:			

1125

PAGE 2 OF 2DATA SHEET NO. 1097-71EXAM ITEM CPL-330-WS-FISO DWG. NO. CPL 330 REV. 0

SKETCH SHEET

EXAMINER Edmund H. D. GarciaEXAMINER NAREVIEWER Carl T. Tamm

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL NALEVEL II

DATE _____

DATE _____

DATE 4-7-92DATE NADATE 4-9-92

FOR INFORMATION ONLY

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-72

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [] ISI [X]

SYSTEM: <u>SFP COOLANT</u>	COMPONENT NAME: <u>BOX RESTRAINT</u>	COMPONENT ID NO.: <u>CPL-330-6</u>
-------------------------------	---	---------------------------------------

DWG./LOC.: CPL 330 REY-0 / SPF HX ROOM

[X] VT-3 PROCEDURE: SP 1097 ERD 4-7-92 ~~WEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[X]</u> MIRROR <u>[X]</u> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[X]</u> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>[X]</u>		
MISALIGNMENT		<u>[X]</u>		
DEBRIS		<u>[X]</u>		
CORROSION/EROSION		<u>[X]</u>		
STRUCTURAL INTEGRITY		<u>[X]</u>		
RESISTANCE TO MOVEMENT	<u>[X]</u>			<u>SEE ATTACHED SKETCH FOR GAPS</u>
CLEARANCES OF MOVING PARTS			<u>[X]</u>	
ARC STRIKES/GOUGES		<u>[X]</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edward R. Downum LEVEL: II DATE: 4-7-92

REVIEWER: Art Purnum LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: [X] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

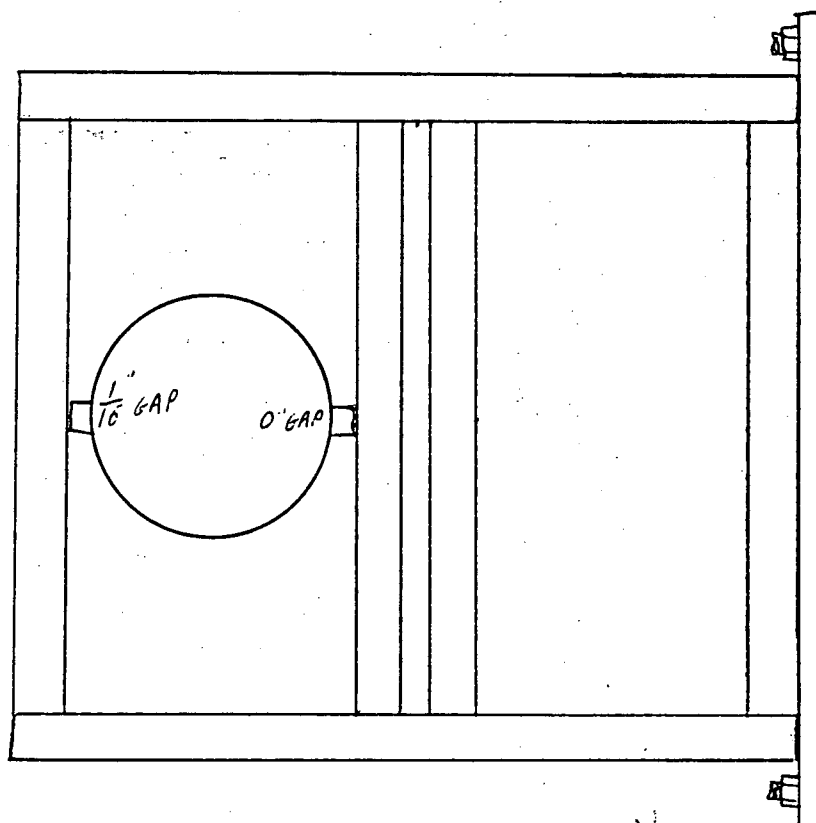
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-72EXAM ITEM CPL-330-6ISO DWG. NO. CPL 330 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER	<u>Edmund E. Warner</u>	LEVEL	<u>II</u>	DATE	<u>4-7-92</u>
EXAMINER	<u>NA</u>	LEVEL	<u>NA</u>	DATE	<u>NA</u>
REVIEWER	<u>Art Purnan</u>	LEVEL	<u>II</u>	DATE	<u>4-9-92</u>
REVIEWER	_____	DATE	_____		
REVIEWER	_____	DATE	_____		

AW

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-74

WR&A # N/A

PAGE 1 OF 1

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SFP COOLANT</u>	COMPONENT NAME: <u>SUPPORT LUGS</u>	COMPONENT ID NO.: <u>CPL 330-WS-6</u>
-------------------------------	--	--

DWG./LOC.: CPL-330 REV-0 / SFP HX ROOM

[X] VT-3 PROCEDURE: SP 1097 ERO 4-792 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT <u>[X]</u> REMOTE <u>[X]</u>	VIDEO RECORDING NO: <u>[X] N/A</u>
EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[X]</u> MIRROR <u>[]</u> OTHER _____	TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[X]</u> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	<div style="font-size:2em; transform: rotate(45deg); display: inline-block;">N A</div>
MISALIGNMENT		<u>X</u>	<u>X</u>	
DEBRIS		<u>X</u>		
CORROSION/EROSION		<u>X</u>		
STRUCTURAL INTEGRITY		<u>X</u>		
RESISTANCE TO MOVEMENT			<u>X</u>	
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: 2 LUGS, LUGS ARE NOT WELDED ALL AROUND
NO RECORDABLE INDICATIONS

EXAMINER: Edward R Dawson LEVEL: II DATE: 4-7-92

REVIEWER: Art Pinner AP LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID	CPL-330-WS-G	1097-74
	CPL-330-G ✓	1097-72
	CPL-330-E	1097-68
	CPL-330-E-WS	1097-69
	CPL-330-F	1097-70
	CPL-330-WS-F	1097-71

Visual Exam Report No. 1097-68

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

NED CALCULATION RNP-C/STRS-1136

Clement Rajendra 14-22-92
NED Engineer Date

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>WARREN FARMER</u>	UNIT: <u>TECH SUPPORT</u>	SITE MEMO #
ATTN:		<u>ETS - 92-AK</u>
SUBJECT: <u>RESOLUTION OF ISI INDICATIONS</u>		SHEET <u>1 OF 2</u>
<u>THE ATTACHED VISUAL EXAMINATION REPORTS</u>		MOD M-
<u>WERE RECEIVED BY TSE-92-CD, TSE-92-CE,</u>		PCN
<u>TSE-92-CF & TSE-92-CG. FOR EACH REPORT</u>		RET-R-6-BX

RECEIVED RECOMMENDED CORRECTIVE ACTION OR EVALUATION IS
ATTACHED EXCEPT FOR THE FOLLOWING:

CPL-315-B1 ... COMPONENT DOES NOT EXIST IN FIELD. STRESS ISO DOES NOT
SHOW A SUPPORT ALSO. ISI DRAWINGS & DATA BASE SHOULD BE
CORRECTED.

CPL-315-A ... NO INDICATIONS WERE FOUND. VISUAL
EXAMINATION REPORT ADDRESSED A
DRAWING DISCREPANCY. THIS SUPPORT
WAS MODIFIED BY MOD M-1001. AS-BUILT
DRAWING IS ATTACHED.

DISTRIBUTION

REMAINDER OF THE DISPOSITIONS WILL BE FORWARDED
AS SOON AS THEY ARE PROCESSED.

SIGNED:

Clement Rajendra

RESPOND BY:

ACKNOWLEDGE
RECEIPT ONLY

*RELEASING AUTHORITY: L.A. Jones

DATE: 9/22/92

RESPONSE:

	DISTRIBUTION

SIGNED:

*RELEASING AUTHORITY:

DATE: / /

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

SITE MEMORANDUM CONTINUATION SHEET

SITE MEMO #

ETS-92 - AKSHEET 2 OF 2

LIST OF COMPONENT ID'S

<u>CPL-241-D</u>	<u>✓ CPL-327-WS-A</u>
<u>CPL-314-B</u>	<u>✓ CPL-327-A</u>
<u>CPL-239-B</u>	<u>✗ CPL-328-DD</u>
<u>CPL-315-B</u>	<u>✓ CPL-328-Z</u>
<u>CPL-315-B1 (DOES NOT EXIST)</u>	<u>✓ CPL-331B-C</u>
<u>CPL-332-WS-C</u>	<u>✗ CPL-331B-D</u>
<u>CPL-332-C</u>	<u>✓ CPL-331B-E</u>
<u>CPL-234A-N</u>	<u>CPL-331B-F</u>
<u>CPL-222B-A</u>	<u>CPL-233-D-WS</u>
<u>CPL-222-A</u>	
<u>CPL-242-A</u>	
<u>CPL-242-B</u>	
<u>✓ CPL-234-B</u>	
<u>✗ CPL-325-E</u>	
<u>✗ CPL-325-G</u>	
<u>✓ CPL-331A-WS-AA</u>	
<u>CPL-331A-CC</u>	
<u>CPL-331A-WS-CC</u>	
<u>CPL-332-B-WS</u>	
<u>✓ CPL-332-B</u>	
<u>* CPL-334A-A</u>	
<u>✓ CPL-334B-A</u>	
<u>✓ CPL-239-D</u>	
<u>✓ CPL-327-P</u>	
<u>✓ CPL-315-A</u>	

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-37

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 241-D</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 241 REV 0 / SI PUMP RM.

[X] VT-3 PROCEDURE: SP 1097 AP 4-6-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]	VIDEO RECORDING NO: [X] N/A
EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
[X] FLASHLIGHT [X] MIRROR	[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[X] OTHER <u>6" SCALE</u>	[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
	[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		/
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT FOR CLEARANCES
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>Nm</u>	S/N <u>N/A</u>

COMMENTS: N/A 4-8-92 RECORDABLE INDICATIONS

EXAMINER: Art Pym LEVEL: II DATE: 4-6-92

REVIEWER: Chiff Moss FOR LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

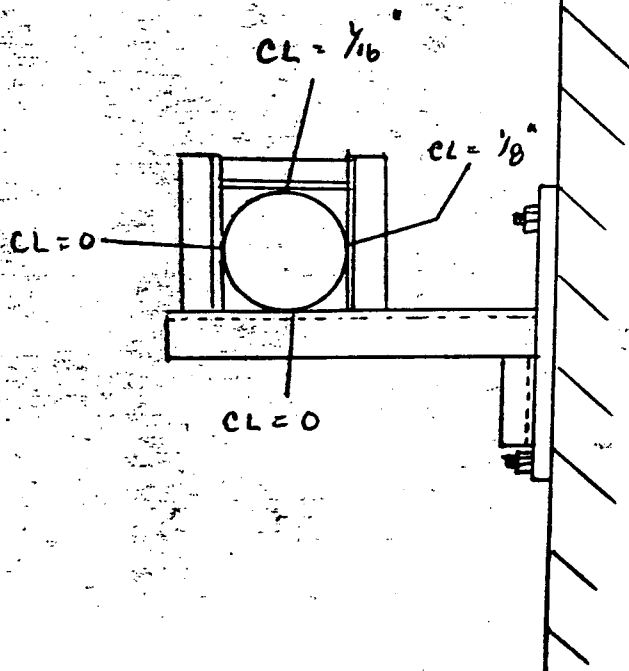
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-37
EXAM ITEM CPL 241-D
ISO DWG. NO. CPL 241 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Get P...
EXAMINER JA
REVIEWER Charles H. Davis
REVIEWER _____
REVIEWER _____

LEVEL I
LEVEL JA
LEVEL II
DATE _____
DATE _____

DATE 4-6-82
DATE JA
DATE 4792

JA

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-241-D ✓

Visual Exam Report No. 1097-37

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH
VERTICAL AND HORIZONTAL RESTRAINTS. REF. STRESS ISO SI-4, SH.3, DP6098
THE CLEARANCES MEET TOLERANCES OF SPEC. CPL-HBR2-C-011.

Clement Rajendra

NED Engineer

4-20-92

Date

VISUAL EXAMINATION DATA SHEET

 REPORT NO. 1097-52

 WR&A # N/A

 PAGE 1 OF 2

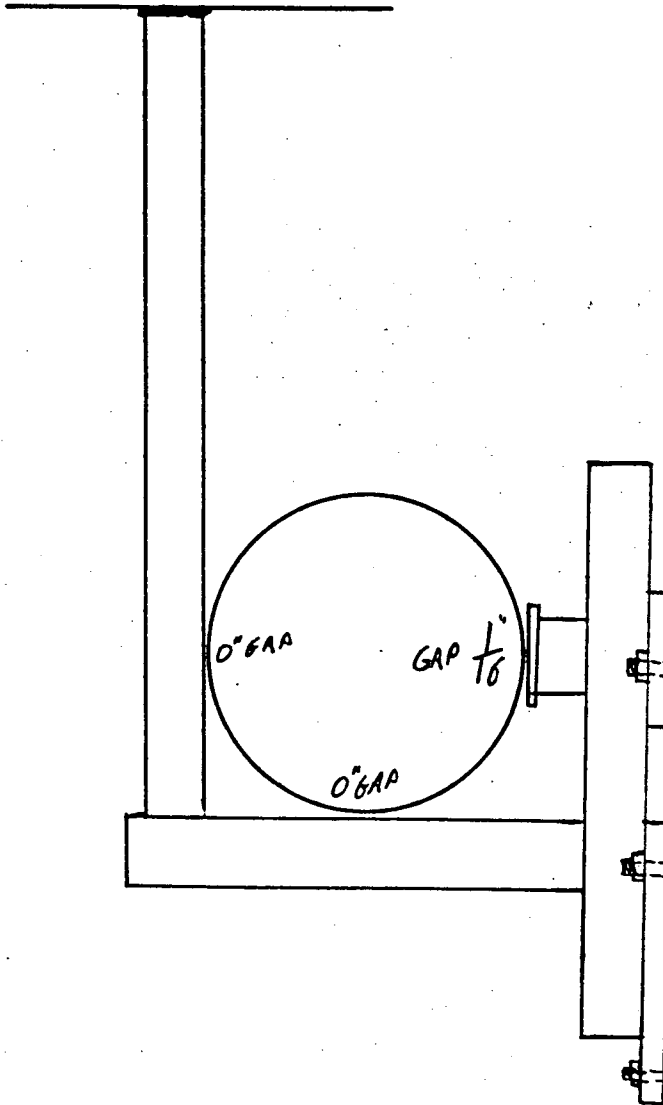
PLANT: <u>HB ROBINSON</u>		UNIT <u>1</u> <u>1</u> <input checked="" type="checkbox"/> <u>2</u> <u>1</u> <u>PSI</u> <input checked="" type="checkbox"/> <u>ISI</u>	
SYSTEM: <u>SERV. & COOL. WATER</u>		COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-314-B</u>
DWG./LOC.: <u>CPL-314 REV 0</u> / COMPONENT COOLANT RM.			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097 ERO 4692</u> <u>NOEP-613 REV.: 0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>ERO 4-892</u> <input checked="" type="checkbox"/> RECORDABLE INDICATIONS				
EXAMINER: <u>Edmund R. Donovan</u>		LEVEL: <u>II</u>	DATE: <u>4-6-92</u>	
REVIEWER: <u>Carl Purnum</u> <input checked="" type="checkbox"/>		LEVEL: <u>II</u>	DATE: <u>4-7-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input checked="" type="checkbox"/> UNSATISFACTORY				
REVIEWED BY:				
REVIEWERS COMMENTS:				
ANII REVIEW: DATE:				

1125

PAGE 2 OF 2DATA SHEET NO. 109757EXAM ITEM CPL-314-BISO DWG. NO. CPL 314 REV. 0

SKETCH SHEET



NEED TO KNOW
GAP TOLERANCE

FOR INFORMATION ONLY

EXAMINER Edmund J. Donovan
EXAMINER NA
REVIEWER W. P. ...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 4-6-92
DATE NA
DATE 4-7-92

(10)

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-314B ✓

Visual Exam Report No. 1097-57

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH VERTICAL
AND HORIZONTAL RESTRAINTS. REF. STRESS ISO ~~81-4~~ SW-2, DP 6015,
CSR 4/20/92

THE CLEARANCES MEET TOLERANCES OF SPEC. CPL-HBR2-C-011.

Clement Rajendra

NED Engineer

4-20-92

Date



PAGE 1 OF 2

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI**COMPONENT**

ID NO.:

[X] VT-3 PROCEDURE: ~~NDP 613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

[X] N/A

[X] SUPPORT/HANGER

COMMENTS



✓

✓

N/A

✓



SEE ATTACHMENT FOR CLEARANCES

✓

✓

ACTUAL: N/A

ACTUAL: N/A

STROKE: $\frac{N}{A}$

S/N	N/A
-----	-----

COMMENTS: ~~N/A~~ ^{AP 4-8-82} ~~1/1~~ RECORABLE INDICATION

LEVEL:

DATE: 4-6-97

LEVEL: *11*

DATE: 4-7-92

[] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

AN I I REVIEW:

DATE:

105

PAGE 2 OF 2

DATA SHEET NO. _____

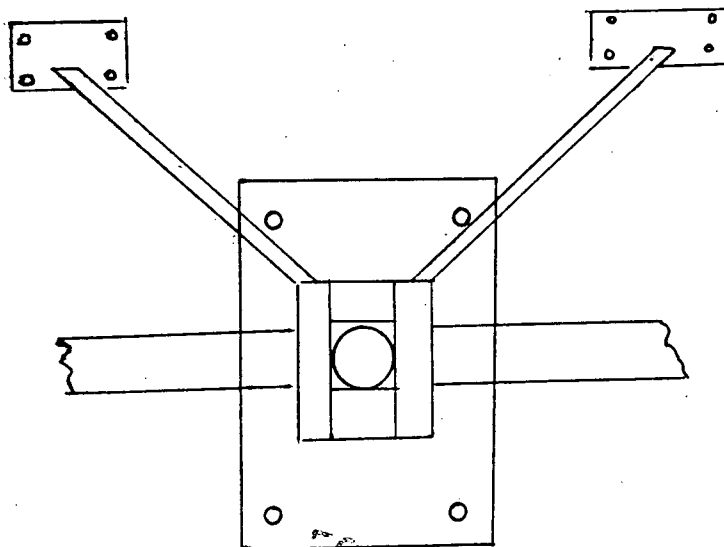
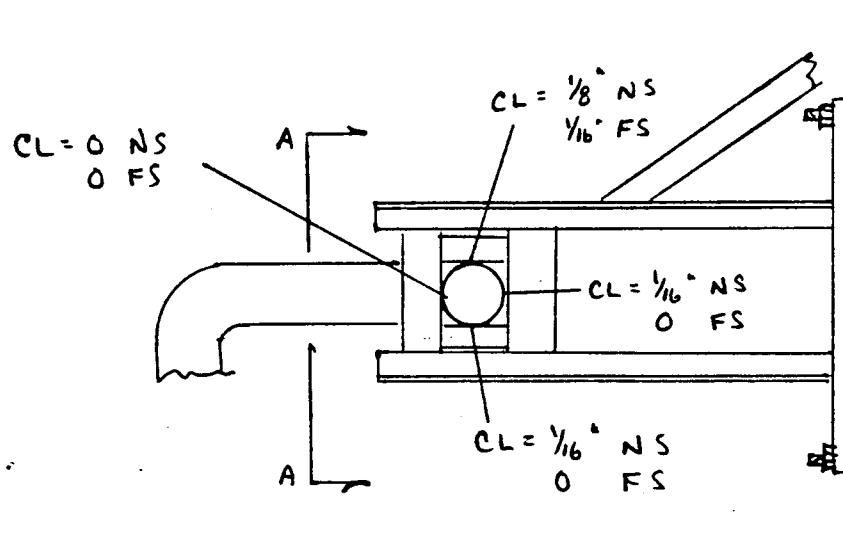
EXAM ITEM

CPL 239-B

ISO DWG. NO.

CPL 239REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER

Curt P. ...

LEVEL

TL

DATE

4-6-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Edmund R. ...

LEVEL

I

DATE

4-7-92

REVIEWER

DATE

REVIEWER

DATE

Kn

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-239 B ✓

Visual Exam Report No. 1097-48

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH
VERTICAL AND HORIZONTAL RESTRAINTS. REF. STRESS ISO SI-4, SH. 2
DP 52. THE CLEARANCES MEET TOLERANCES OF SPEC.
CPL-HBR2-C-011.

Clement Rajendra / 4-20-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-37

WR&A # NA

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SERVE COOLING WATER</u>	COMPONENT NAME: <u>BOX RESTRAINT</u>	COMPONENT ID NO.: <u>CPL-315-B</u>
---------------------------------------	---	---------------------------------------

DWG./LOC.: CPL 315 REV.-1 / AUX HALLWAY

☒ VT-3 PROCEDURE: SP 1097 ERO 4-7-92
NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u>6" SCALE</u>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		<u>CPL-315-B</u> <u>1-15-84</u> <u>TOTALY</u> <u>DIFFERENT</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH FOR GAPS</u>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>NA</u>			
SNUBBER	ACTUAL: <u>NA</u>		STROKE: <u>NA</u>	S/N <u>NA</u>

COMMENTS: NA RECORDABLE INDICATIONS
ERO
4-8-92

EXAMINER: Charles L. Dorian LEVEL: II DATE: 4-7-92

REVIEWER: Art Purnan LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

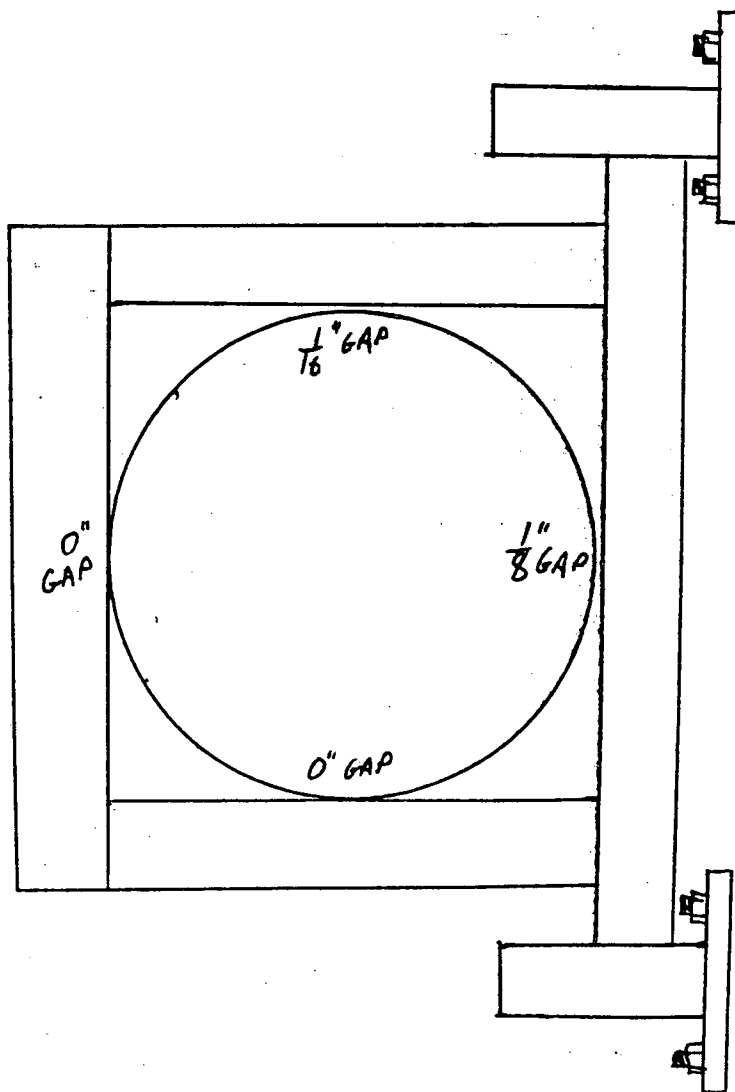
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1077-59
EXAM ITEM CPL-315-B
ISO DWG. NO. CPL 315 REV. 1

SKETCH SHEET



EXAMINER Edward R. Dargatzis
EXAMINER NA
REVIEWER Art Rencina
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 4-7-92
DATE NA
DATE 4-9-92

DM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-315-B ✓

Visual Exam Report No. 1097-59

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH VERTICAL
AND HORIZONTAL RESTRAINTS. REF. STRESS ISO ~~ISO SW-3~~ SW-3, DP 1870.
CSR 4/20/92

THE CLEARANCES MEET TOLERANCES OF SPEC. CPL-HBR2-C-011.

Clement Rajendre /4-20-92
NED Engineer Date

CPL
Canadian Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-60

WR&A # N/A

PAGE 1 OF 1

PLANT: H B ROBINSON UNIT 11 ☒ 12 ☐ PSI ☒ ISI

SYSTEM: SERVICE COOLING WATER COMPONENT NAME: SEE COMMENTS COMPONENT ID NO.: CPL-315-B1

DWG./LOC.: CPL 315 REV.-1 / AUX HALLWAY

☒ VT-3 PROCEDURE: SP 1097 ERO 4-7-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/>	REMOTE <input type="checkbox"/>	VIDEO RECORDING NO:	<input checked="" type="checkbox"/> N/A
EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input type="checkbox"/> FLASHLIGHT	<input type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> OTHER		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	SUPPORT CPL-315-B1 ON ISO CPL 315
MISALIGNMENT			<input checked="" type="checkbox"/>	DOES NOT EXIST, THE FRAME FOR THE LINE
DEBRIS			<input checked="" type="checkbox"/>	RUNNING PARALLEL TO LINE 12 CW 163
CORROSION/EROSION			<input checked="" type="checkbox"/>	PASSES OVER AND UNDER LINE 12-CW-163
STRUCTURAL INTEGRITY			<input checked="" type="checkbox"/>	BUT DOES NOT SUPPORT OR RESTRAIN
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	LINE 12-CW-163
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: ERO 4-8-92 ☒ NO RECORDABLE INDICATION

EXAMINER: Schmidt R. Doonan LEVEL: II DATE: 4-7-92

REVIEWER: Art Purnan APM LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-103

WR&A # NA

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

FEEDWATER

COMPONENT INTEGRAL ATTACHMENT

NAME: RESTRAINT

COMPONENT

ID NO.: CPL-332-WS-C

DWG./LOC.: CPL-332 REV-0 / TURBINE B606, NORTH SIDE

☒ VT-3 PROCEDURE: SP1097 ERO 4-9-92
NOEP-613 REV.: 0

☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR

☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION
Present

YES NO N/A

COMMENTS

FASTENING DEVICES

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

RESISTANCE TO MOVEMENT

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

VARIABLE/CONSTANT SUPPORT

ACTUAL: NA

SNUBBER

ACTUAL: NA

STROKE: NA

S/N NA

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edmund R. Dorman

LEVEL: II

DATE: 4-9-92

REVIEWER: Art Pinner

LEVEL: II

DATE: 4-11-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

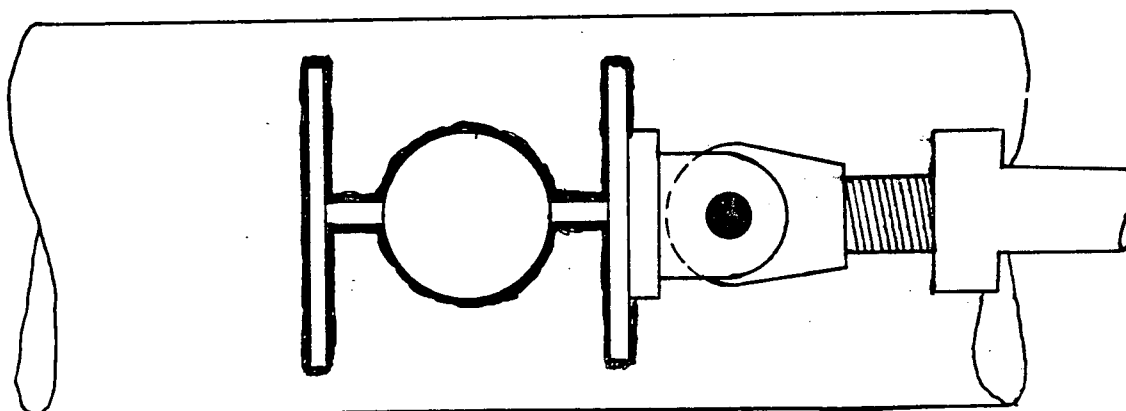
CPL 332 WSC
4-2-69
NO THE SAME
AS DRAWING



PAGE 2 OF 2
DATA SHEET NO. 1097-103
EXAM ITEM CPL 332 WS-C
ISO DWG. NO. CPL 332 REV. 0

SKETCH SHEET

CORROSION ON PIPE, WELD AND ATTACHMENT
LESS THAN 10% MATERIAL LOSS



FOR INFORMATION ONLY

EXAMINER Edmund L. Donovan
EXAMINER N/A
REVIEWER Art R...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-9-92
DATE N/A
DATE 4-11-92

DM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-332-WS-C ✓

Visual Exam Report No. 1097-103

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SMALL AMOUNT OF RUST DOES NOT AFFECT THE STRUCTURAL
INTEGRITY OF A SUPPORT. RUST, IN FACT, WOULD FORM A
PROTECTIVE LAYER PREVENTING FURTHER CORROSION.* CLEANING
THE RUST AND RE-PAINTING THE SUPPORT DOES NOT NECESSARILY
ENHANCE PROTECTION UNLESS THE CLEANING IS VERY
THOROUGH AND ALL RESIDUAL RUST IS REMOVED. OTHERWISE
CORROSION WILL CONTINUE WITH ATTENDANT LOSS OF BASE MATERIAL.

(* DEPENDING ON ENVIRONMENTAL CONDITIONS.)

Clement Rajendra / 4-20-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

 REPORT NO. 1097-102

 WR&A # N/A

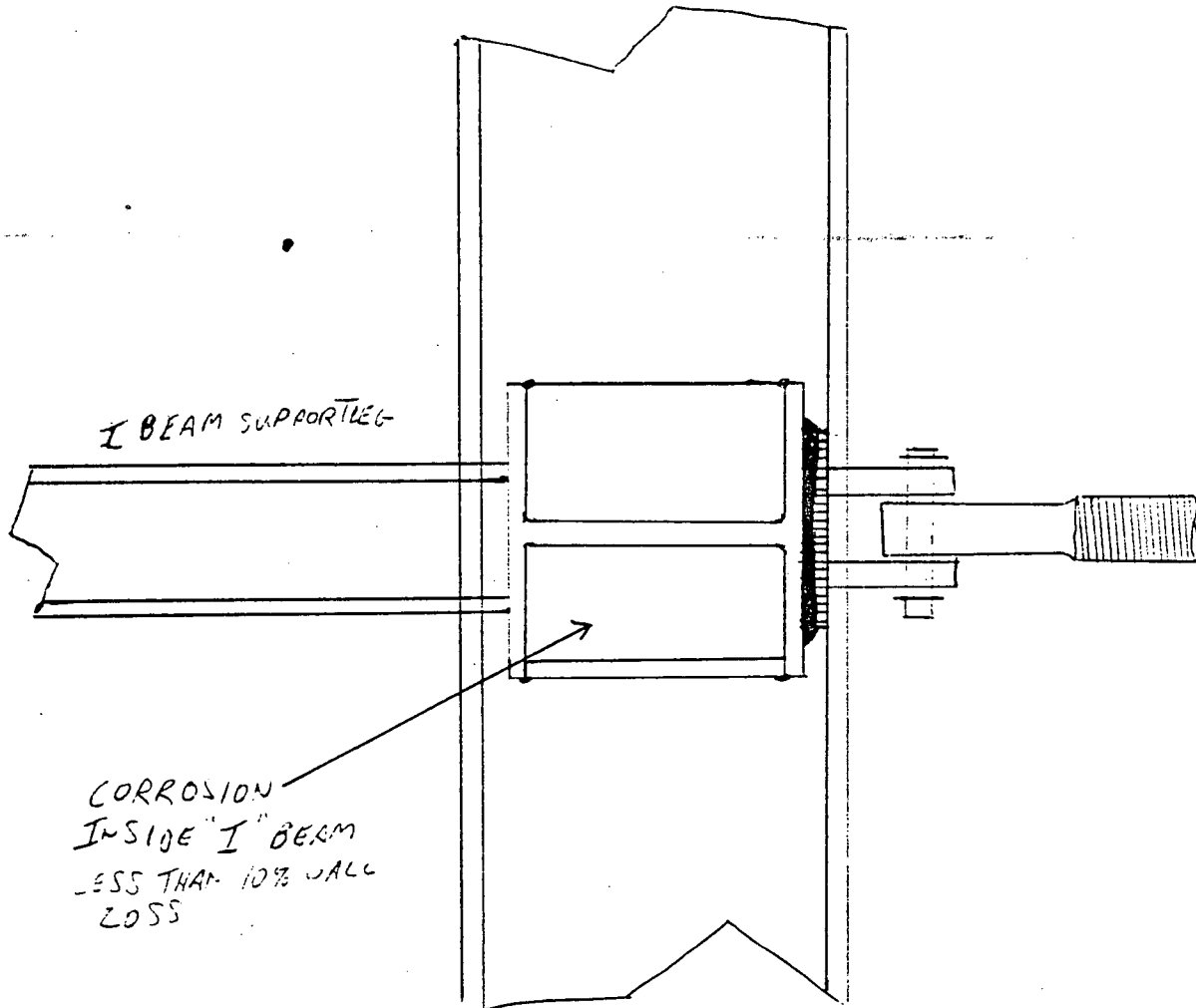
 PAGE 1 OF 2

PLANT: <u>H3 ROBINSON</u>		UNIT <u>[] 1 [X] 2 []</u> PSI <u>[X] ISI</u>	
SYSTEM: <u>FEEDWATER</u>	COMPONENT NAME: <u>RESTRAINT</u>	COMPONENT ID NO.: <u>CPL-332-C</u>	
DWG./LOC.: <u>CPL 332 REV-0 / TURBINE BLOC. NORTH SIDE</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1097 ERO 4-9-92 NOEP-613 REV.: 0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES		<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>	FOR INFORMATION ONLY
DEBRIS		<input checked="" type="checkbox"/>	
CORROSION/EROSION	<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATIONS</u>			
EXAMINER: <u>Edmund R. Donovan</u>		LEVEL: <u>II</u>	DATE: <u>4-9-92</u>
REVIEWER: <u>Art Pinner</u> <i>AP</i>		LEVEL: <u>II</u>	DATE: <u>4-11-92</u>
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: _____			
REVIEWERS COMMENTS: <u>CPL-332-C 4-26-9</u> <u>NOT THE SAME</u> <u>AS DRAWING</u>			
ANII REVIEW: _____		DATE: _____	

1125

PAGE 2 OF 2DATA SHEET NO. 1097-102EXAM ITEM CPL-332-CISO DWG. NO. CPL332 REV. 0

SKETCH SHEET

EXAMINER Edmund J. DonovanLEVEL IDATE 4-9-92EXAMINER 1/2LEVEL 1/2DATE N/AREVIEWER Carl K...LEVEL IIDATE 4-11-92

REVIEWER _____

DATE _____

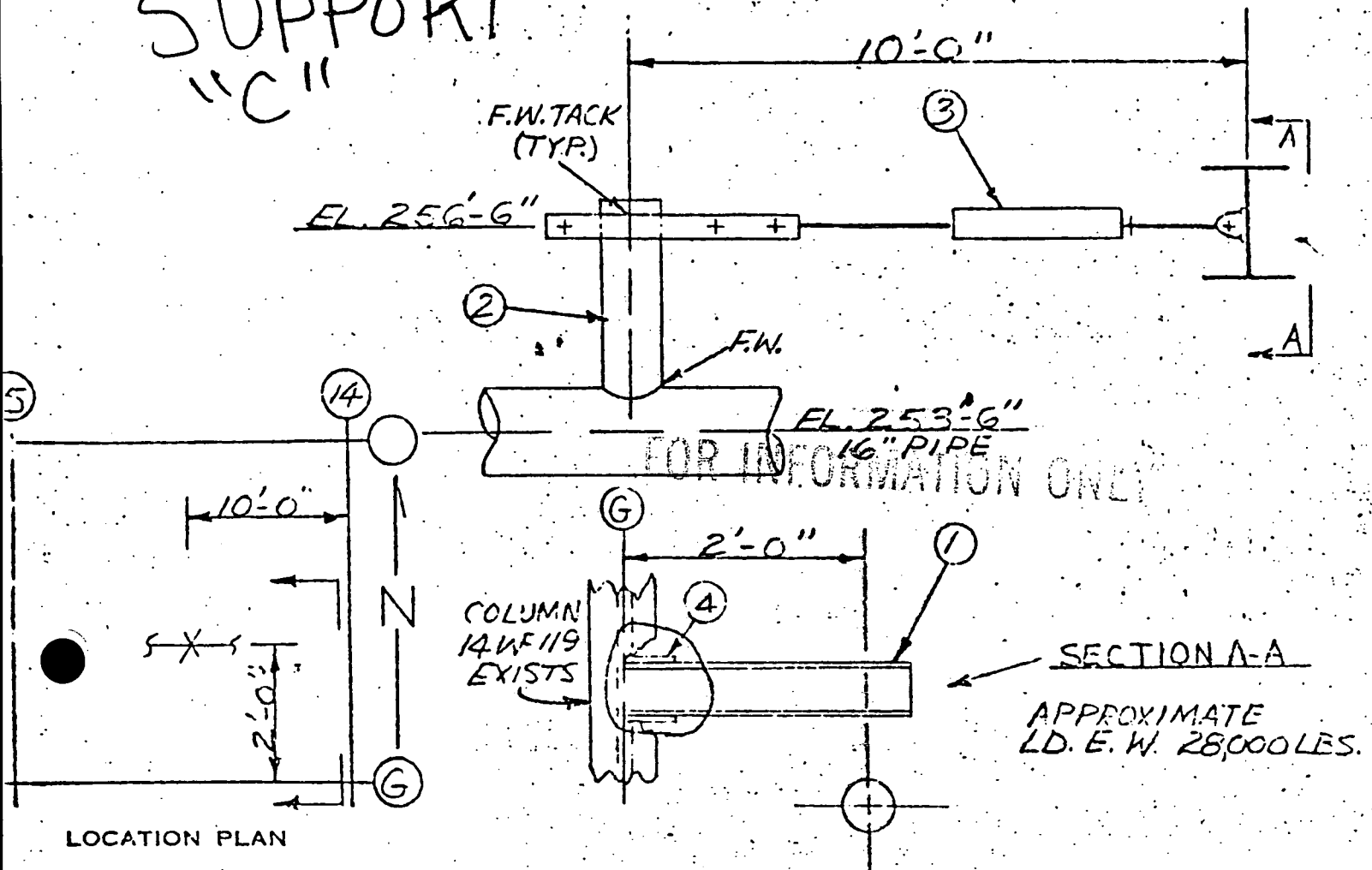
REVIEWER _____

DATE _____

gk

CONT. NO.

H. B. FORDSON STATION UNIT #2

SUPPORT
"C"

LOCATION PLAN

MATERIALS AND OPERATIONS

QUAN.

SHIP.

PIPE RESTRAINT CONSISTING OF:

ONE

6" Wide Flange @ 15.5#/Ft., 2'-3 3/4" Long, T.W.-36#

1

H.S. 63, C.S. 6" Stan. 16" Pipe, E=2'-7 1/2" No Base Plate
T.W.-50#

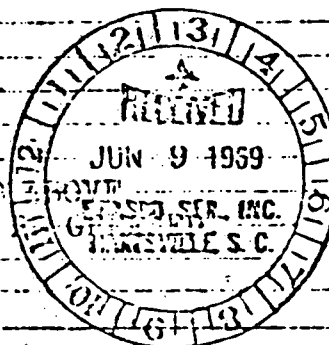
1

#5 Fig. 211, 6" Pipe, C.S., 2 1/4" Rod End 3 1/2" x H
Extension Piece W=7'-5 7/8", Load-28,000#Pl/Sk 551-A TW-38#
HAS&E

2

1

Mark: FWH-23

APPLY COAT OF RED-CHROMATE PRIMER TO
MATERIAL EXCEPT THREADS WHICH SHALL

PIPE G-190207-8

STEEL G-190532-7

MARK NO.

FWH-23

SKETCH NO.

564

REV.

1

PRINTED IN U.S.A.

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-332-C ✓

Visual Exam Report No. 1097-102

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SMALL AMOUNT OF RUST DOES NOT AFFECT THE STRUCTURAL
INTEGRITY OF A SUPPORT. RUST, IN FACT, WOULD FORM A PROTECTIVE
LAYER PREVENTING FURTHER CORROSION*. CLEANING THE RUST AND
RE-PAINTING THE SUPPORT DOES NOT NECESSARILY ENHANCE PROTECTION
UNLESS THE CLEANING IS VERY THOROUGH AND ALL RESIDUAL RUST
IS REMOVED. OTHERWISE CORROSION WILL CONTINUE WITH ATTENDANT
LOSS OF BASE MATERIAL.

(* DEPENDING ON ENVIRONMENTAL CONDITIONS)

Clement Rajendra 14-20-92
NED Engineer Date



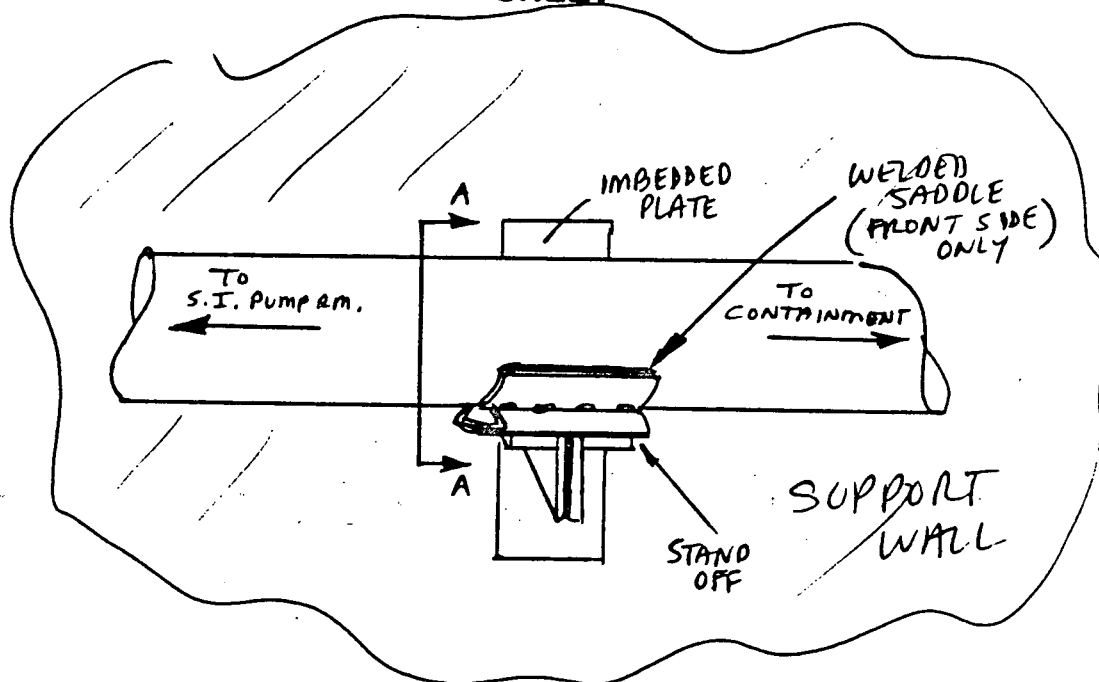
PAGE 1 OF 2

QA NDE IS-5, Revision 5 11/88

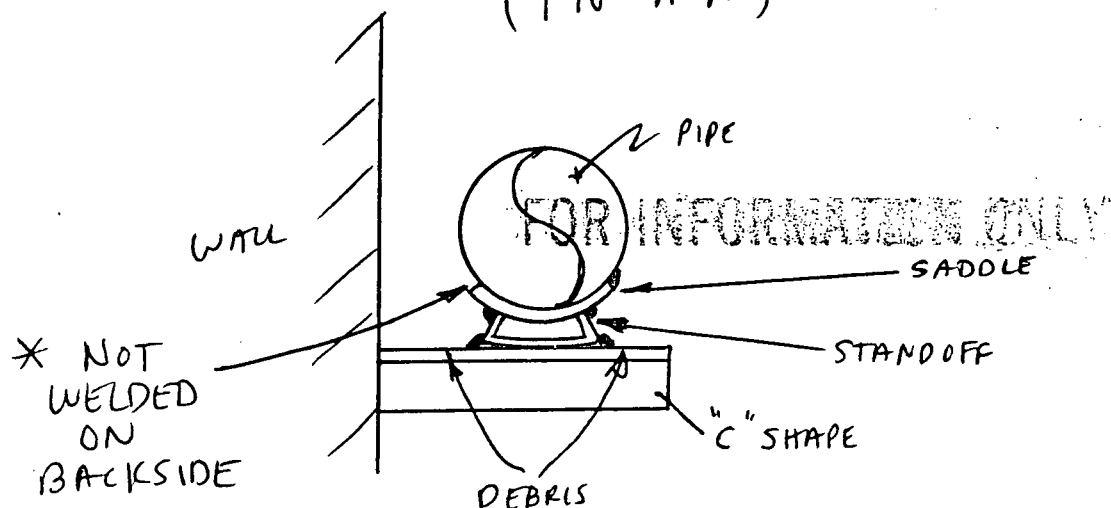
1125

PAGE 2 OF 2
DATA SHEET NO. 1097-112
EXAM ITEM CPL-234A-N
ISO DWG. NO. CPL-234A REV. 2

SKETCH SHEET



(FIG A-A)

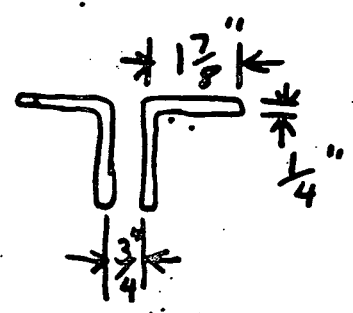
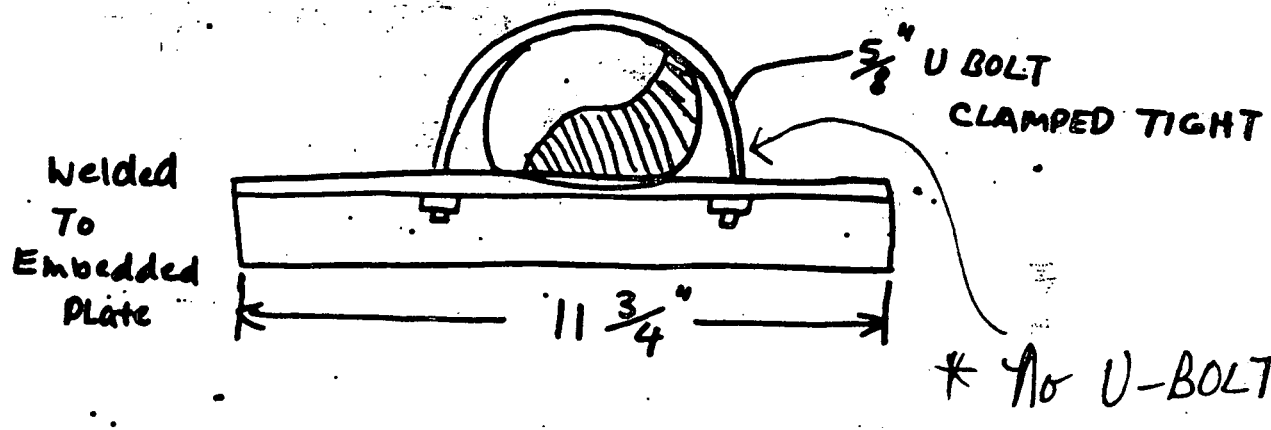


EXAMINER Chiff Moss
EXAMINER N/A
REVIEWER Art Pinner
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-10-92
DATE N/A
DATE 4-12-92

PAGE	SKETCHES AND NOTES	Rev. No.	Pack. No.
OF		2	SI-10



SUPPORT

FOR INFORMATION ONLY

HANGER
35

Inspected By David M. Edwards

Date Feb 4, 1980

m
pa
12

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-234A-N ✓

Visual Exam Report No. 1097-112

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED,
NON-SEISMIC " DEAD WEIGHT SUPPORT. THE INDICATIONS NOTED ARE
IRRELEVANT TO THE STRUCTURAL INTEGRITY OF THE SUPPORT.

Clement Rajendra 14-20-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

 REPORT NO. 1097-36

 WR&A # N/A

 PAGE 1 OF 2

 PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 222B - A</u>
-------------------	--------------------------------	---------------------------------------

 DWG./LOC.: CPL 222B REVO / PIPE ALLEY

<input checked="" type="checkbox"/> VT-3 PROCEDURE: ^{SP 1097 4-10-92} NDEP-613 REV.: <u>0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>
---	---

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		N/A
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

 COMMENTS: NO CLAMP SPACER

RECORDABLE INDICATIONS

EXAMINER: <u>Art Purnum</u>	LEVEL: <u>II</u>	DATE: <u>4-4-92</u>
-----------------------------	------------------	---------------------

REVIEWER: <u>Edward R. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-10-92</u>
------------------------------------	------------------	----------------------

 COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

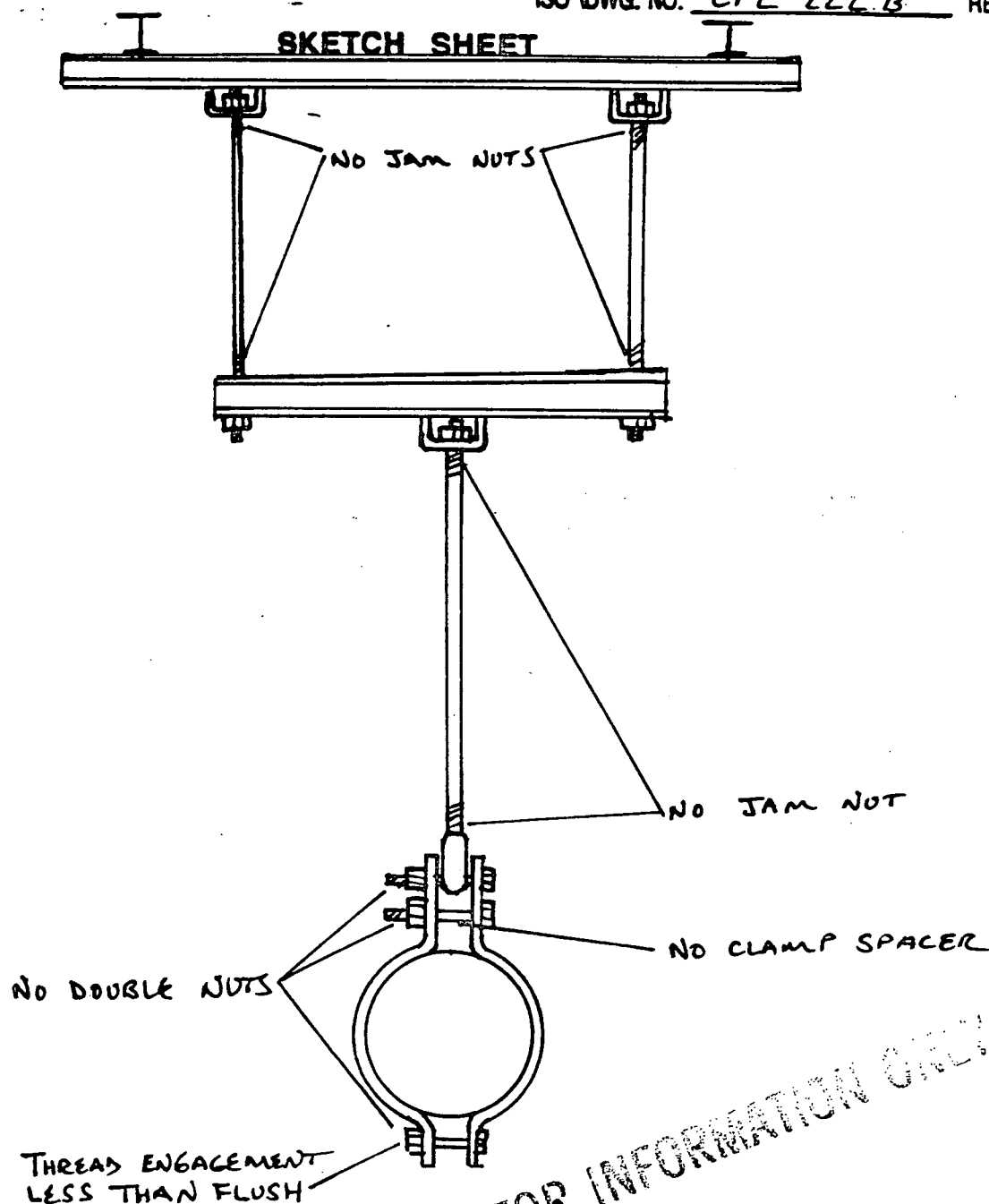
 REVIEWERS COMMENTS: no Prog SF

ANII REVIEW: _____ DATE: _____

1125

PAGE 2 OF 2DATA SHEET NO. 1097-36EXAM ITEM CPL 222 B -AISO DWG. NO. CPL 222 B REV. 0

SKETCH SHEET

EXAMINER Art PurnumLEVEL IIDATE 4-4-92EXAMINER NALEVEL NADATE NAREVIEWER Alvin R. DonovanLEVEL IIDATE 4-6-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

AW

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222B-A

Visual Exam Report No. 1097-36

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE MISSING JAM NUTS ONLY. TIGHTEN BOTTOM PIPE CLAMP
BOLT TO ACHIEVE FULL THREAD ENGAGEMENT.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC"
DEAD WEIGHT SUPPORT. JAM NUTS SHOULD BE PROVIDED DUE TO POTENTIAL
FOR SUPPORT TO GET DISCONNECTED DUE TO VIBRATION LOOSENING.
HOWEVER THEY ARE NOT NECESSARY FOR LOAD TRANSFER.
LOCK NUTS ARE NOT REQUIRED FOR CLAMP BOLTING BECAUSE PER
VENDOR CATALOG THIS TYPE OF CLAMP WAS NOT PROVIDED WITH
LOCKNUTS. CLAMP SPACER DOES NOT CONTRIBUTE TO STRUCTURAL INTEGRITY,
ITS FUNCTION IS TO PREVENT OVERTIGHTENING OF CLAMP BOLTS
AND THEREFORE MAY BE OMITTED.

Clement Rajendra
NED Engineer

4-20-92
Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-86

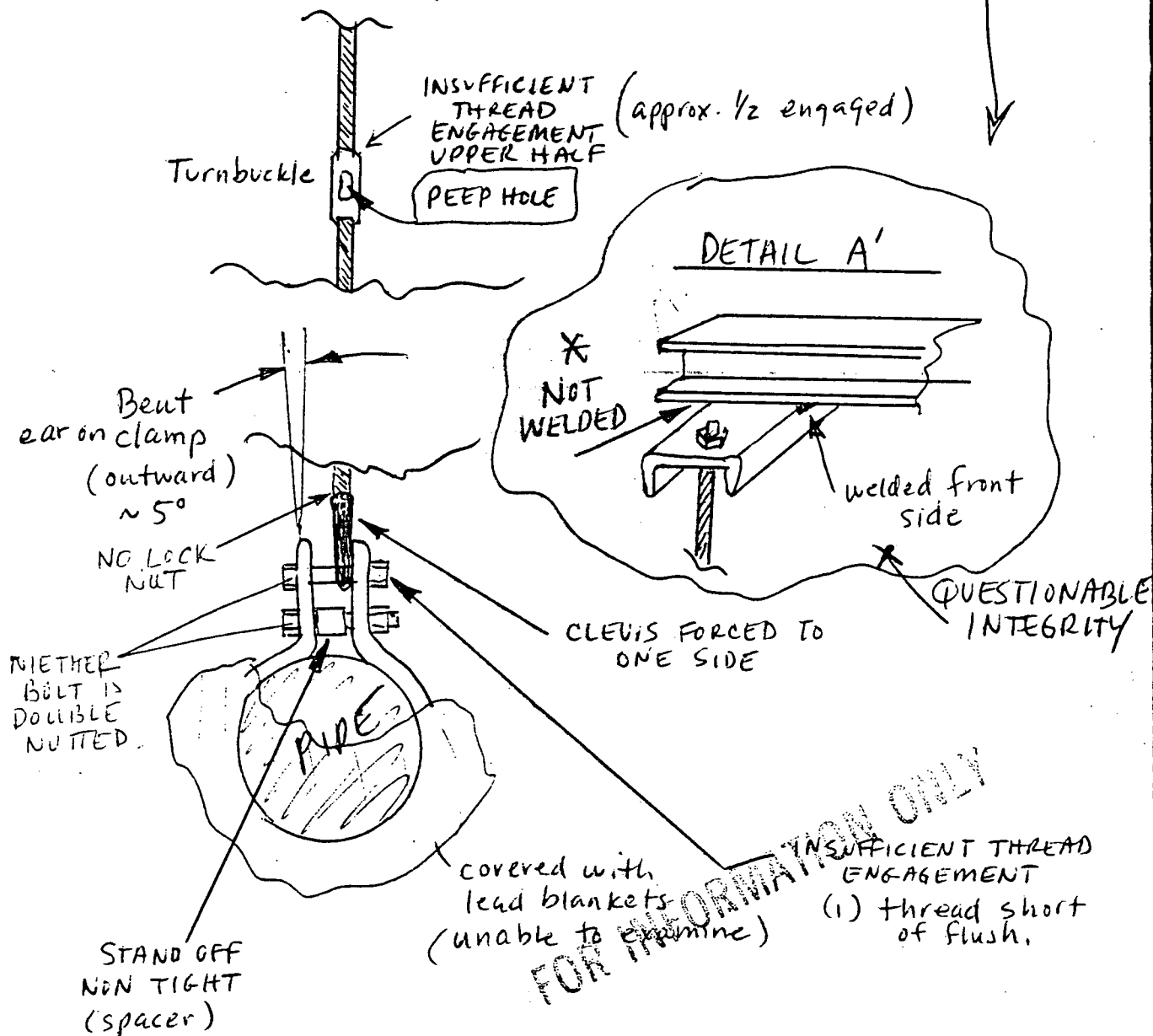
WR&A # N/A

PAGE 1 OF 2

PLANT: <u>H13 ROBINSON</u>		UNIT: <u>[] 1 [X] 2 []</u> PSI <u>[X] ISI</u>	
SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-222-A</u>	
DWG./LOC.: <u>CPL-222 Rev 0 / PIPE ALLEY</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097 C10 4-4-92</u> <u>NDEP-613 REV.: C</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MISALIGNMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATIONS - see page #2 for details.</u> <u>This exam report supplemented by 1097-87 for exam after blanket removal.</u>			
EXAMINER: <u>W. J. Mott C10</u>	LEVEL: <u>II</u>	DATE: <u>4-4-92</u>	
REVIEWER: <u>Richard L. Dorman C10</u>	LEVEL: <u>II</u>	DATE: <u>4-10-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: _____			
REVIEWERS COMMENTS: <u>no Dwg. Gf</u>			
ANII REVIEW: _____ DATE: _____			

SKETCH SHEET

SEE SUPPORT SKETCH (A')



EXAMINER Cliff Moss

EXAMINER N/A

REVIEWER Charles R. Johnson

REVIEWER _____

REVIEWER _____

LEVEL II

LEVEL N/A

LEVEL II

DATE _____

DATE _____

DATE 4-4-92

DATE N/A

DATE 4-6-92

QW

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-87

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>S.I.</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-222-A</u>
---------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL-222 Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 (rev 4-10-92) ~~NOEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bottom clamp Bolt not double nutted.
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: FOR INFORMATION ONLY			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATION - see page #2 for details

This exam report supplements 1097-86 which was examined before blanket removal

EXAMINER: Chf Moss ew LEVEL: II DATE: 4-10-92

REVIEWER: Art P... LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS: no Dwg & f

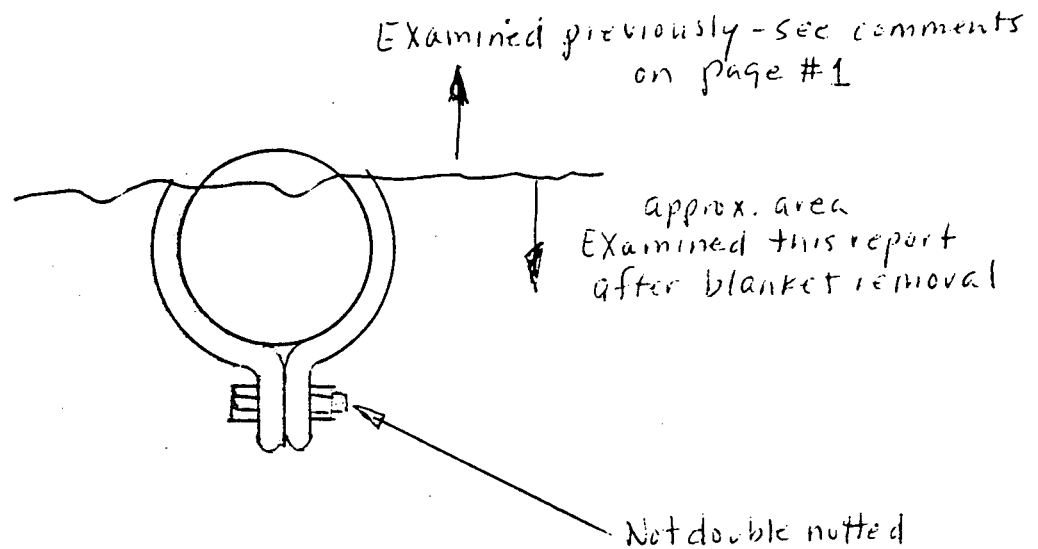
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-87EXAM ITEM CPL-222-AISO DWG. NO. CPL-222 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Chf Moss
EXAMINER 00 N/A
REVIEWER 122 P...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-10-92
DATE N/A
DATE 4-11-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222-A ✓

Visual Exam Report No. 1097-86
& 1097-87

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

INDICATIONS FOUND DOES NOT AFFECT THE FUNCTIONING OF THE
SUPPORT SINCE IT IS A "NON-SAFETY RELATED, NON-SEISMIC"
DEAD WEIGHT SUPPORT, AND IS OBVIOUSLY CARRYING DEAD
WEIGHT.

THIS SUPPORT IS SCHEDULED TO BE MODIFIED BY MOD
M-1087 DURING THIS REFUELING OUTAGE.

Clement Rajendra 14-20-92
NED Engineer Date



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-110

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-242-A</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 242 REV-0 / BIT RM

[X] VT-3 PROCEDURE: SP1097 ERD 41092 #DEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[X]</u> MIRROR <u>[]</u> OTHER <u></u>	TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[X]</u> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>✓</u>		
MISALIGNMENT		<u>✓</u>		
DEBRIS	<u>✓</u>			<u>SEE ATTACHMENT</u>
CORROSION/EROSION		<u>✓</u>		
STRUCTURAL INTEGRITY		<u>✓</u>		
RESISTANCE TO MOVEMENT			<u>✓</u>	
CLEARANCES OF MOVING PARTS			<u>✓</u>	
ARC STRIKES/GOUGES		<u>✓</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N: <u>N/A</u>			

COMMENTS: RECORDABLE INDICATION

EXAMINER: [Signature] LEVEL: II DATE: 4-10-92

REVIEWER: [Signature] LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

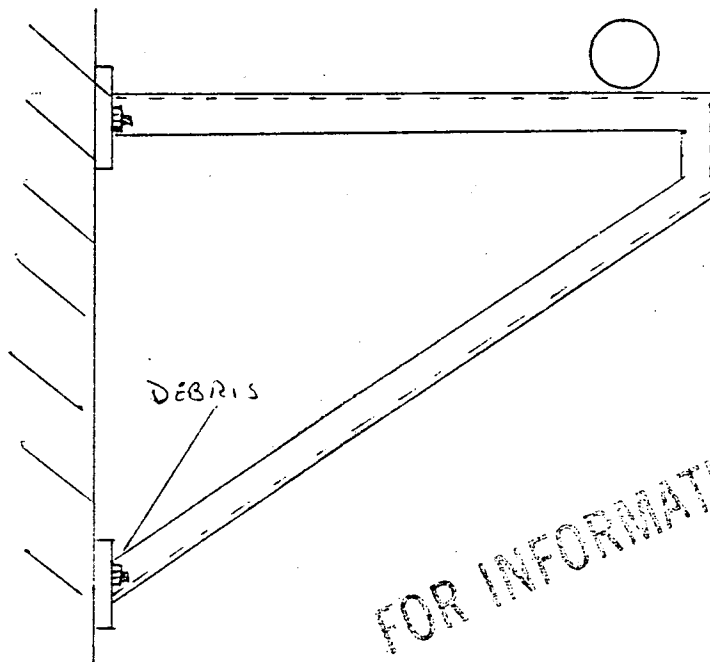
REVIEWERS COMMENTS: no Dwg 84

ANII REVIEW: DATE:

1105

PAGE 2 OF 2
DATA SHEET NO. 1097-110
EXAM ITEM CPL 242-A
ISO DWG. NO. CPL 242 REV. 0

SKETCH SHEET



EXAMINER Carl P. [signature]
EXAMINER N/A
REVIEWER C. J. [signature]
REVIEWER 66
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-11-92
DATE N/A
DATE 4-11-92

[signature]

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-242-A ✓

Visual Exam Report No. 1097-110

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. The indications noted are irrelevant to the structural integrity of the support.

Clement Rajendra
NED Engineer

14-20-92
Date



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 109792

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: SI COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 242-B

DWG./LOC.: CPL 242 REV 0 / BIT Rm.

[x] VT-3 PROCEDURE: SP 1097 AP 4/11/92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x] VIDEO RECORDING NO: [x] N/A

EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____
TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[x] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		N/A
MISALIGNMENT		✓		A
DEBRIS	✓			SEE ATTACHMENT
CORROSION/EROSION	✓			SEE ATTACHMENT
STRUCTURAL INTEGRITY		✓		FOR INFORMATION ONLY
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art P... LEVEL: II DATE: 4-10-92

REVIEWER: Edmund R. D... LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

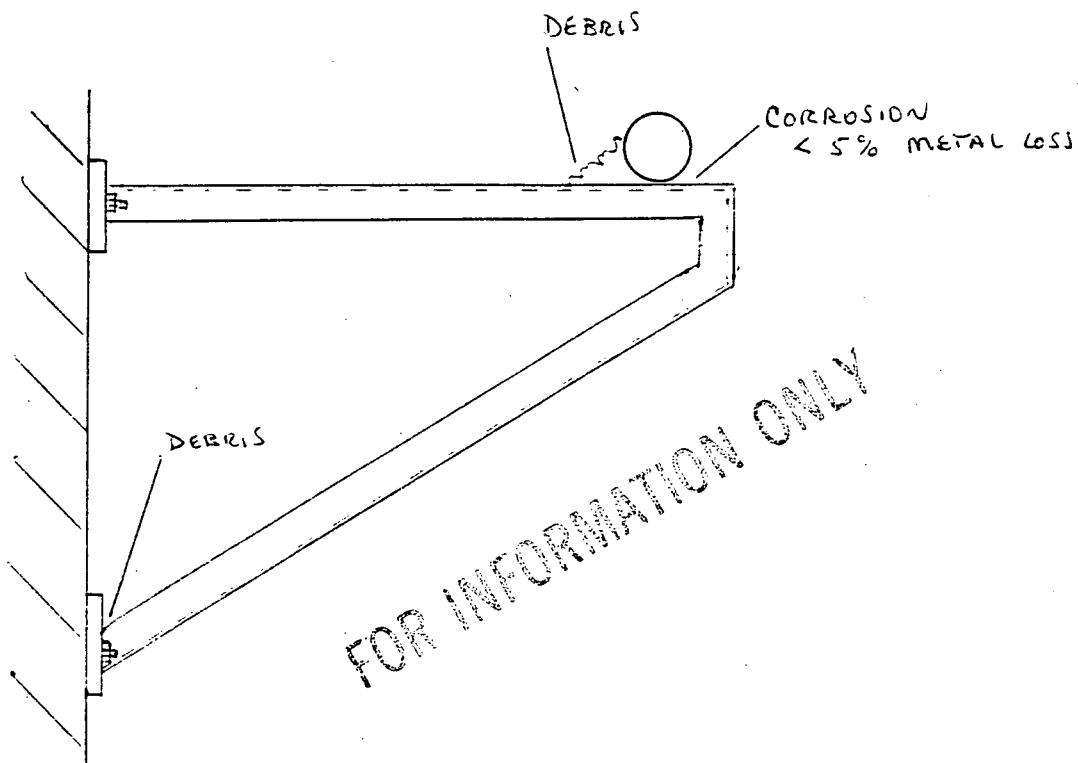
REVIEWERS COMMENTS: NO Day 5/4

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-92EXAM ITEM CPL 242-BISO DWG. NO. CPL 242 REV. 0

SKETCH SHEET

EXAMINER Art PurnumEXAMINER N/AREVIEWER Charles R. Brown

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL N/ALEVEL II

DATE _____

DATE _____

DATE 4-10-92DATE N/ADATE 4-10-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL - 242 - B

Visual Exam Report No. 1097-92

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic". dead weight support. The indications noted are irrelevant to the structural integrity of the support. CORROSION FOUND IS MINOR.

Clement Rajendra / 4-20-92
NED Engineer Date

CP&L
 Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-91

WR&A # N/A

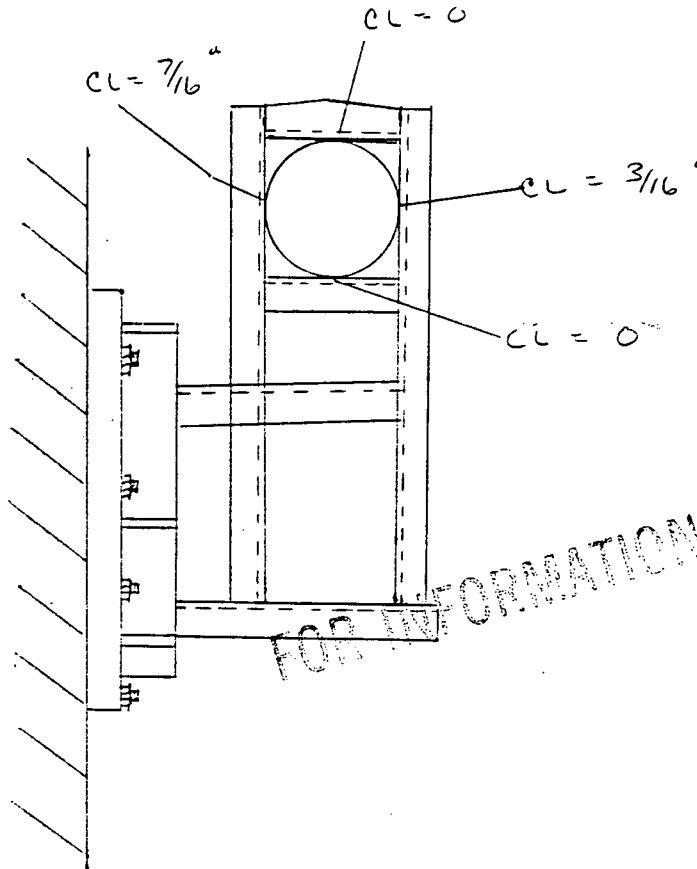
PAGE 1 OF 2

PLANT: <u>H B ROBINSON</u>		UNIT: <u>[] 1 [X] 2 [] PSI [X] ISI</u>	
SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 234-B</u>	
DWG./LOC.: <u>CPL 234 REV 1 / SI PUMP RM</u>			
[X] VT-3 PROCEDURE: <u>SP 10 92 AD 4-9-92</u> <u>NOEP-613 REV.: 0</u>		[] VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT [X] REMOTE [X]		VIDEO RECORDING NO: [X] N/A	
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>		TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES		✓	
MISALIGNMENT		✓	
DEBRIS		✓	
CORROSION/EROSION		✓	
STRUCTURAL INTEGRITY		✓	
RESISTANCE TO MOVEMENT	✓		
CLEARANCES OF MOVING PARTS			✓
ARC STRIKES/GOUGES		✓	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATION</u>			
EXAMINER: <u>C. J. Pinner</u>	LEVEL: <u>II</u>	DATE: <u>4-9-92</u>	
REVIEWER: <u>Edmund L. Donovan</u> <u>AD</u>	LEVEL: <u>II</u>	DATE: <u>4-10-92</u>	
COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY			
REVIEWED BY:			
REVIEWERS COMMENTS:			
ANII REVIEW: DATE:			

1125

PAGE 2 OF 7
DATA SHEET NO. 1097-9291 (Rev 4/4/92)
EXAM ITEM CPL - 234 - B
ISO DWG. NO. CPL - 234 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER *Car P...*
EXAMINER N/A
REVIEWER _____
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL _____
DATE _____
DATE _____

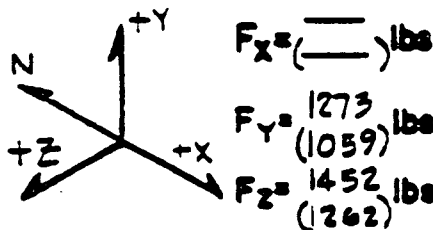
DATE 4-9-92
DATE N/A
DATE _____

AN

- AB 16248

SI-34-RAZ-215

BASE PLATE IDENTIFICATION



LOAD CASE THRM + OBE

THRM + DBE

EBASCO COMPUTER RUN

DATE: 8-7-84 TIME: 9:23 PM

RESTRAINT LOADS

RESTRAINT LOCATION:

SEE ISO NO. SI-10

PT NO. 8(8)

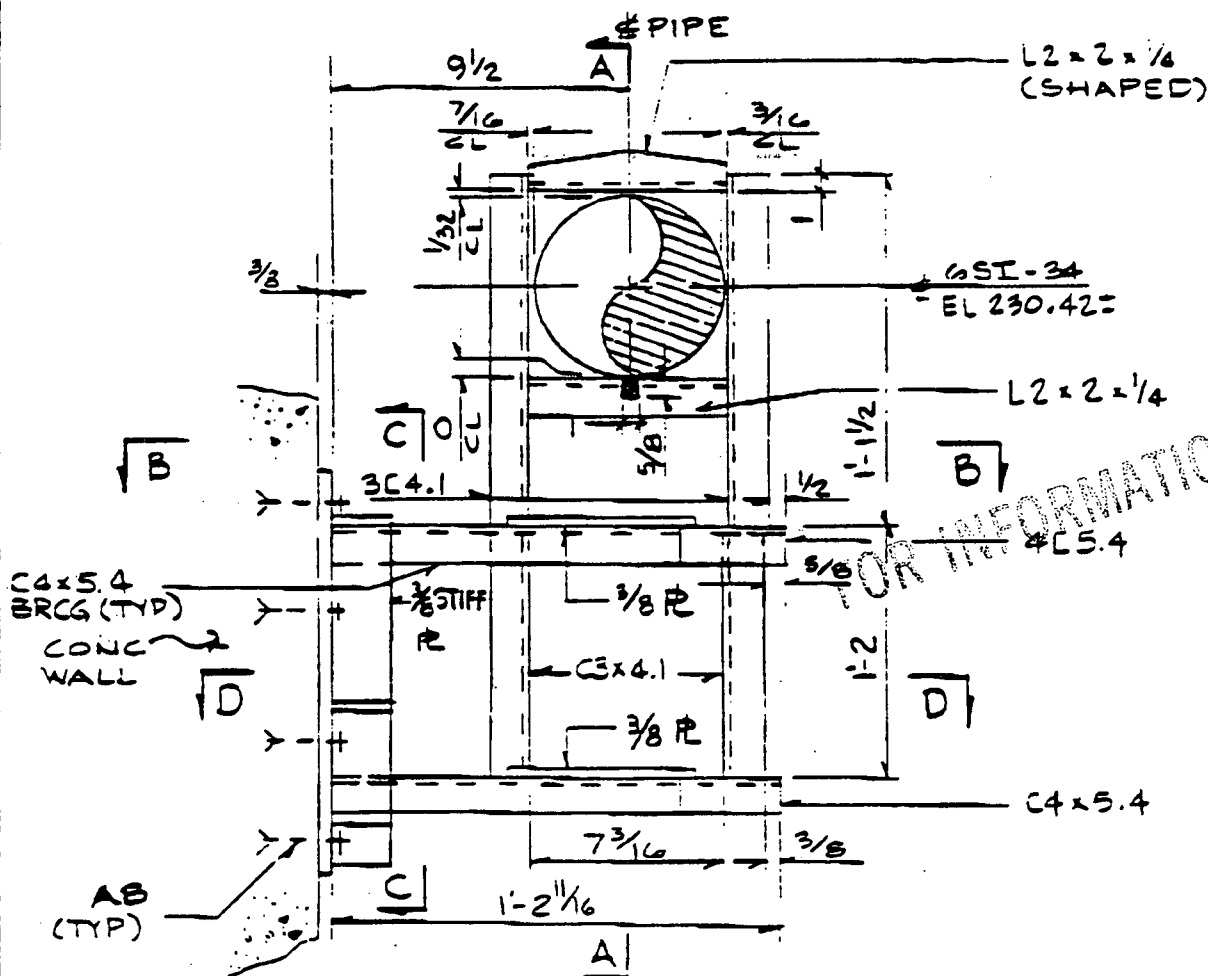
RAB

SI PUMP ROOM
NEAR CONT. SPRAY
PUMP "A"

REST. CALC. NO. SI-10-8

MOD. NO. 492-17

PMR. NO. N/A



ELEV LKG WEST

NUCLEAR SAFETY RELATED

1	11/27/84	B	HSW	MD
REV	DATE	BY	CHK	APP

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. WAG
DATE 9/2/84 CH. UFA
SCALE NTS

APPROVED

20
114

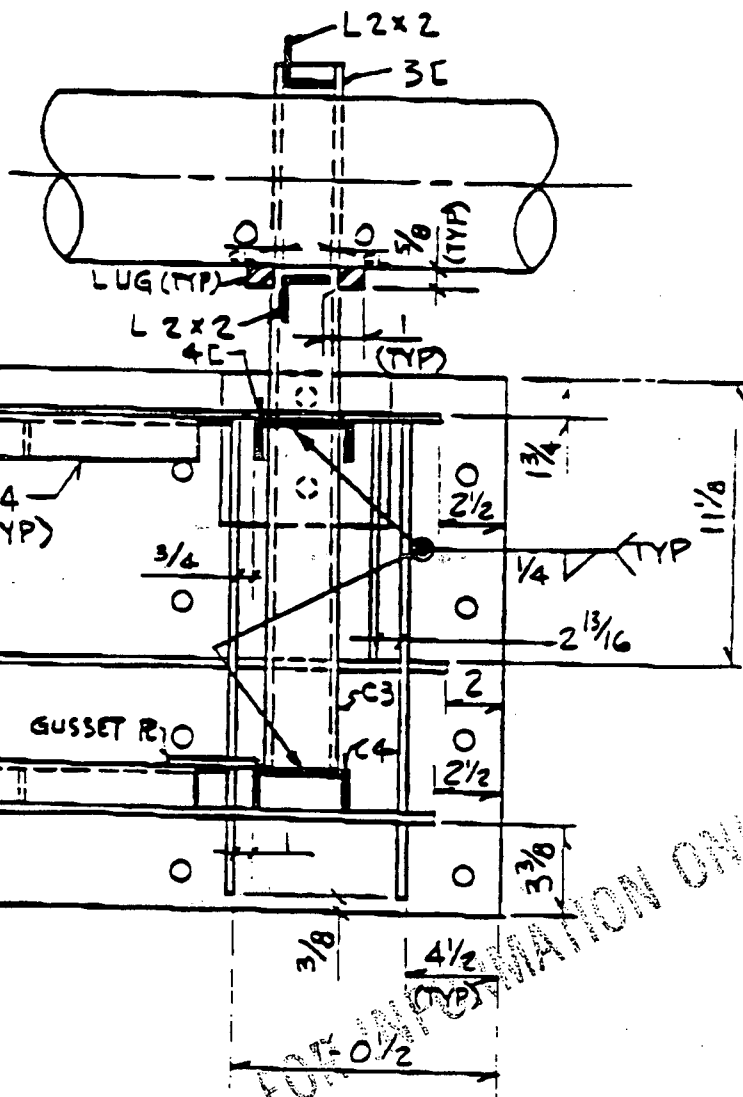
H. B. ROBINSON - UNIT 2

AS-BUILT RESTRAINT SKETCH
SYSTEM: SAFETY INJECTION
ISO NO./POINT NO. SI-10/8

AB-CAR-

SI-10-8

SH. 1 OF 3



SECT. A

NOTE: FOR ADDITIONAL INFO
SEE SECT. C

NUCLEAR SAFETY RELATED

1	11/27/06	2	Hsw	DD
REV	DATE	BY	CHK	APP

EBASCO SERVICES INCORPORATED		H.B. ROBINSON - UNIT 2 AS-BUILT RESTRAINT SKETCH SYSTEM: SAFETY INJECTION ISO NO./POINT NO. SI-10/8	AB-CAR- SI-10-8 SH. 2 OF 3
DIV. CIVIL DR. KJM DATE 2/2/84 CH. WAC SCALE NTS	APPROVED JH		

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-234-B

Visual Exam Report No. 1097-91

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SUPPORT DRAWING AB-CAR-SI-10-8, REV. 1 SHOWS 1/32" CLEARANCE
FOR THIS SUPPORT ABOVE PIPE, 0" CLEARANCE WAS FOUND.
THE PURPOSE FOR REQUIRING SOME CLEARANCE AROUND A
BOX TYPE SUPPORT IS TO PREVENT SUPPORT LOCKING UP DUE TO
THERMAL EXPANSION AND PROVIDING AN AXIAL RESTRAINT - A
CONDITION USUALLY NOT MODELLED. IN THIS PARTICULAR CASE,
THIS SUPPORT IS DESIGNED TO PRODUCE AN AXIAL RESTRAINT
USING LUGS. THEREFORE IF THERE IS A LOCK-UP DUE TO
THERMAL EXPANSION, IT WOULD HAVE BEEN MODELLED
ALREADY. THEREFORE AS FOUND 0" CLEARANCE IS ACCEPTABLE.

Clement Rajendra / 4-20-92
NED Engineer Date

CP&L
 COLUMBIA POWER & LIGHT COMPANY
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-26

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 1 2 1 PSI ISI

SYSTEM: <u>COMPONENT COOLING</u>	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-325-E</u>
-------------------------------------	--------------------------------------	---------------------------------------

DWG./LOC.: CPL-325 REV.1 / COMPONENT COOLANT ROOM

☒ VT-3 PROCEDURE: SP-1097 ERO 4.492
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			<u>Loose nut-see attached sketch</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			<u>Loose nut-see attached sketch</u>
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edmund L. Dawson LEVEL: II DATE: 4-4-92

REVIEWER: Art Pinner LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

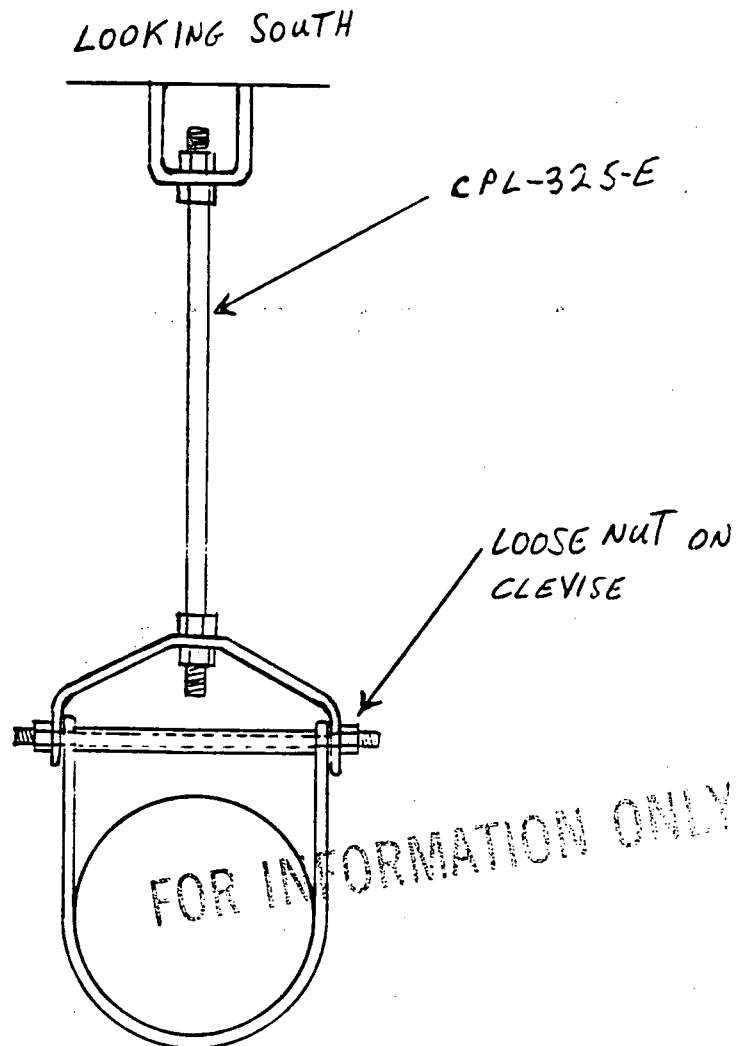
VIEWERS COMMENTS:

ANII REVIEW: DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097-26EXAM ITEM CPL-325-EISO DWG. NO. CPL-325 REV. 1

SKETCH SHEET

EXAMINER Edmund R. DonovanLEVEL IIDATE 4-4-92EXAMINER NALEVEL NADATE NAREVIEWER Edmund R. DonovanLEVEL IIDATE 4-6-92

REVIEWER _____

DATE _____

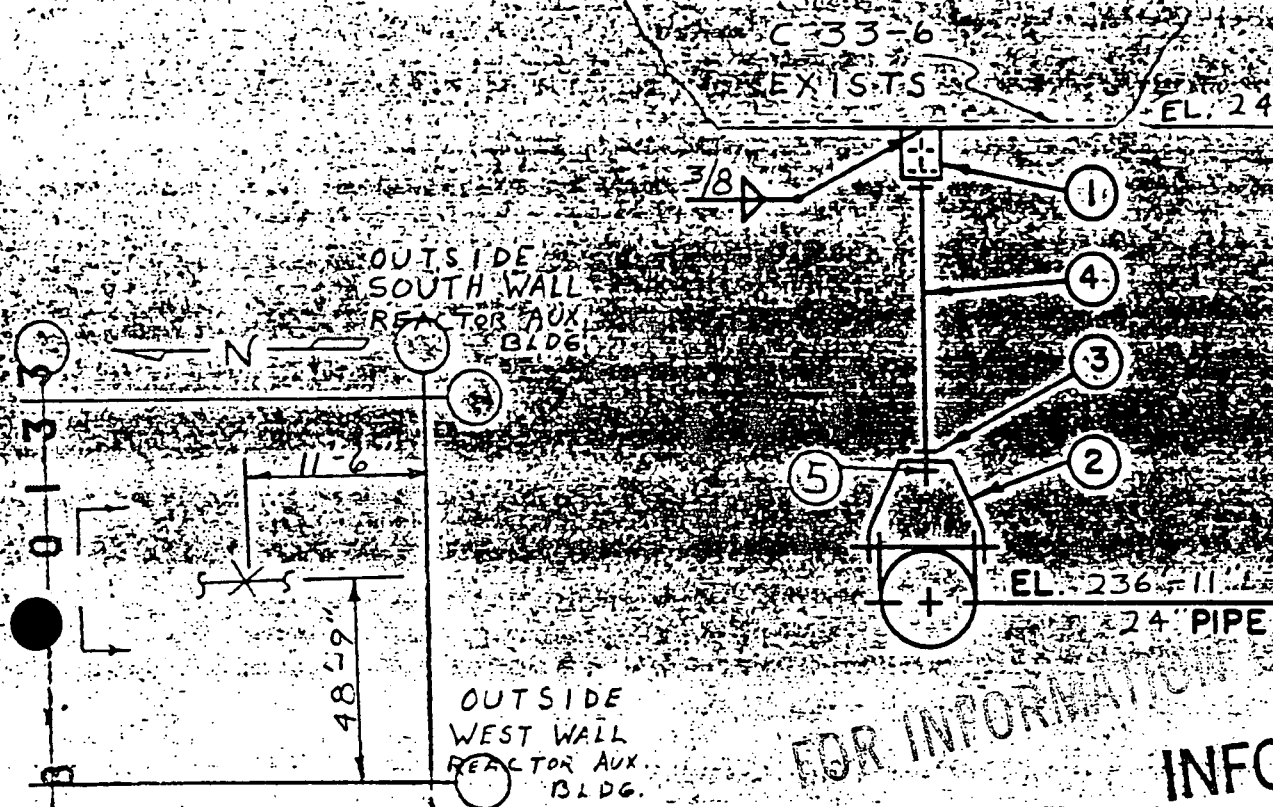
REVIEWER _____

DATE _____

ED

CUSTOMER B. F. SHAW
 ORDER OR CONT. NO. P. O. D-5930, D-5931
 J. NAME H. B. ROBINSON STATION UNIT #2
 HBR 91 0425135
 PIPE HANGER DEPARTMENT
 REDRAWN BY N.A.P. DATE 12-4-68
 REVISED BY DATE

CPL-325
 PT. "E"

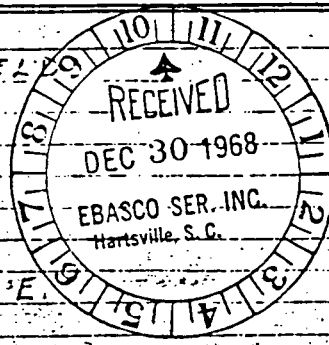


LOCATION PLAN

FOR INFORMATION
 INFO ONLY

APPROX. LD. 2400 LBS.

ITEM NO.	MATERIALS AND OPERATIONS	QUAN.	SHIP
	HANGER ASSEMBLY CONSISTING OF:	ONE	
1	1/4" Fig. 65	1	
2	24" Fig. 260	1	
3	1/4" Hex Nuts JAM	2	
5	1/4" HEX NUTS	2	
4	NEW MATERIAL 1/4" X 2'-5" FIG. 140 1/4" W/6" T.B.E.	1	
	Hanger Assembly Sketch & Engineering	1	
	Apply coat of iron oxide to above material except threads which shall be greased.		
	Mark: ACHB2		



SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-325-E

Visual Exam Report No. 1097-26

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN LOOSE NUT ON CLEVIS.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED,
NON-SEISMIC," DEAD WEIGHT SUPPORT. NUT ON CLEVIS IS NOT INVOLVED IN THE
LOAD TRANSFER. NUT TIGHTNESS IS REQUIRED TO PREVENT THE
SUPPORT GETTING DISCONNECTED DUE TO VIBRATION LOOSENING.

Clement Rajendra 14-20-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-28

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM:

COMPONENT

COMPONENT

COMPONENT COOLING

NAME: ROD HANGER

ID NO.: CPL-325-B

DWG./LOC.: CPL-325 Rev. 1 / COMPONENT COOLANT ROOM

☒ VT-3 PROCEDURE: SP 1097 ERD 44.92
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>LOOSE NUT-SEE ATTACHED SKETCH FOR LOCATION</u>
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>LOOSE NUT-SEE ATTACHED SKETCH FOR LOCATION</u>
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edmond R. Donovan

LEVEL: II

DATE: 4-4-92

REVIEWER: Art Purnan

LEVEL: II

DATE: 4-11-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

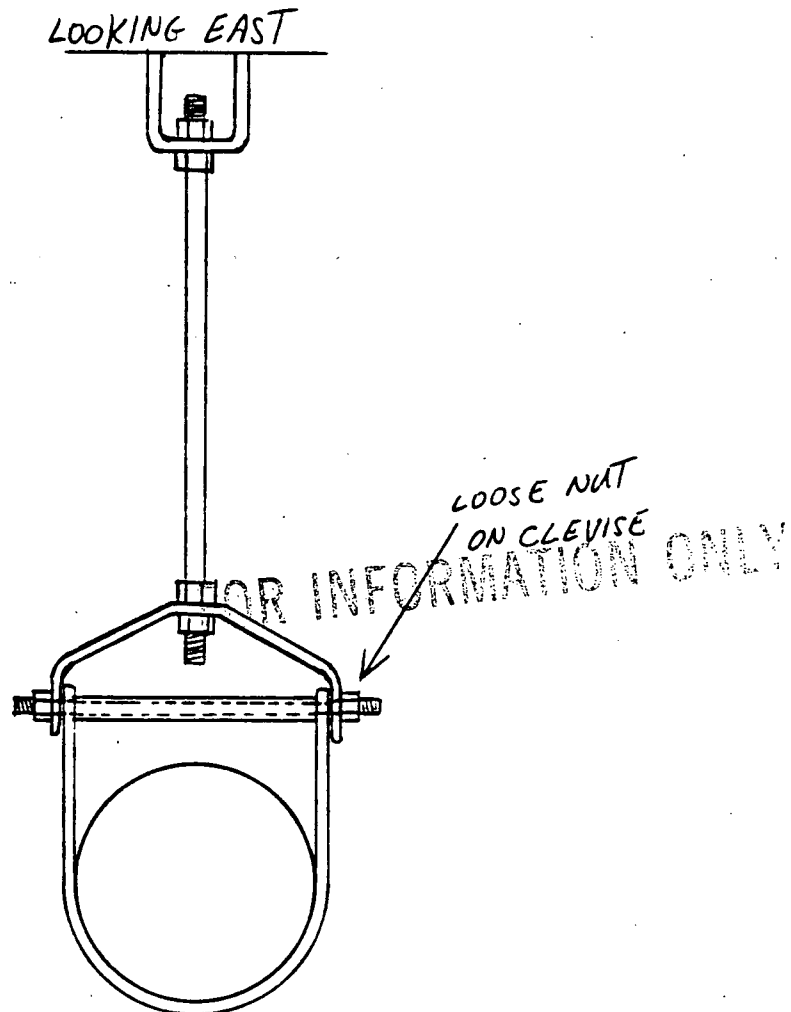
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1077-28EXAM ITEM CPL-325-GISO DWG. NO. CPL-325REV. 1

SKETCH SHEET

EXAMINER Charles R. DonovanLEVEL IIDATE 4-4-92EXAMINER NALEVEL NADATE NAREVIEWER Est. P. ...LEVEL IIDATE 4-6-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

F-101

GRINNELL

HBR 91 0425057

CUSTOMER B. F. SHAW

ORDER OR CONT. NO. P. O. D-5930, D-5931

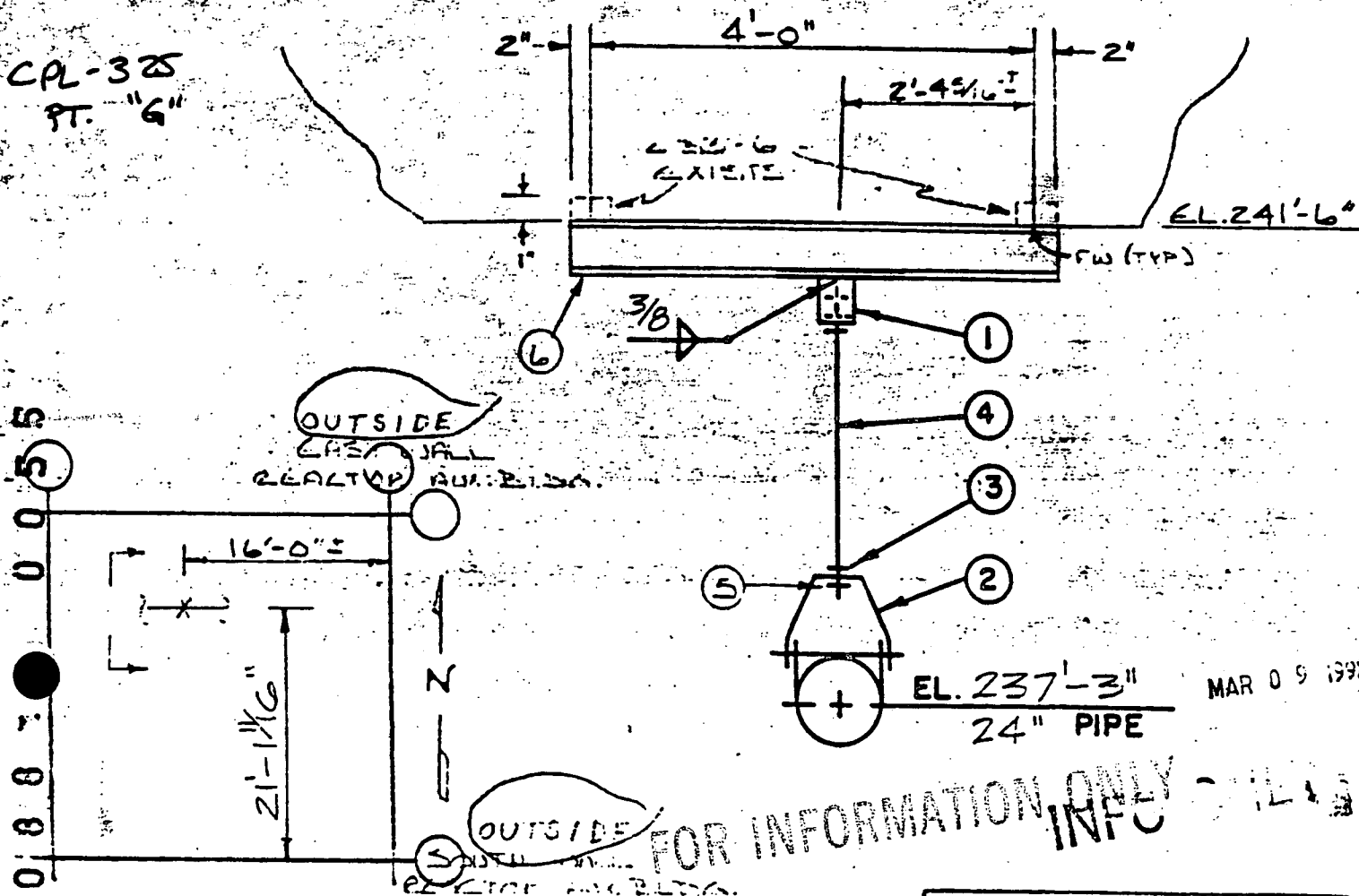
JOB NAME H-B. ROBINSON STATION UNIT #2

PIPE HANGER DEPARTMENT

DRAWN BY G. J. H. DATE 7-15-62

REVISED BY N. A. P. DATE 12-7-63

CL-325
PT. "G"



MAR 09 1962

FOR INFORMATION ONLY

APPROX LD = 4300 LBS.

ITEM NO.	MATERIALS AND OPERATIONS	QUAN.	SHII
1	HANGER ASSEMBLY - CONSISTING OF:	ONE	
2	1/4" Fig. 66	1	
3	24" Fig. 260	1	
4	1/4" Jam Nuts	2	
5	1/4" x 2'-3" Fig. 140 w/12" T.E.C.	2	
6	1/4" H-T NUTS	1	
	1 WIRE ROP 1/2" 1-1" LOWS TW-56"		
	Hanger Assembly Sketch & Engineering		
	Mark: AC-HIE		
	Apply coat of iron oxide to above material except threads which shall be greased		



SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-325-G ✓

Visual Exam Report No. 1097-28

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN LOOSE NUT ON CLEVIS.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED,
NON-SEISMIC " DEAD WEIGHT SUPPORT. NUT ON CLEVIS IS NOT
INVOLVED IN THE LOAD TRANSFER. NUT TIGHTNESS IS REQUIRED
TO PREVENT THE SUPPORT GETTING DISCONNECTED DUE TO
VIBRATION LOOSENING.

Clement Rajendra 14-20-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1091-95

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 1 2 1 PSI 1 ISI

SYSTEM: AUX FEED & COND. PIPE COMPONENT NAME: INTEGRAL SUPPORT COMPONENT ID NO.: CPL-331A-LUS-AA

DWG./LOC.: CPL-331A REV 1 / AUX FEED PUMP RM - T.B.

SP-1097 CN 4-9-92
VT-3 PROCEDURE: NDEP-613 REV.: 0 VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☐ MIRROR
☒ OTHER 6" Scale
TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT			<input checked="" type="checkbox"/>	N/A
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			PIPE IN AREA ADJACENT TO WELL IS LIGHTLY RUSTED.
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			SEE PAGE # 2
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	FOR INFORMATION ONLY
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details.

EXAMINER: Cliff Moss CN LEVEL: II DATE: 4-9-92

REVIEWER: Edward R. Doreau JR LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

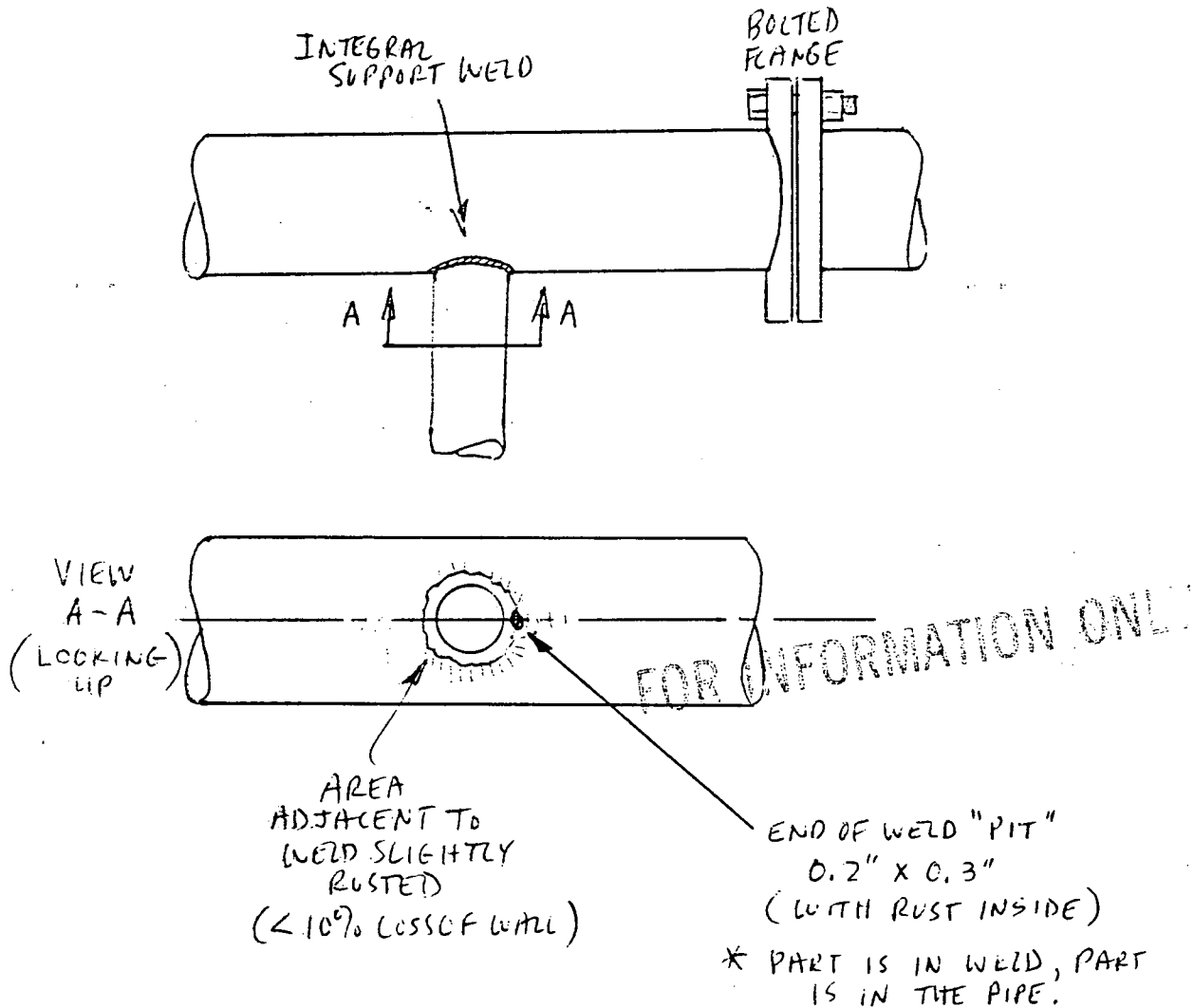
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-95EXAM ITEM CPL-331A-WS-AAISO DWG. NO. CPL-331A REV. 1

SKETCH SHEET



EXAMINER C. J. Miller
EXAMINER N/A
REVIEWER Edmund J. Dawson
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-9-92
DATE N/A
DATE 4-10-92

DM

CPL
Caroline Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-14

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: AUX F&C PIPE COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-331A-AA

DWG./LOC.: CPL-331A Rev 1 / M.D. AUX FEED PUMP RM-T.B.

X VT-3 PROCEDURE: SP-1047 @ 4-9-92 ~~NOEP-613~~ REV.: 0 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR TYPE OF COMPONENT SUPPORT:
[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] OTHER [] MECHANICAL SNUBBER [] VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	
MISALIGNMENT		<u>X</u>		<u>N/A</u>
DEBRIS		<u>X</u>		
CORROSION/EROSION	<u>X</u>			<u>* PIPE NEAR INTEGRAL WELD (UNDER PIPE RUN) IS LIGHTLY RUSTED. (<10% LOSS OF WALL)</u>
STRUCTURAL INTEGRITY		<u>X</u>		<u>FOR INFORMATION</u>
RESISTANCE TO MOVEMENT			<u>X</u>	<u>N/A</u>
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATION * PIPE FOR SUPPORT

EXAMINER: [Signature] LEVEL: II DATE: 4-9-92

REVIEWER: [Signature] LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

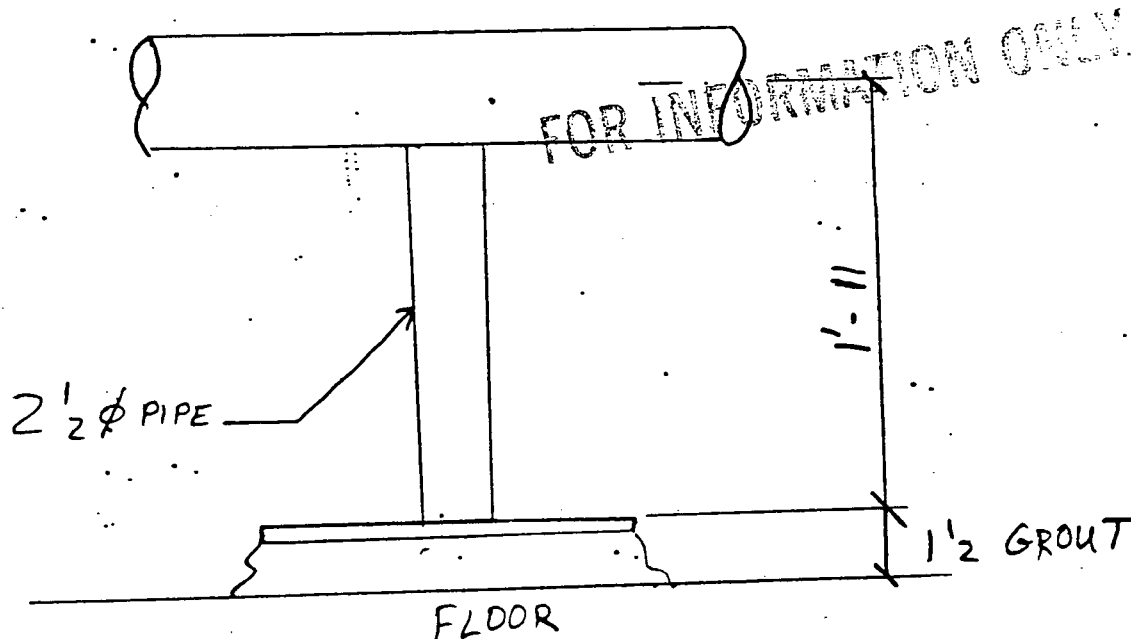
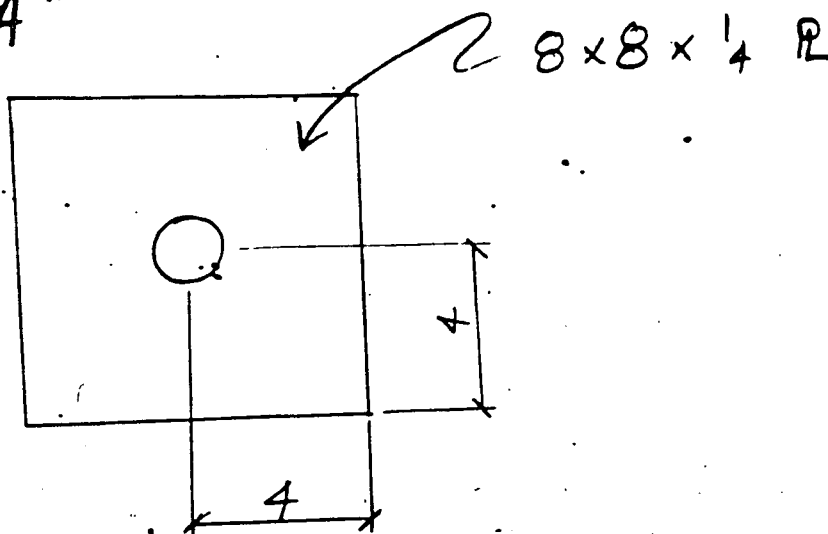
REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

SUPPORT "AA"
PT #6015

H15 & H16



Inspected By

Steve Spicer
Warner Turner

Date

8/26/86
8/28/86

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-WS-AA ✓
+ CPL-331A-AA ✓

Visual Exam Report No. 1097-95
41097-111

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. The indications noted are irrelevant to the structural integrity of the support.

Clement Rajendra
NED Engineer

14-21-92
Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-97

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: AUX FEED & COND. PIPE COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-331A-CC

DWG./LOC.: CPL-331A-Rev 1 / M.I.D. AUX FEED PUMP RM. - T.B.

☒ VT-3 PROCEDURE: SP-1097 @ 4-9-92 ~~NOEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:
☒ FLASHLIGHT ☐ MIRROR
☐ OTHER _____
TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			* PIPE AROUND WELD IS SLIGHTLY RUSTED (<10% LOSS OF WALL) * PIPE FOL SUPPORT
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A STROKE: N/A S/N N/A			

COMMENTS: RECORDABLE INDICATION

EXAMINER: [Signature] CR LEVEL: II DATE: 4-9-92

REVIEWER: [Signature] CR LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-78

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: AUX FEED & COND. PIPE COMPONENT NAME: INTEGRAL SUPPORT COMPONENT ID NO.: CPL-331A-WS-CC

DWG./LOC.: CPL-331A Rev 1 / AUX FEED PUMP RM. - T.B.

X VT-3 PROCEDURE: SP-1047 (en 4-9-92) NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT 1 MIRROR 1 OTHER TYPE OF COMPONENT SUPPORT: 1 HYDRAULIC SNUBBER 1 CONSTANT SUPPORT 1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>X</u>	
MISALIGNMENT			<u>X</u>	<u>N/A</u>
DEBRIS		<u>X</u>		
CORROSION/EROSION	<u>X</u>			AREA ADJACENT TO WELD IS LIGHTLY RUSTED. (< 10% LOSS OF WALL)
STRUCTURAL INTEGRITY		<u>X</u>		
RESISTANCE TO MOVEMENT			<u>X</u>	<u>N/A</u>
CLEARANCES OF MOVING PARTS			<u>X</u>	
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATION

EXAMINER: [Signature] LEVEL: II DATE: 4-9-92

REVIEWER: Edmund R. Donnan LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

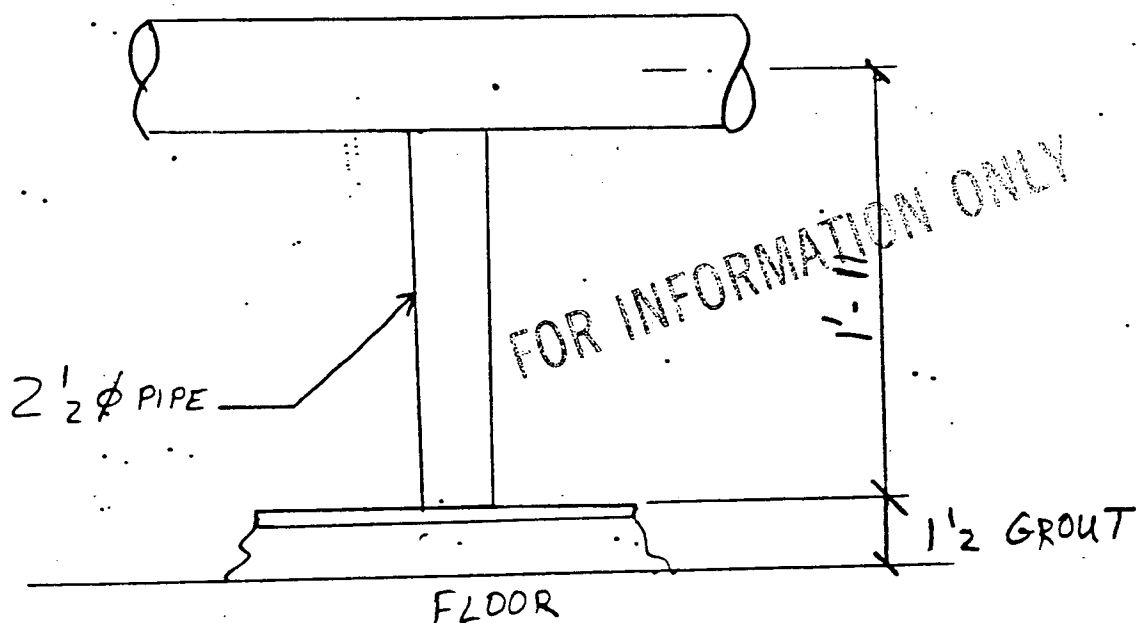
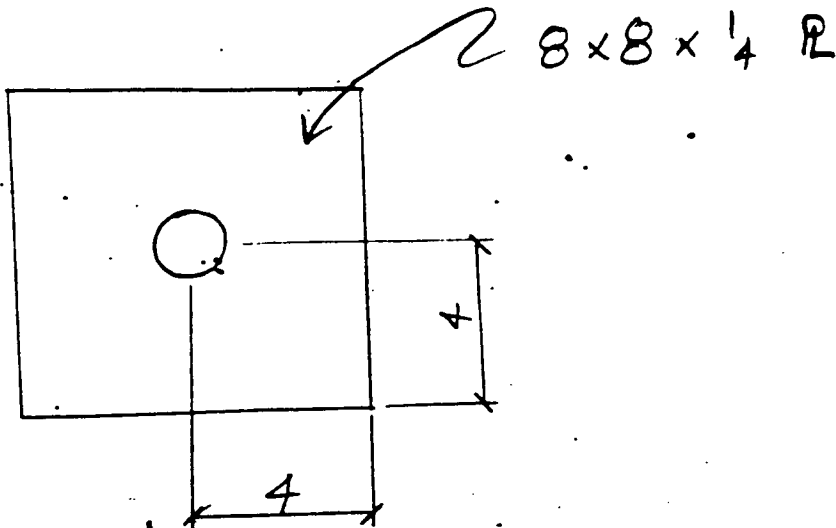
REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

SUPPORT "CC"
PT#6016

H15 & H16



Inspected By

Steve Spier
Walter Turner

Date

8/26/86
8/28/86

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331A-CC ✓
& CPL-331A-WS-CC ✓

Visual Exam Report No. 1097-97
+ 1097-98

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. The indications noted are irrelevant to the structural integrity of the support.

Clement Rajendra / 4-21-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-101

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>FEED WATER</u>	COMPONENT <u>INTEGRAL ATTACHMENT</u> NAME: <u>SNUBBER</u>	COMPONENT ID NO.: <u>CPL 332-B WS</u>
------------------------------	--	--

DWG./LOC.: CPL-332 REV-0 / TURBINE BLDG.

[X] VT-3 PROCEDURE: SP 1097 ERO 4-992
NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[X]</u> MIRROR <u>[]</u> OTHER _____	TYPE OF COMPONENT SUPPORT: <u>[X]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[]</u> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION	X			SEE ATTACHED SKETCH
STRUCTURAL INTEGRITY		X		
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edward R. Donovan LEVEL: II DATE: 4-9-92

REVIEWER: Art Purnan LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

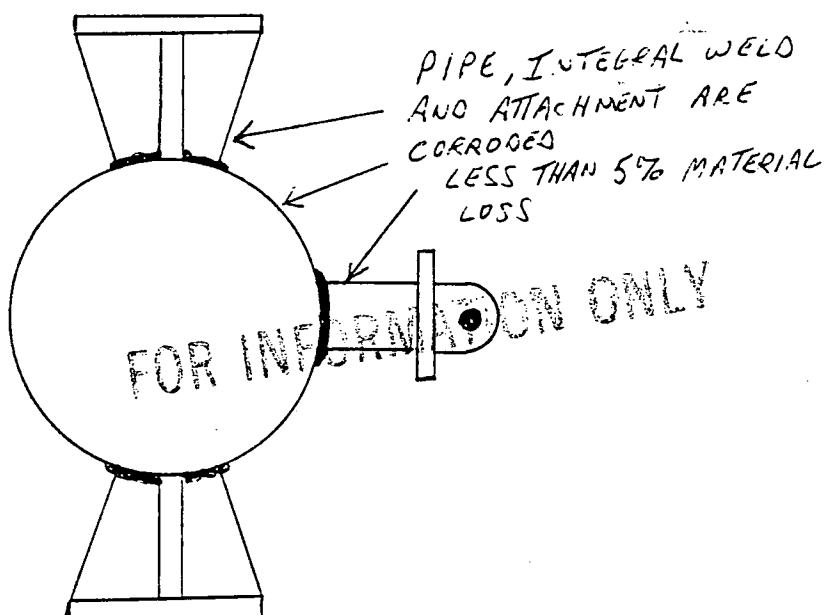
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097701EXAM ITEM CPL-332-B-WSISO DWG. NO. CPL-332 REV. 0

SKETCH SHEET

EXAMINER Edmund R. DownerLEVEL IIDATE 4-9-92EXAMINER N/ALEVEL NADATE NAREVIEWER Pat RumanLEVEL IIDATE 4-11-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

920

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-332-B-WS ✓

Visual Exam Report No. 1097-101

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SMALL AMOUNT OF RUST DOES NOT AFFECT THE STRUCTURAL
INTEGRITY OF A SUPPORT. RUST, IN FACT, WOULD FORM A PROTECTIVE
LAYER PREVENTING FURTHER CORROSION*. CLEANING THE RUST AND
RE-PAINTING THE SUPPORT DOES NOT NECESSARILY ENHANCE PROTECTION
UNLESS THE CLEANING IS VERY THOROUGH AND ALL RESIDUAL RUST
IS REMOVED. OTHERWISE CORROSION WILL CONTINUE WITH
ATTENDANT LOSS OF BASE MATERIAL.

(* DEPENDING ON ENVIRONMENTAL CONDITIONS)

Clement Rajendra 14-21-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-99

WR&A # N/A

PAGE 1 OF 2

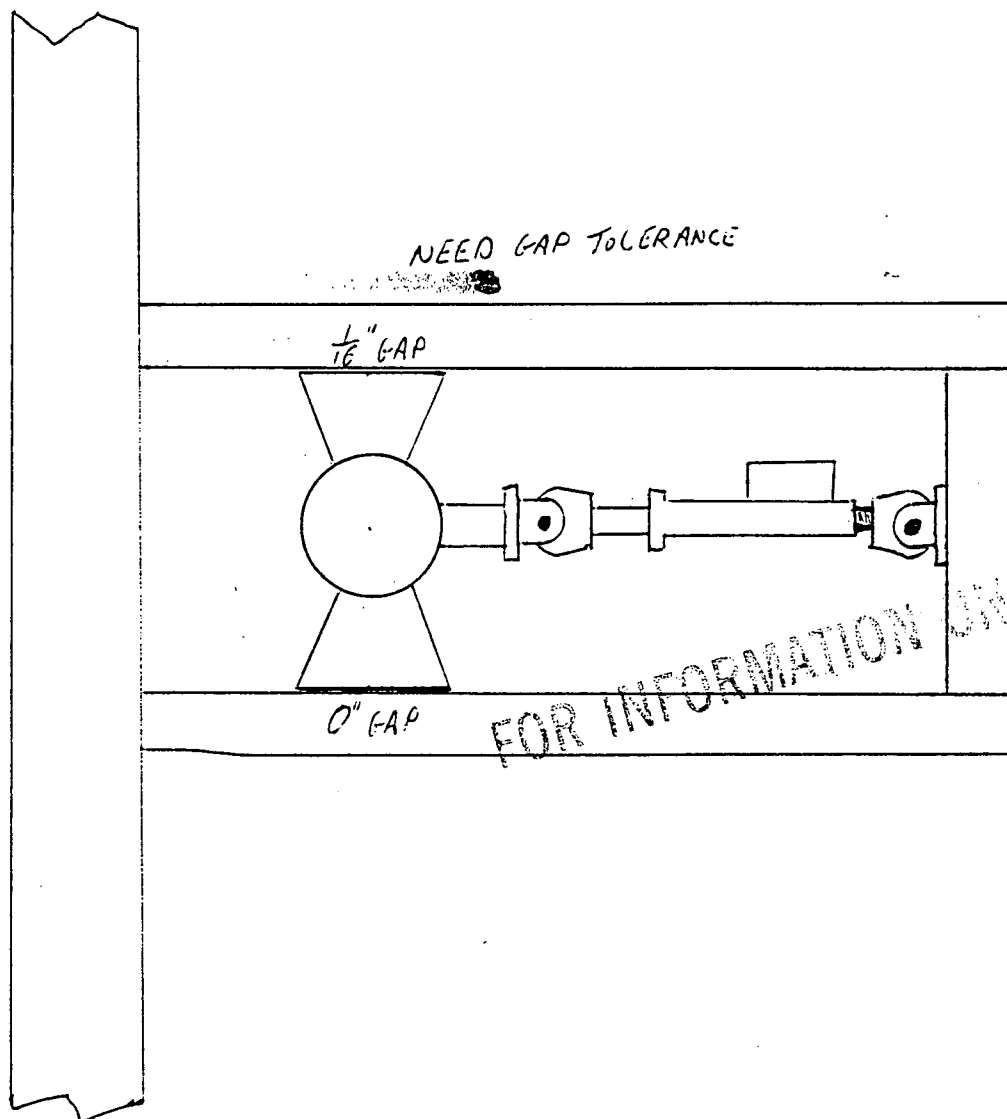
PLANT: <u>HB ROBINSON</u>		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>FEEDWATER</u>	COMPONENT NAME: <u>HYD. SNUBBER</u>	COMPONENT ID NO.: <u>CPL-332-B</u>	
DWG./LOC.: <u>CPL-332 REV-D / TURBINE BLDG.</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP-1097 ERO 4-10-92</u> NDEP-613 REV.: <u>0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u>6" SCALE</u>		TYPE OF COMPONENT SUPPORT: <input checked="" type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES		<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>	
CORROSION/EROSION <u>ERO 4-9-92</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>		<u>SEE ATTACHED SKETCH FOR GAPS</u>
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>3 1/8" OF RAM</u> <u>2 1/2" TO PIN</u>	STROKE: <u>5"</u>	S/N <u>30084</u>
COMMENTS: <u>RECORDABLE INDICATION RESERVOIR IS 3/4 FULL</u>			
EXAMINER: <u>Edmund L. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-9-92</u>	
REVIEWER: <u>Art Ruman</u> <u>DR</u>	LEVEL: <u>II</u>	DATE: <u>4-11-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY:			
REVIEWERS COMMENTS:			
ANII REVIEW: DATE:			

1125

PAGE 2 OF 2DATA SHEET NO. 1097-99EXAM ITEM CPL-332-BISO DWG. NO. CPL 332 REV. 0

SKETCH SHEET

I BEAM

EXAMINER Edward R. DonovanEXAMINER NAREVIEWER Art Tamm

REVIEWER _____

REVIEWER _____

EDRLEVEL IILEVEL NALEVEL II

DATE _____

DATE _____

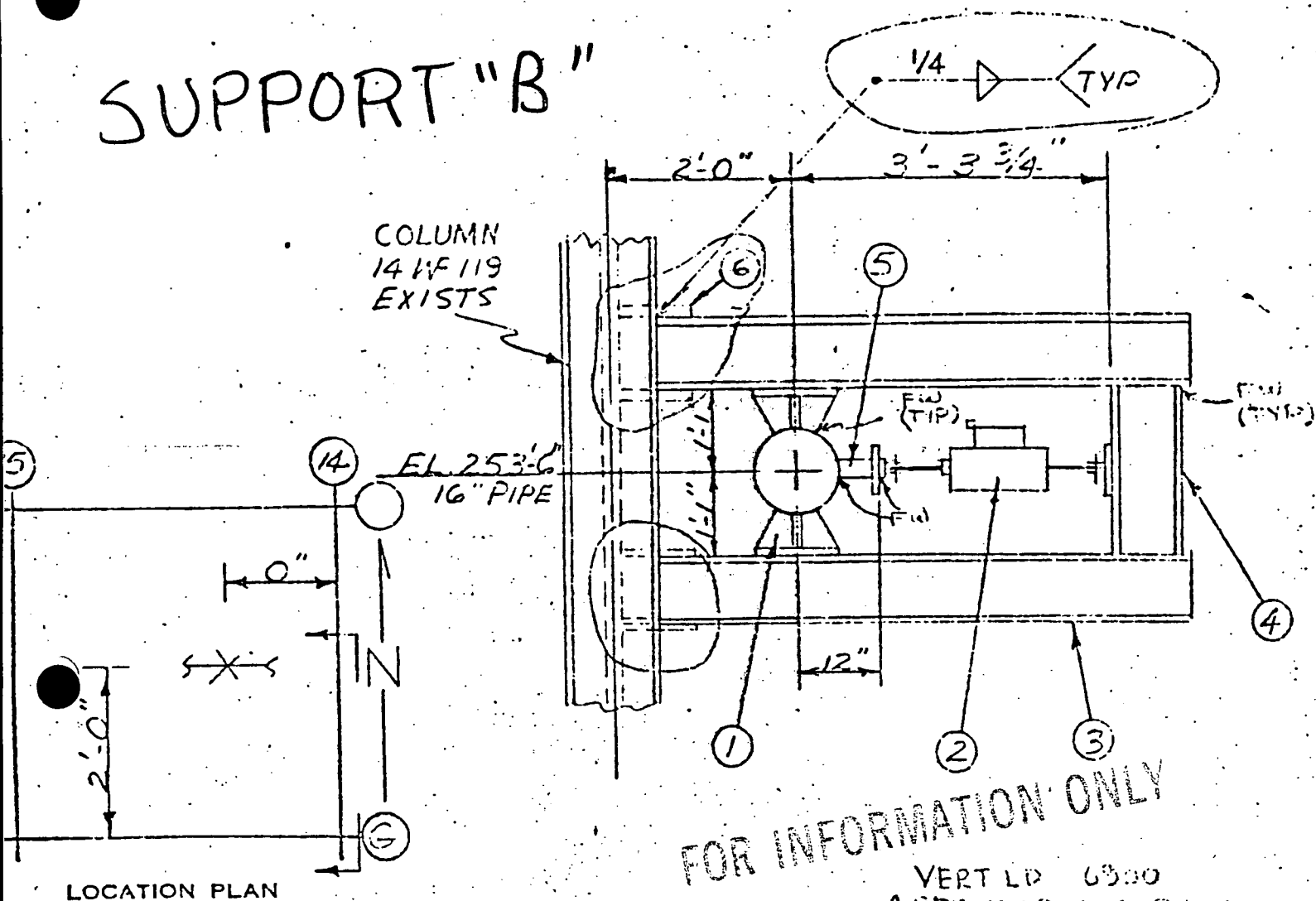
DATE 4-9-92DATE NADATE 4-11-92

PIPE HANGER DEPARTMENT
 DRAWN BY 16-PT DATE 4-2-69
 REVISED BY 2-2-69 DATE 6-2-69

PIPE HANGER DEPARTMENT

DRAWN BY 16-PT DATE 4-2-69REVISED BY 2-2-69 DATE 6-2-69

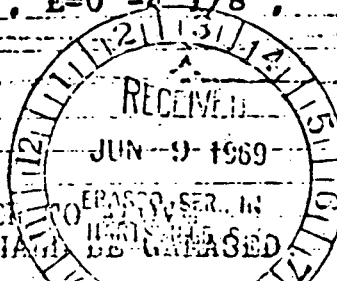
SUPPORT "B"



FOR INFORMATION ONLY

VERT LD 6300
APPROX LD N-S 8000

MATERIALS AND OPERATIONS		QUAN.	SHIP.
PIPE RESTRAINT CONSISTING OF:		ONE	
1	Saddles/Sk. 570 T.W.-80#	2	
2	Fig. 200 Hydraulic Shackle & Sway Suppressor 2 1/2" Cycle, 5" Cylinder Stroke, w/1 Piston Rod end less Pipe Clamp and Additional Rear Bracket, Load 8,400 C.P.S. 2 3/8" H.P.S. 2 7/8"	1	
3	6" Wide Flange @ 15.5#/Ft. 5'-3" Long T.W.-163#	2	
4	6" Wide Flange @ 15.5#/Ft. 2'-2" Long T.W.-34#	1	
5	H.S. 63 C.S. 5" Stan. 16" Pipe, D=1'-0", E=0'-4 1/8", G=3/8"x10"x10", T.W.-16#	1	
6	PX7Sk 551-A TW-76 HAS&E	4	
Mark: FWR-24		1	
APPLY COAT OF RED CHROMATE PRIMER TO MATERIAL EXCEPT THREADS WHICH SHALL BE OILED			



SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-332-B ✓

Visual Exam Report No. 1097-99

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH
VERTICAL AND HORIZONTAL RESTRAINTS. REF. STRESS ISO FW-6A, DP 1011.
THE CLEARANCES MEET TOLERANCES OF SPEC. CPL-HBR2-C-011.

Clement Rajendra / 4-21-92
NED Engineer Date



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-104

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AUX FEEDWATER</u>	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-334A-A</u>
---------------------------------	--------------------------------------	--

DWG./LOC.: CPL 334A REV-0 / TURBINE BLOC

[X] VT-3 PROCEDURE: SP 1097 ERO 49.92 WEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MISALIGNMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edmund E. Donovan LEVEL: II DATE: 4-9-92

REVIEWER: Pat Pinner DN LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS: no Dng

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-108EXAM ITEM CPL 334A-AISO DWG. NO. CPL 334A REV. 0

SKETCH SHEET

JAM NUT
IS NOT TIGHT
AGAINST ANGLE IRON
NUT IS TIGHT ON ROD

FOR INFORMATION ONLY

IN PROPER
INSTALLATION
OF CLEVIS

EXAMINER Charles E. Dawson
EXAMINER N/A
REVIEWER 1st Person
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL III
DATE _____
DATE _____

DATE 4-9-92
DATE N/A
DATE 4-11-92

DM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-334A-A

Visual Exam Report No. 1097-108

- ☐ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☒ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE CLEVIS AND RE-INSTALL WITH UPPER HALF MATED ON
THE OUTSIDE OF BOTTOM U-STRAP. TIGHTEN JAM NUT.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC"
DEAD WEIGHT SUPPORT. SUPPORT IS ALREADY CARRYING DEAD LOAD
WITHOUT DISTRESS AND IS THEREFORE FUNCTIONAL.

Clement Rajendra 14-21-92
NED Engineer Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-109

WR&A # 4

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AUX FEEDWATER</u>	COMPONENT NAME: <u>RESTRAINT</u>	COMPONENT ID NO.: <u>CPL-334B-A</u>
---------------------------------	-------------------------------------	--

DWG./LOC.: CPL 334B REV-0 / AUX FEED PUMP ROOM

[X] VT-3 PROCEDURE: SP 1097 ERO 4-9-92
~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.: 0

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <u>[X]</u> FLASHLIGHT <u>[X]</u> MIRROR <u>[]</u> OTHER _____	TYPE OF COMPONENT SUPPORT: <u>[]</u> HYDRAULIC SNUBBER <u>[]</u> CONSTANT SUPPORT <u>[]</u> MECHANICAL SNUBBER <u>[]</u> VARIABLE SUPPORT <u>[X]</u> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<u>X</u>			<u>SEE ATTACHED SKETCH</u> <u>FOR INFORMATION ONLY</u>
MISALIGNMENT		<u>X</u>		
DEBRIS		<u>X</u>		
CORROSION/EROSION		<u>X</u>		
STRUCTURAL INTEGRITY	<u>X</u>			<u>SEE ATTACHED SKETCH</u>
RESISTANCE TO MOVEMENT			<u>X</u>	
CLEARANCES OF MOVING PARTS		<u>X</u>		
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edward R. Donovan LEVEL: II DATE: 4-9-92

REVIEWER: W. P. ... DN LEVEL: III DATE: 4-11-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

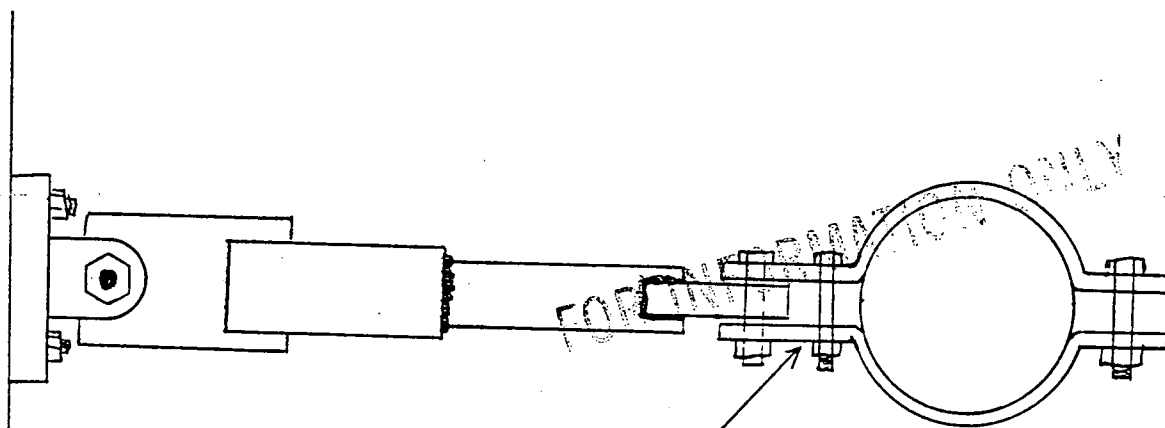
REVIEWERS COMMENTS: no Dwg

ANII REVIEW: _____ DATE: _____

1125

PAGE 2 OF 2DATA SHEET NO. 1097-109EXAM ITEM CPL-3348-AISO DWG. NO. CPL 3348 REV. 0

SKETCH SHEET



NO PIPE
CLAMP SPACER INSTALLED

EXAMINER Edmund R. Doreau
EXAMINER NA
REVIEWER Oct. P...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 4-9-92
DATE NA
DATE 4-11-92

EDW

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-334B-A

Visual Exam Report No. 1097-109

- ☐ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☒ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE CLAMP SPACER.

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC RESTRAINT. REF.
STRESS ISO FW-2, SHT. 4 ; DP 1535. CLAMP SPACER DOES NOT
CONTRIBUTE TO STRUCTURAL INTEGRITY, ITS FUNCTION IS TO PREVENT
OVERTIGHTENING OF CLAMP BOLTS.

Clement Rajendra / 4-21-92
NED Engineer Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-30

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 239-D</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 239 REV 0 / SI PUMP RM

[X] VT-3 PROCEDURE: ^{SP1097 AP4-6-92}~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: CLAMP DOES NOT CONTACT PIPE IN MORE THAN ONE PLACE.
CLAMP DIAMETER IS 1" LARGER THAN PIPE.
RECORDABLE INDICATIONS.

EXAMINER: Get Pinner LEVEL: II DATE: 4-6-92

REVIEWER: Edmund R. Donora LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

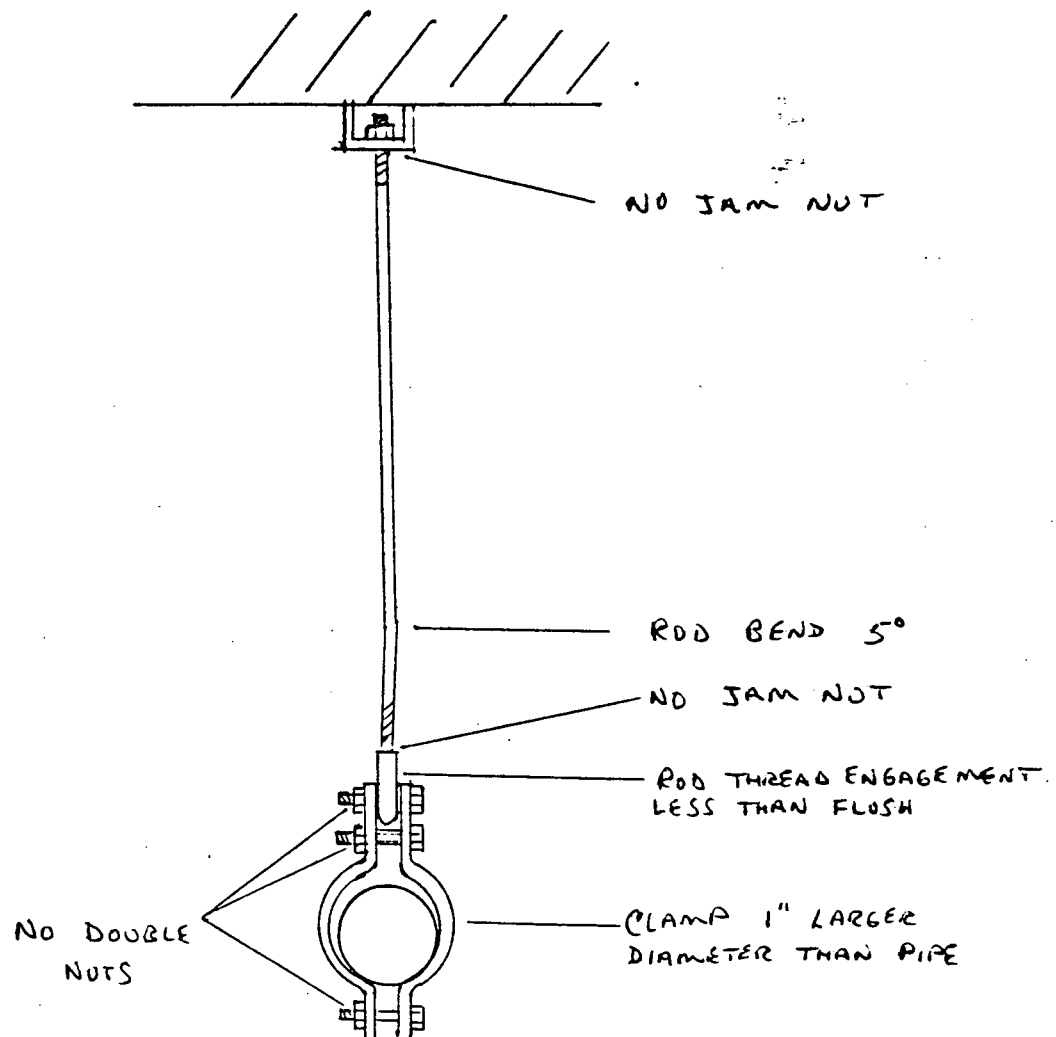
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1077-50EXAM ITEM CPL 239 -DISO DWG. NO. CPL 239 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER

Cert PinnerLEVEL II

EXAMINER

N/ALEVEL N/A

REVIEWER

Edward R. DawsonLEVEL II

REVIEWER

DATE

REVIEWER

DATE

DATE 4-6-92DATE N/ADATE 4-7-92OW

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-239-D ✓

Visual Exam Report No. 1097-50

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE JAM NUTS FOR THREADED ROD.

Basis:

THIS SUPPORT IS CLASSIFIED AS "NON-SAFETY RELATED, NON-SEISMIC", DEAD WEIGHT SUPPORT. THE SUPPORT IS CARRYING THE LOAD WITHOUT DISTRESS AND IS THEREFORE FUNCTIONAL. JAM NUTS SHOULD BE REPLACED BECAUSE THERE IS A POTENTIAL FOR SUPPORT TO GET DISCONNECTED DUE TO VIBRATION LOOSENING.

Clement Rajendra 14-21-92
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-63

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-327-P</u>
-------------------------------------	--------------------------------------	---------------------------------------

DWG./LOC.: CPL-327 REV-0 / SFP HX ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 4-7-92
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Charles R. D... LEVEL: II DATE: 4-7-92

REVIEWER: Carl P. F... LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

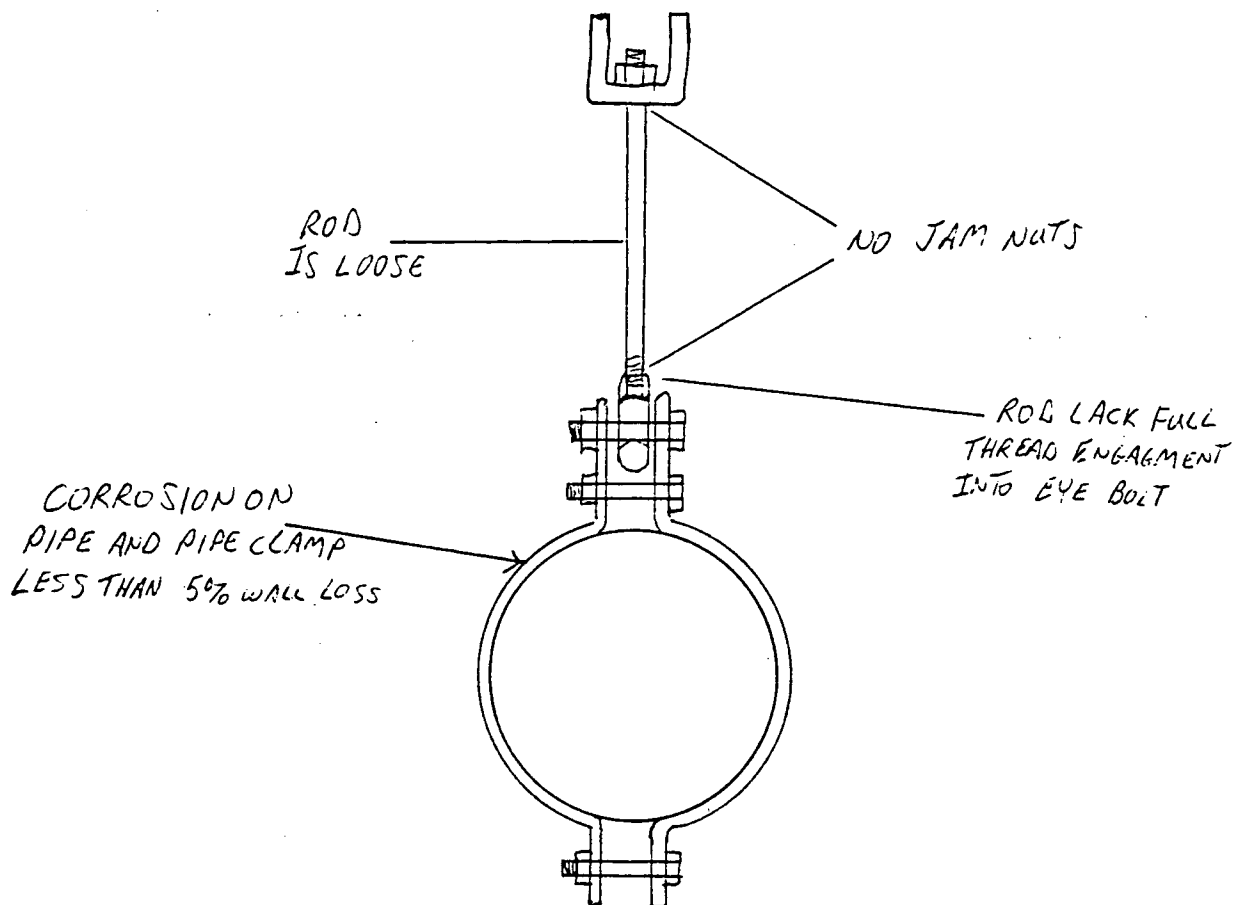
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-63EXAM ITEM CPL-327-PISO DWG. NO. CPL 327 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edmund R. DonovanEXAMINER NAREVIEWER Art P...

REVIEWER _____

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL NALEVEL II

DATE _____

DATE _____

DATE 4-7-92DATE NADATE 4-9-92AW

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-P ✓

Visual Exam Report No. 1097-63

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [X] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE JAM NUTS FOR THREADED ROD. TIGHTEN THREADED
ROD TO PROVIDE FULL THREAD ENGAGEMENT IN WELDLESS EYE
NUT.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC",
DEAD WEIGHT SUPPORT. SUPPORT IS CURRENTLY CARRYING DEAD
LOAD AND IS THEREFORE FUNCTIONAL. JAM NUTS NOT INVOLVED IN
LOAD CARRYING FUNCTION BUT REQUIRED TO PREVENT SUPPORT FROM
GETTING DISCONNECTED BY VIBRATION LOOSENING. MINOR CORROSION
DOES NOT AFFECT STRUCTURAL INTEGRITY OF SUPPORT.

Clement Rajendra / 4-21-92
NED Engineer Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-93

WR&A # N/A

PAGE 1 OF 2

PLANT: <u>HB ROBINSON</u>		UNIT <u>[] 1 [X] 2 []</u> PSI <u>[X] ISI</u>	
SYSTEM: <u>SERVICE COOLING WATER</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-315-A</u>	
DWG./LOC.: <u>CPL 315 REV-1 / AUX HALLWAY</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1097 ERO 4-7-92</u> <u>NDEP-613 REV.: 0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		FOR INFORMATION ONLY!
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			
COMMENTS: <u>NO RECORDABLE INDICATIONS</u>				

EXAMINER: <u>Edmund R. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-7-92</u>
REVIEWER: <u>Art Pinner</u> <i>AP</i>	LEVEL: <u>II</u>	DATE: <u>4-11-92</u>

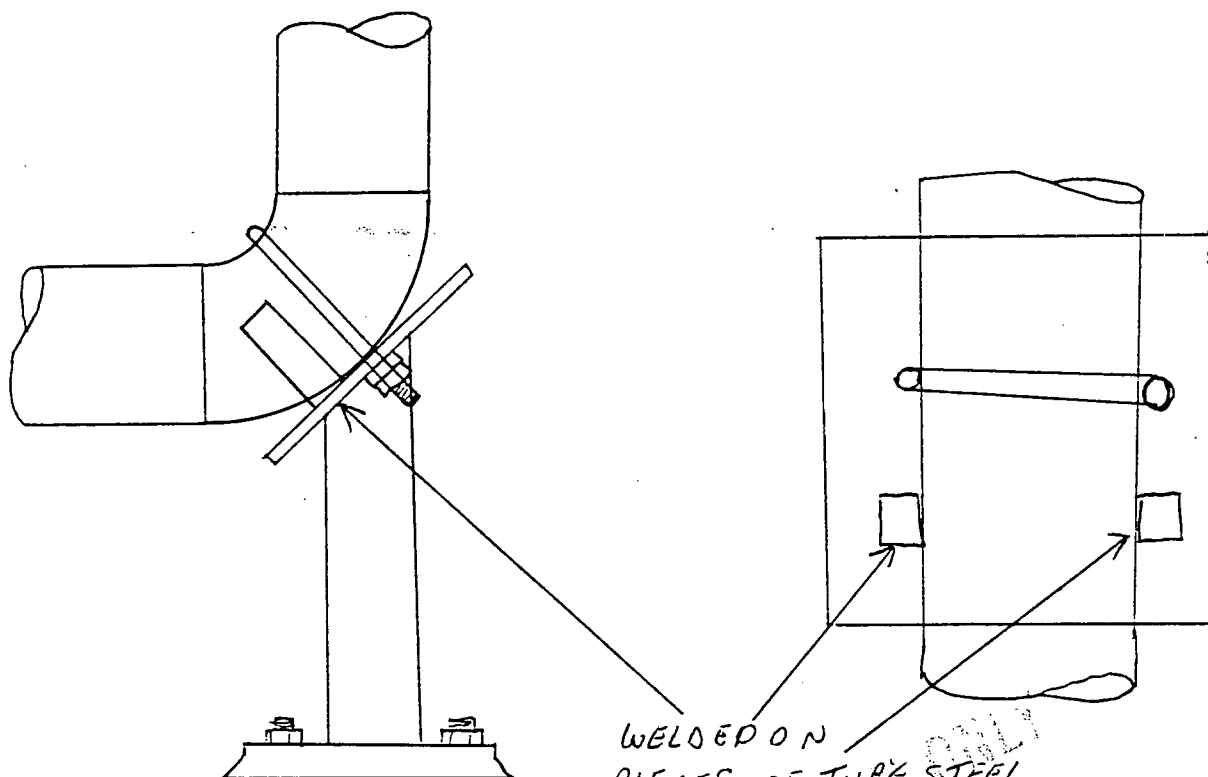
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY
REVIEWED BY: _____
REVIEWERS COMMENTS: _____
ANII REVIEW: _____

*CPL 315A
12-2-83
2 PIECES OF TUBE
STEEL WELDED
TO U BOLT PLATE*

1125

PAGE 2 OF 2DATA SHEET NO. 1097-93EXAM ITEM CPL-315-AISO DWG. NO. CPL 315 REV. 1

SKETCH SHEET



WELDED ON
PIECES OF TUBE STEEL
NOT SHOWN ON DRAWING

FOR INFORMATION ONLY

EXAMINER Edmund L. DownerEXAMINER NAREVIEWER Art Pinner

REVIEWER _____

REVIEWER _____

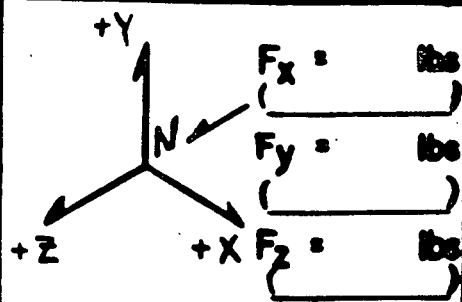
anLEVEL IILEVEL NALEVEL II

DATE _____

DATE _____

DATE 4792DATE NADATE 4-11-82

12-CW-166-BC-147
(m)



RESTRAINT LOCATION:
SEE ISO NO. SW-3
PT NO. PT-C

REACTOR AUX. BLDG.
BETWEEN SERVICE
WATER BOOSTER
PUMPS A & B

LOAD CASE DBE
EBASCO CHART METHOD
(GRINNELL DSN LOAD)

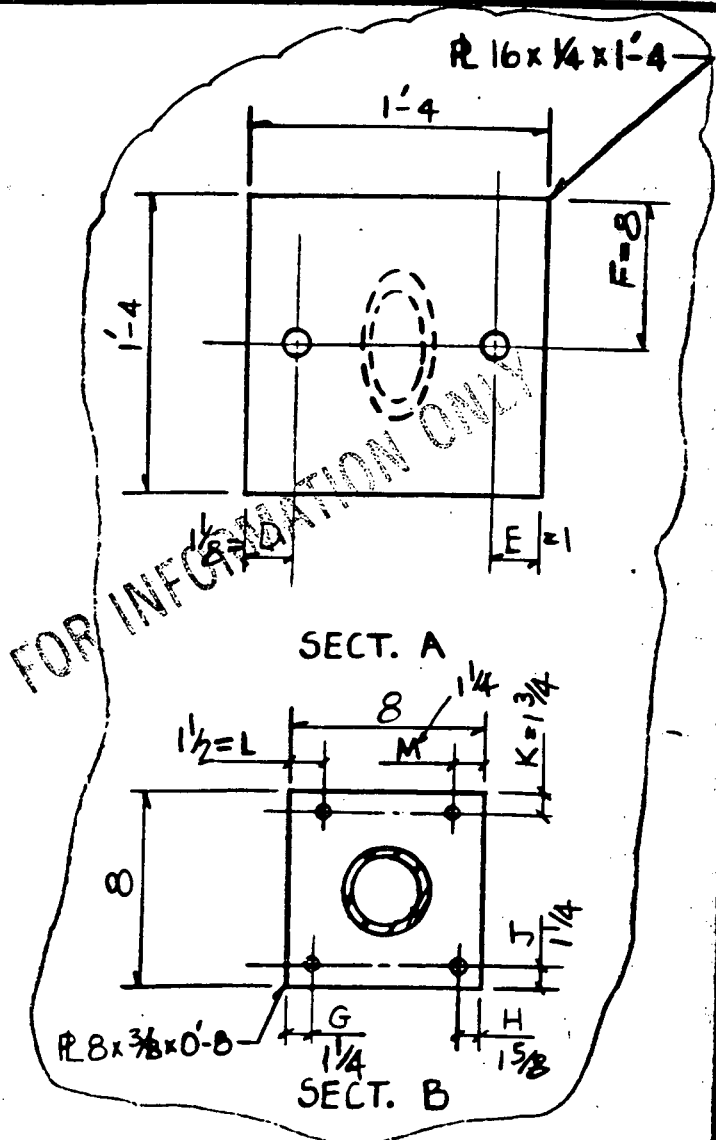
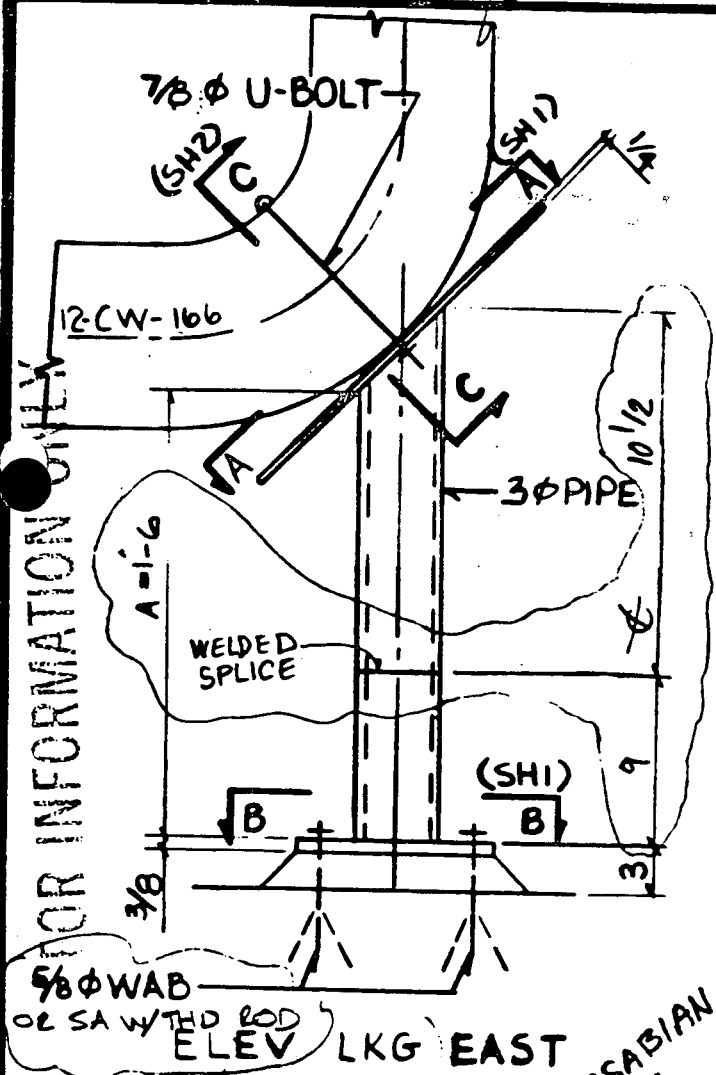
REST. CALC. NO. DPW-6

**BASE PLATE
IDENTIFICATION**

DESIGN LOADS

MOD. NO N/A

PMR NO N/A



FOR INFORMATION ONLY

FOR INFORMATION ONLY

N. GHASSABIAN
1-18-84

GENERAL NOTES: SEE SK-AB-CAR-AB-1

REV	DATE	BY	CHK	APP'D

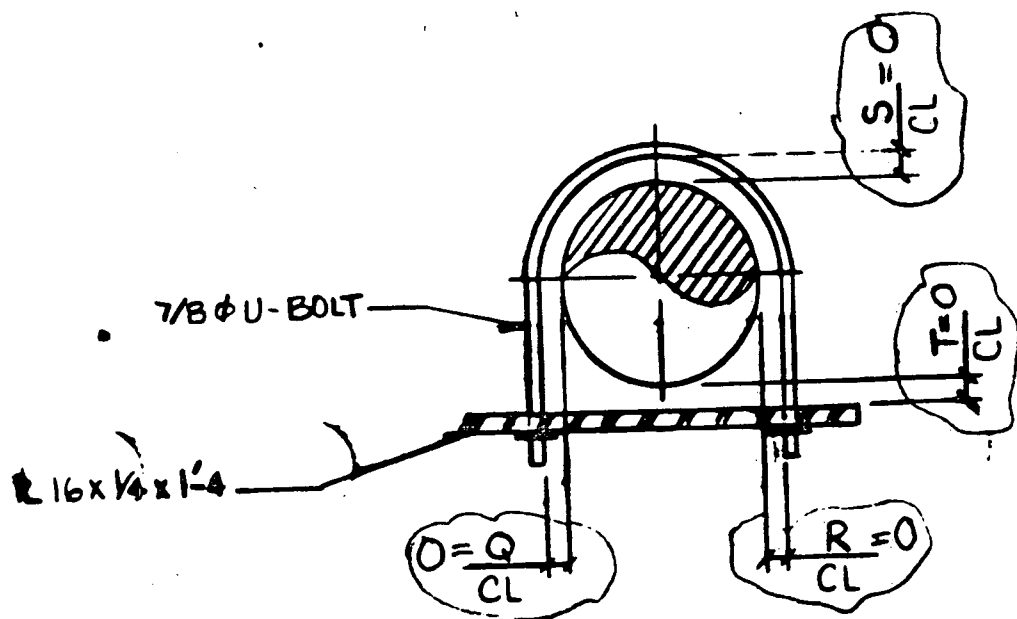
EBASCO SERVICES INCORPORATED

DIV. <u>CIVIL</u>	DR. <u>RM</u>	APPROVED
DATE <u> </u>	CH. <u>NG</u>	
SCALE <u>NTS</u>		

H.B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: SERVICE WATER
ISO NO./POINT NO. SW-3/PT-C

AB-CAR-
SW-3-PT-C
SH. 1 OF 2

PT #1835



SECT C

SUPPORT "A"

N. GHASSABIAN
1-18-84

FOR INFORMATION ONLY

FOR INFORMATION ONLY

PRELIMINARY 12-2-83

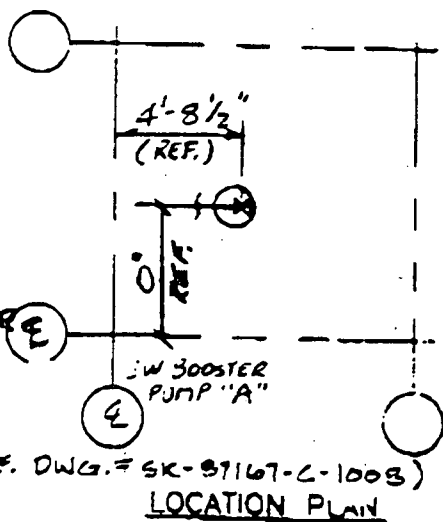
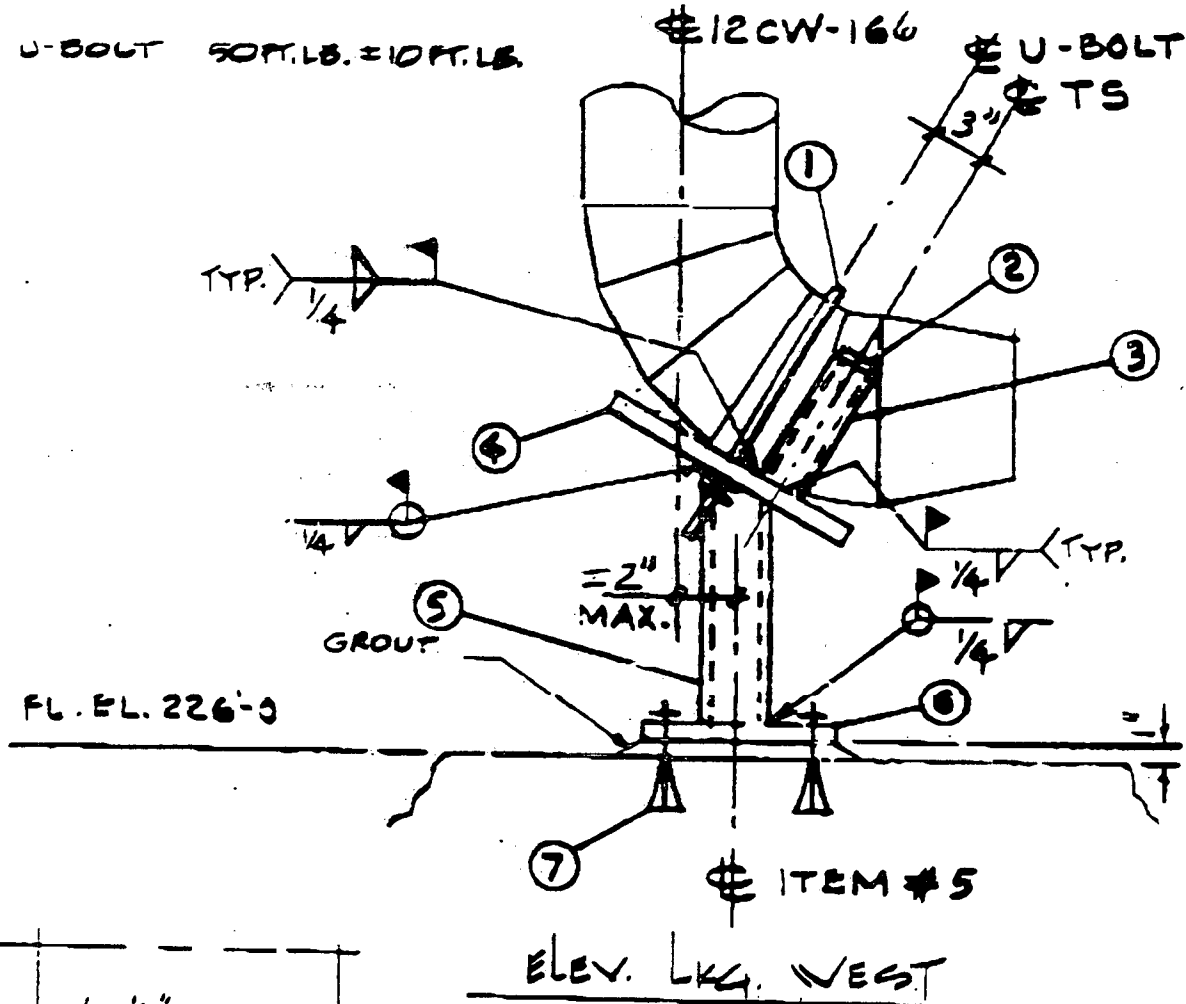
REV	DATE	BY	CHK	APP'D

EBASCO SERVICES INCORPORATED		H.B. ROBINSON - UNIT 2		AB-CAR-SW-3-PTC SH. 2 OF 2
DIV. CIVIL DR. RM	APPROVED	AS-BUILT RESTRAINT SKETCH		
DATE CH. NG		SYSTEM: SERVICE WATER		
SCALE NTS		ISO NO./POINT NO. SW-3/PTC		

ITEM NO.	QTY	PART NO.	DESCRIPTION
1	1	SP6500	A-7 Long Tapered U-Bolt, Pipe O.D. = 12 3/4"
2	2	—	1/4 x 12 x 3/4 Lg. A-36
3	2	—	TS 2x2x.25 x 9" Lg. A-500-GRB
4	1	—	R 1x14 x 18" Lg. A-36
5	1	—	TS 4x4 x .25 x 1'-6 7/8" LG (CUT TO SUIT) A-500 GR.B
6	1	—	R 3/4" x 16 1/2" x 1'-4 1/2" LG. A-36
7	4	WS-3470	3/4" PHILLIPS WEDGE ANCHORS EMB. = 3 1/4" (MIN.)

NOTES:

- 1) TORQUE U-BOLT 50 FT. LB. ± 10 FT. LB.
- 2)



M-1001 AS-BUILT		REV. 1		REV. 2		REV. 3		REV. 4		REV. 5	
NUCLEAR SAFETY RELATED											
CAROLINA POWER & LIGHT COMPANY											
NUCLEAR ENGINEERING DEPARTMENT - RALEIGH, N.C.											
PLANT: H.B. Robinson, Unit 2											
SERVICE WATER SUPPORT / RESTRAINT											
SW-3-1835											
SCALE: N/A											
REV. NO. 1											

REFERENCE DOCUMENTS

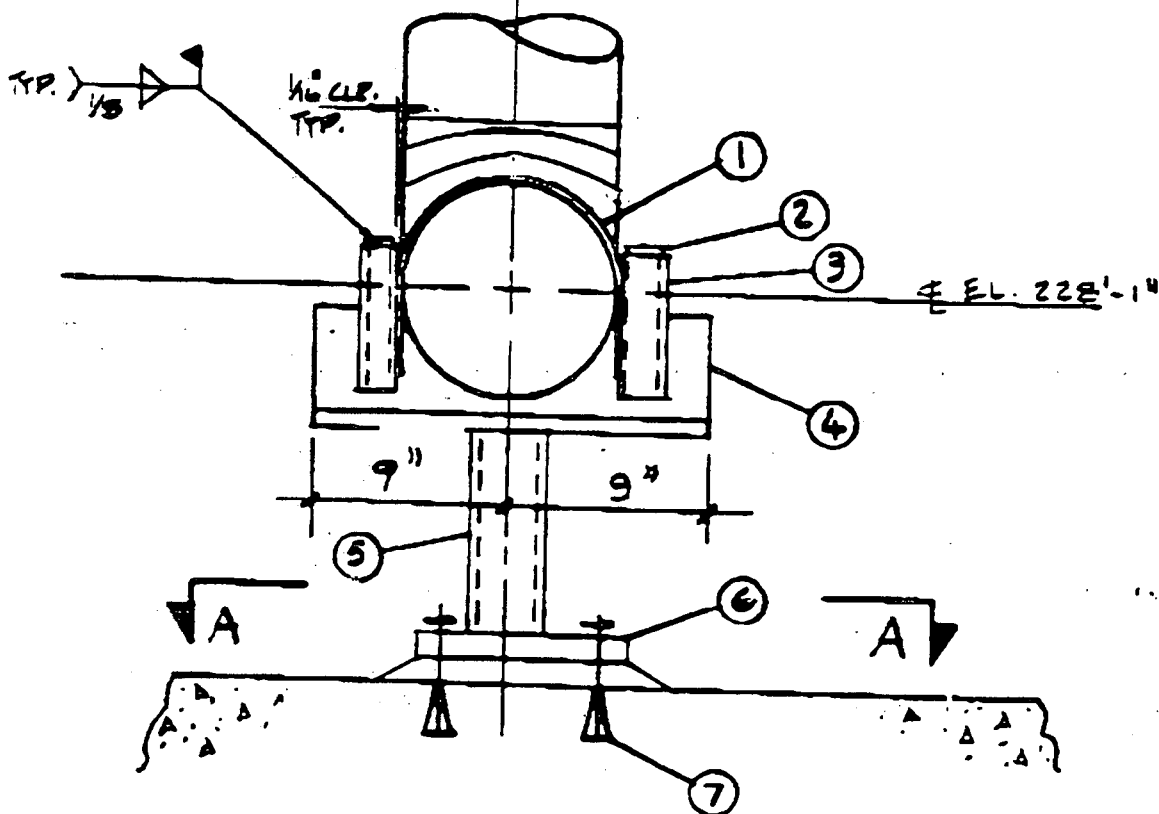
PI DWG. 6-190229
 CIVIL DWG. 6-190400
 STRESS CALC. 7102
 SUPPORT CALC. RNP-3/50FT-1014

REV. 1
 REV. 2
 REV. 3
 REV. 4
 REV. 5

NOTE: ITEM # 2 AND WELDS
BETWEEN ITEMS 2 & 3
ARE NON-STRUCTURAL,
NO INSPECTION REQ'D.

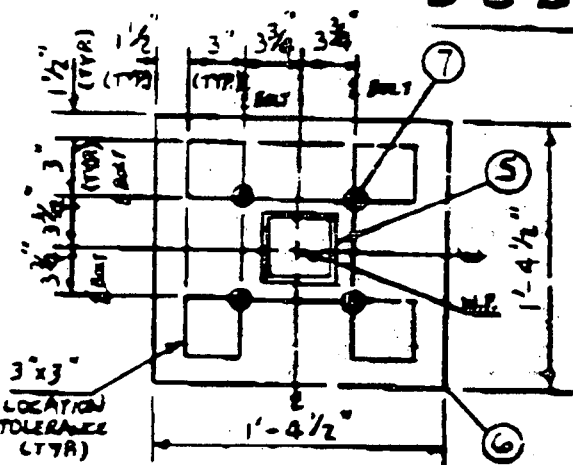
REV.	DATE	DESCRIPTION	DESIGN	CHK	APP	LE

Ø 12CW-166 & ITEM #5



ELEV. LKG. SOUTH

BASEPLATE NOTES: 1) PLATE DIMENSIONS ARE PRELIMINARY. DIMENSIONS MAY BE ADJUSTED BY FIELD AS LONG AS 1 1/2" EDGE DISTANCE IS MAINTAINED.
2) IF BOLT LOCATION FALLS OUTSIDE TOLERANCE ZONE, AS-BUILT ANCHOR LOCATIONS SHALL BE SUBMITTED TO NED FOR RE-EVALUATION.
3) CENTER LINE OF ITEM 5 MUST BE LOCATED WITHIN 1/2" OF N.P.



SECTION A-A

1	5/8/91	M-1001 AS-BUILT	DESIGN	CHK	APP	LE
REV.	DATE	DESCRIPTION	DESIGN	CHK	APP	LE
PROFESSIONAL ENGINEER			REG. NO.			
DPE						
NUCLEAR SAFETY RELATED						
CAROLINA POWER & LIGHT COMPANY						
NUCLEAR ENGINEERING DEPARTMENT-RALEIGH, N.C.						
PLANT: H.B. ROBINSON, UNIT 2						
SERVICE WATER						
SUPPORT / RESTRAINT						
Dwg. No. SW-3-1835			NA			

Calc. I.D. # RNP-S/302T-1014 Rev. --
HARVEY REPROGRAPHICS, INC. RALEIGH, N.C. (919) 870-9500

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-62

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>COMPONENT COOLING</u>	COMPONENT <u>INTEGRAL WELD</u> NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-327-WS-A</u>
-------------------------------------	--	--

DWG./LOC.: CPL-327 REV-0 / SFP HX ROOM

SP 1097 ERO 4-7-92
☒ VT-3 PROCEDURE: NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edward P. Donovan LEVEL: II DATE: 4-7-92

REVIEWER: Q. J. P. INFORMATION LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

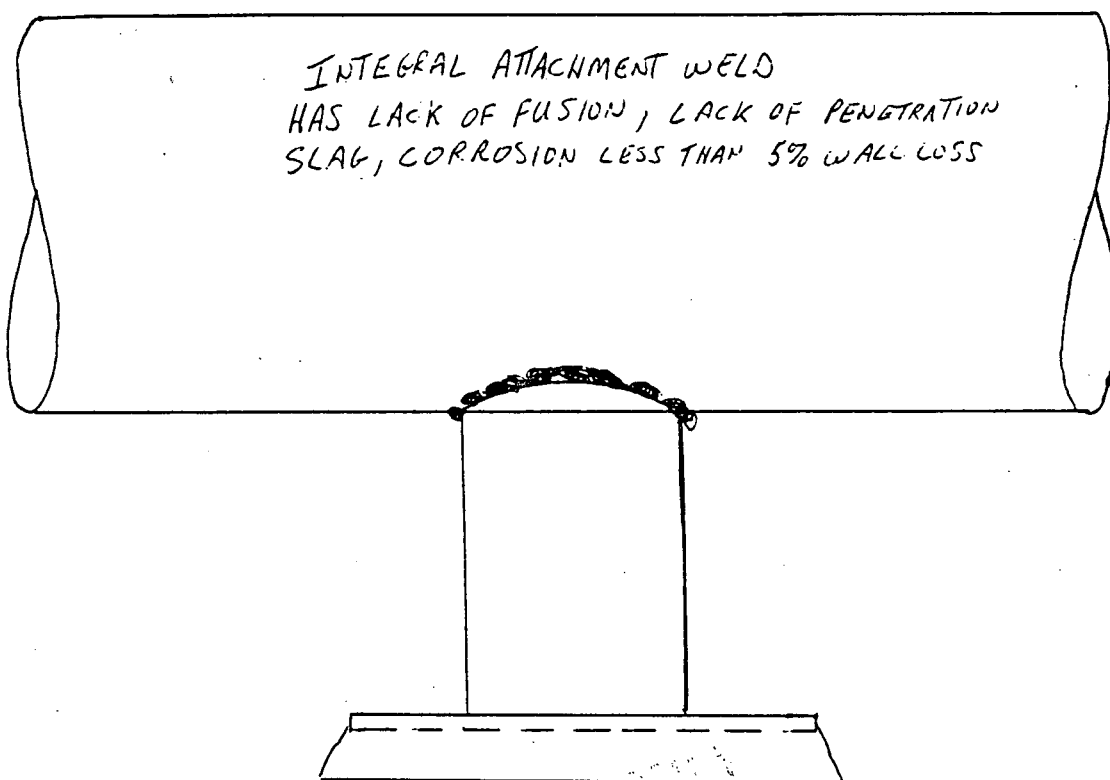
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-62
EXAM ITEM CPL-327-WS-A
ISO DWG. NO. CPL 327 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER	<u>Edmund L. Donovan</u>	LEVEL	<u>II</u>	DATE	<u>4-7-92</u>
EXAMINER	<u>NA</u>	LEVEL	<u>NA</u>	DATE	<u>NA</u>
REVIEWER	<u>W. J. P. R. R.</u>	LEVEL	<u>II</u>	DATE	<u>4-8-92</u>
REVIEWER	_____	DATE	_____		
REVIEWER	_____	DATE	_____		

AW

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-61
 WR&A # N/A
 PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: COMPONENT COOLING COMPONENT NAME: STATION SUPPORT COMPONENT ID NO.: CPL-327-A

DWG./LOC.: CPL-327 REV-0 / SFP HX ROOM

☒ VT-3 PROCEDURE: SP-1097 ERO 4-7-92 ~~NOEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER _____
 TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			X	N A
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		
STRUCTURAL INTEGRITY		X		
RESISTANCE TO MOVEMENT			X	
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONS
SEE ATTACHED SKETCH FOR BASE PLATE CONFIGURATION PLATE ERO 4-7-92

EXAMINER: Edmund R. Dacora LEVEL: II DATE: 4-7-92

REVIEWER: A. J. Purnell LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

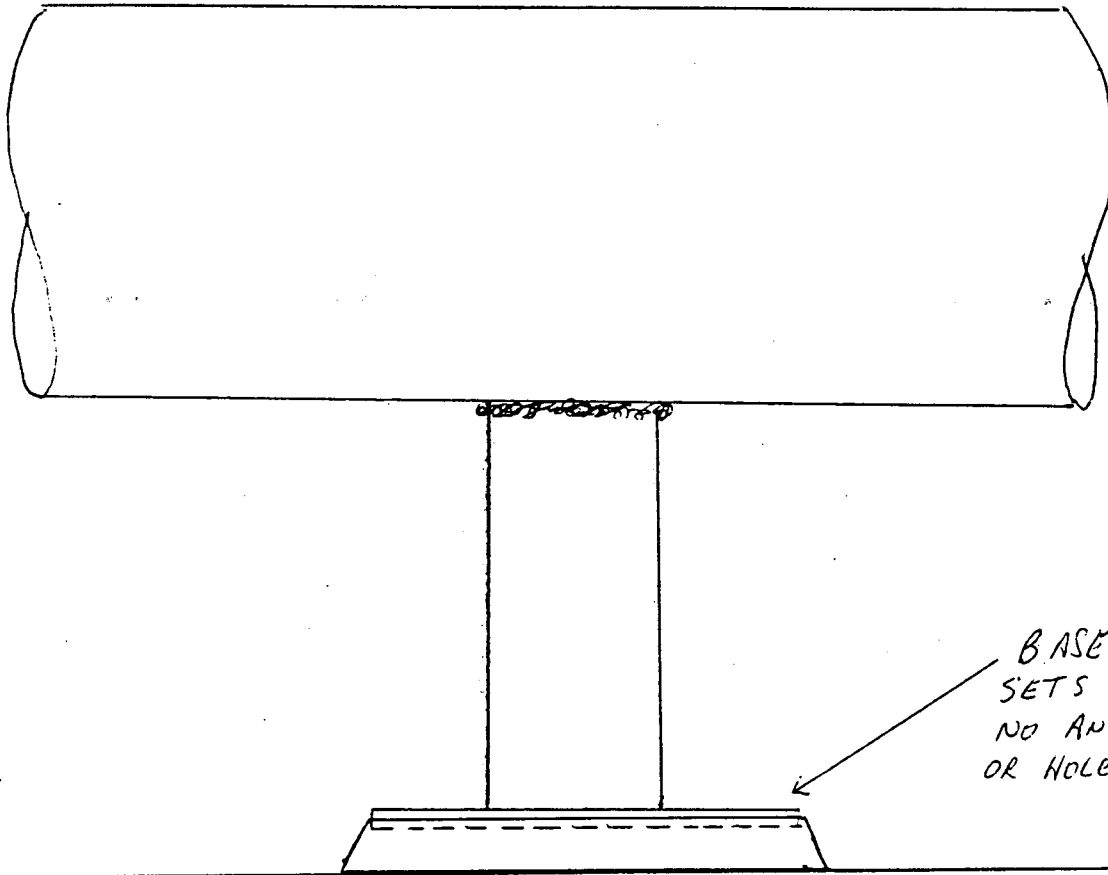
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-61
EXAM ITEM CPL-327-A
ISO DWG. NO. CPL 327 REV. 0

SKETCH SHEET



BASE PLATE $\frac{3}{8}$ "
SETS IN GROUT
NO ANCHOR BOLTS
OR HOLES FOR BOLTS

EXAMINER Edward R. Brown
EXAMINER W/S
REVIEWER W. R. Brown
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL W/A
LEVEL II
DATE _____
DATE _____

DATE 4-7-92
DATE W/A
DATE 4-9-92

W. R. Brown

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-WS-A ✓
 & CPL-327-A

Visual Exam Report No. 1097-62
 & 1097-61

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not Applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. The indications noted are irrelevant to the structural integrity of the support.

Clement Rajendra / 4-21-92
NED Engineer Date

CP&L
 Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-66

WR&A # N/A

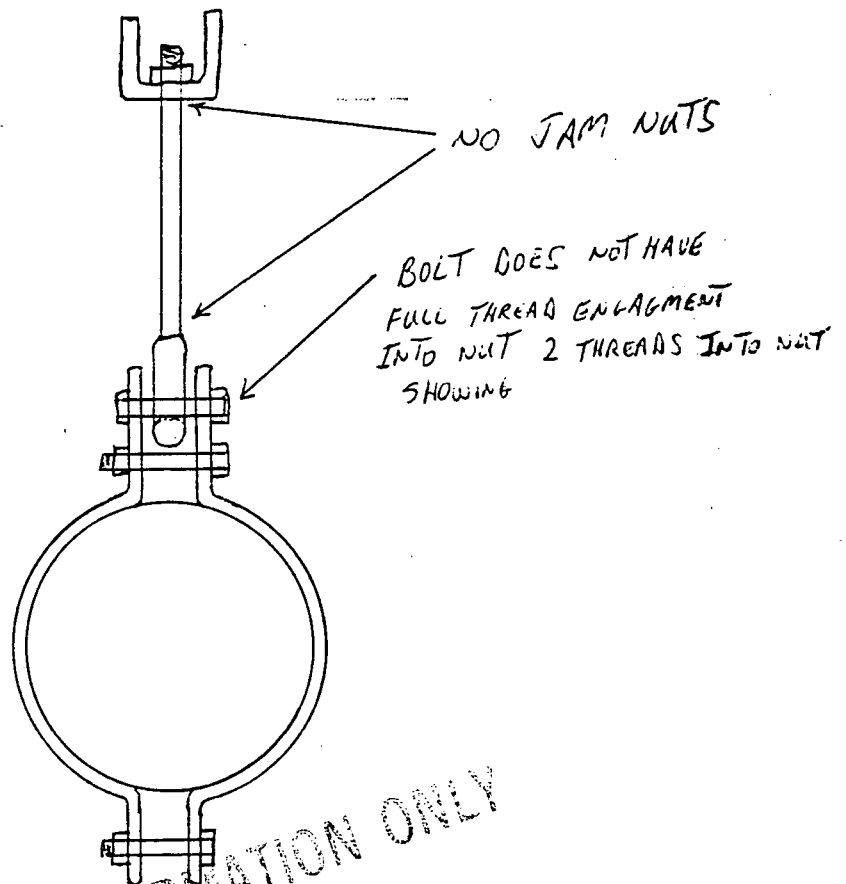
PAGE 1 OF 2

PLANT: <u>HB ROBINSON</u>		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-328-DD</u>	
DWG./LOC.: <u>CPL-328 REV-0 / SFP HX ROOM</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP1097 ERO 4-7-92</u> WBEP-613 REV.: <u>0</u>		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES	<input checked="" type="checkbox"/>		SEE ATTACHED SKETCH
MISALIGNMENT		<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>	
CORROSION/EROSION		<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>		SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATIONS</u>			
EXAMINER: <u>Schmidt R Down</u>	LEVEL: <u>II</u>	DATE: <u>4-7-92</u>	
REVIEWER: <u>At Ruman</u>	LEVEL: <u>III</u>	DATE: <u>4-9-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY: _____			
REVIEWERS COMMENTS: _____			
ANII REVIEW: _____ DATE: _____			

1105

PAGE 2 OF 2DATA SHEET NO. 109766EXAM ITEM CPL-328-00ISO DWG. NO. CPL 328 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Chas. R. Donovin
EXAMINER JA
REVIEWER Det. K. M. C.
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL JA
LEVEL II
DATE _____
DATE _____

DATE 4-7-92
DATE 4-8-92 ERD
DATE 4-8-92
DATE 4-9-92

DM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-DD ✓

Visual Exam Report No. 1097-66

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE JAM NUTS FOR THREADED ROD.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC", DEAD WEIGHT SUPPORT. JAM NUTS ARE NOT INVOLVED IN LOAD CARRYING FUNCTION BUT ARE REQUIRED TO PREVENT SUPPORT FROM GETTING DISCONNECTED BY VIBRATION LOOSENING. CLAMP BOLT CAPTURING WELDLESS EYE NUT SERVES AS A PIN AND LACK OF FULL THREAD ENGAGEMENT IS IRRELEVANT.

Clement Rajendra / 4-21-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-67

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-328-Z</u>
------------------------------	--------------------------------------	---------------------------------------

DWG./LOC.: CPL-328 REV-0 / SFP HY ROOM

☒ VT-3 PROCEDURE: SP 1097 ERD 4-7-92
WDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edmund R. Doran LEVEL: II DATE: 4-7-92

REVIEWER: Art P... LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

1105

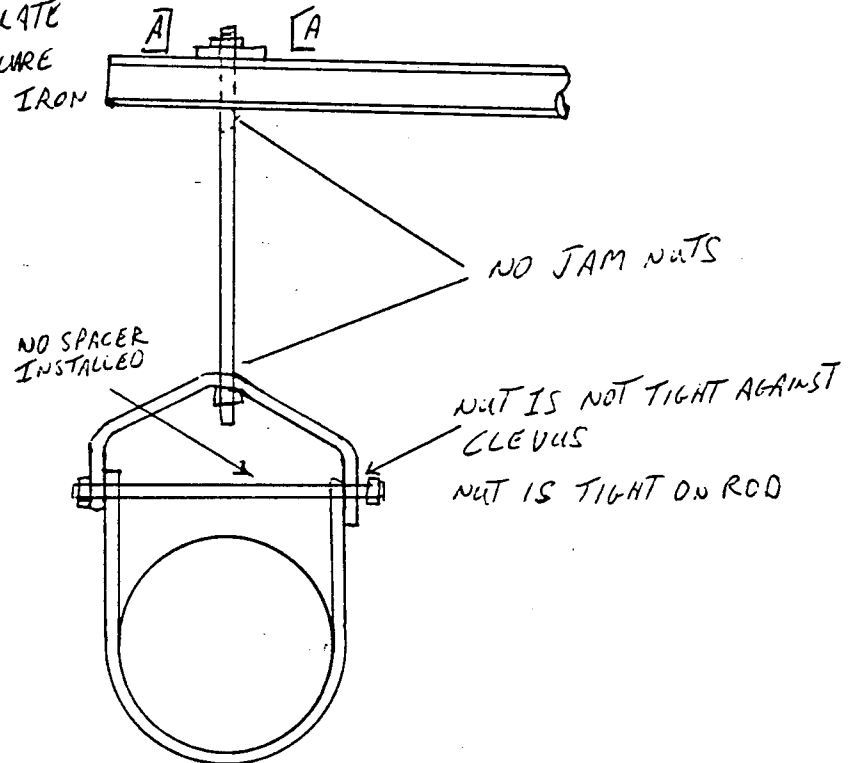
PAGE 2 OF 2
DATA SHEET NO. 1097-67
EXAM ITEM CPL-3 28-Z
ISO IDWG. NO. CPL 328 REV. 0

SKETCH SHEET

SECT A.



WASHER PLATE
IS NOT SQUARE
ON CHANNEL IRON



FOR INFORMATION ONLY

EXAMINER	<u>Edmund K. Dancora</u>	LEVEL	<u>II</u>	DATE	<u>4-7-92</u>
EXAMINER	<u>Carl Pearson</u> AS 142 N/A	LEVEL	<u>N/A</u>	DATE	<u>N/A</u>
REVIEWER	<u>Carl Pearson</u>	LEVEL	<u>II</u>	DATE	<u>4-9-92</u>
REVIEWER	_____	DATE	_____		
REVIEWER	_____	DATE	_____		

gn

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-Z ✓

Visual Exam Report No. 1097-67

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE JAM NUTS. TIGHTEN NUTS AGAINST CLEVIS STRAP.
ADJUST WASHER PLATE TO BEAR SQUARLY ON SUPPORT STEEL.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC",
DEAD WEIGHT SUPPORT. JAM NUTS ARE NOT INVOLVED IN LOAD CARRYING
FUNCTION BUT ARE REQUIRED TO PREVENT SUPPORT FROM DISCONNECTED
DUE TO VIBRATION LOOSENING. CLAMP SPACER DOES NOT CONTRIBUTE
TO STRUCTURAL INTEGRITY, ITS FUNCTION IS TO PREVENT OVERTIGHTENING
OF CLAMP. CLEVIS STRAP AND THEREFORE MAY BE OMITTED. NUT ON
OR 4/21/92 CLEVIS ^{BOLT} NOT INVOLVED IN LOAD TRANSFER.

Clement Rajendra 14-21-92
NED Engineer Date

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-28

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AUX FEED</u>	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-331B-C</u>
----------------------------	--------------------------------------	--

DWG./LOC.: CPL 331B REV-0 / COMPONENT COOLANT ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 4-692
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION
ERO 4-692

EXAMINER: Richard R. Dawson LEVEL: II DATE: 4-6-92

REVIEWER: [Signature] LEVEL: II DATE: 4-7-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

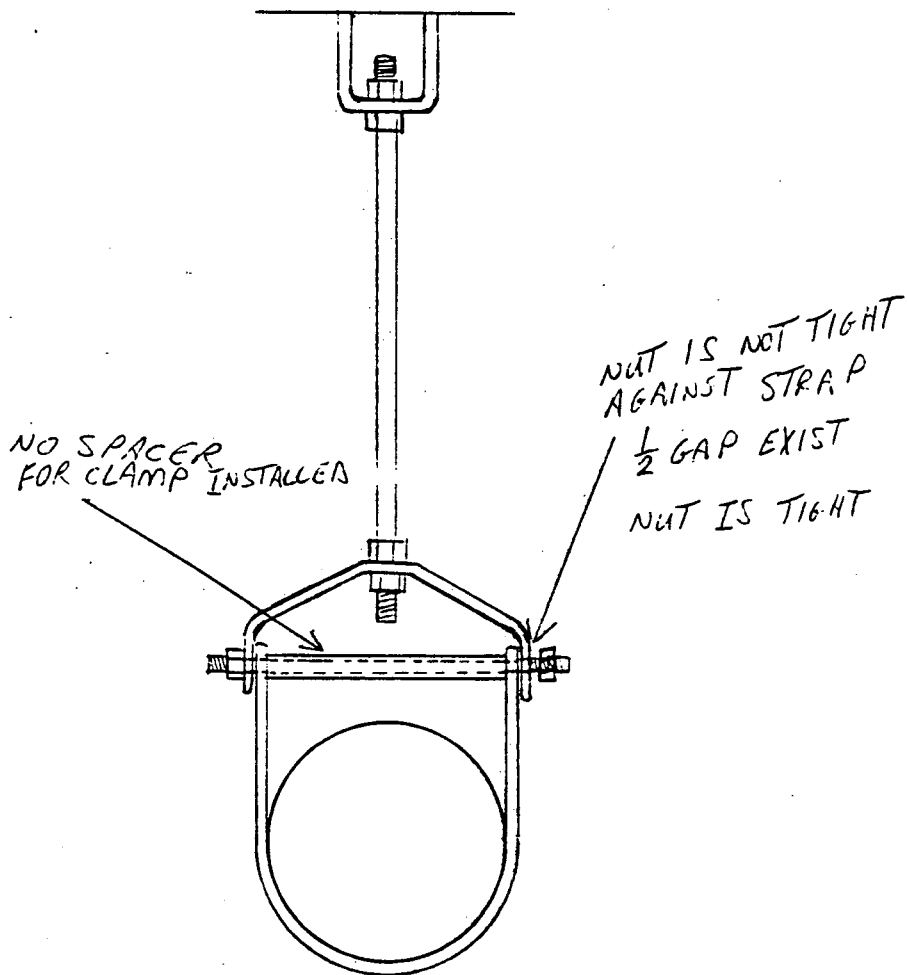
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-78
EXAM ITEM CPL-331B-C
ISO DWG. NO. CPL 331B REV. 0

SKETCH SHEET



EXAMINER Edmund R. Donovan
EXAMINER NA
REVIEWER Art P...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 4-6-92
DATE NA
DATE 4-7-92

AVN

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-C ✓

Visual Exam Report No. 1097-78

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Tighten nut against clevis strap.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Clamp spacer does not contribute to structural integrity its function is to prevent overtightening of clevis strap and therefore may be omitted. NUT ON CLEVIS BOLT NOT INVOLVED IN LOAD TRANSFER.

Clement Rajendra / 4-21-92
NED Engineer Date

CPL
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-79
 WR&A # N/A
 PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [] ISI [X]

SYSTEM: AUX FEED COMPONENT NAME: ROD HANGER COMPONENT ID NO.: CPL-331B-0

DWG./LOC.: CPL-331B REV-0 / COMPONENT COOLANT ROOM

[X] VT-3 PROCEDURE: SP 1097 ERS 4-6-92 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR TYPE OF COMPONENT SUPPORT:
[X] OTHER 6" SCALE [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<u>[X]</u>			<u>SEE ATTACHED SKETCH</u>
MISALIGNMENT		<u>[X]</u>		
DEBRIS		<u>[X]</u>		
CORROSION/EROSION		<u>[X]</u>		
STRUCTURAL INTEGRITY		<u>[X]</u>		
RESISTANCE TO MOVEMENT			<u>[X]</u>	
CLEARANCES OF MOVING PARTS		<u>[X]</u>		
ARC STRIKES/GOUGES		<u>[X]</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: ERD 4-8-92 [X] RECORDABLE INDICATION

EXAMINER: Charles R Donnan LEVEL: III DATE: 4-6-92

REVIEWER: Art P... LEVEL: II DATE: 4-7-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

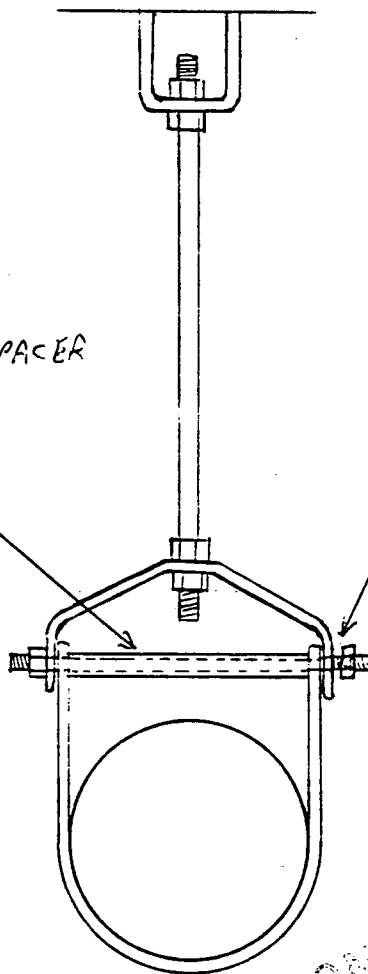
1124

PAGE 2 OF 2
DATA SHEET NO. 1097-29
EXAM ITEM CPL-331B-D
ISO DWG. NO. CPL 331B REV. 0

SKETCH SHEET

NO CLAMP SPACER
INSTALLED

NUT IS NOT TIGHT
AGAINST STRAP
3" GAP EXIST
TO
NUT IS TIGHT



EXAMINER

Edmund R. Donohoe

LEVEL

II

DATE

4-6-92

EXAMINER

NA

LEVEL

NA

DATE

NA

REVIEWER

W. A. P. ...

LEVEL

II

DATE

4-7-92

REVIEWER

DATE

REVIEWER

DATE

OR

FOR INFORMATION ONLY

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-D

Visual Exam Report No. 1097-79

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Tighten nut against clevis strap.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Clamp spacer does not contribute to structural integrity its function is to prevent overtightening of clevis strap and therefore may be omitted. NUT ON CLEVIS BOLT NOT INVOLVED IN LOAD TRANSFER.

Clement Rajendra / 4-21-92
NED Engineer Date

**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-80

WR&A # N/A

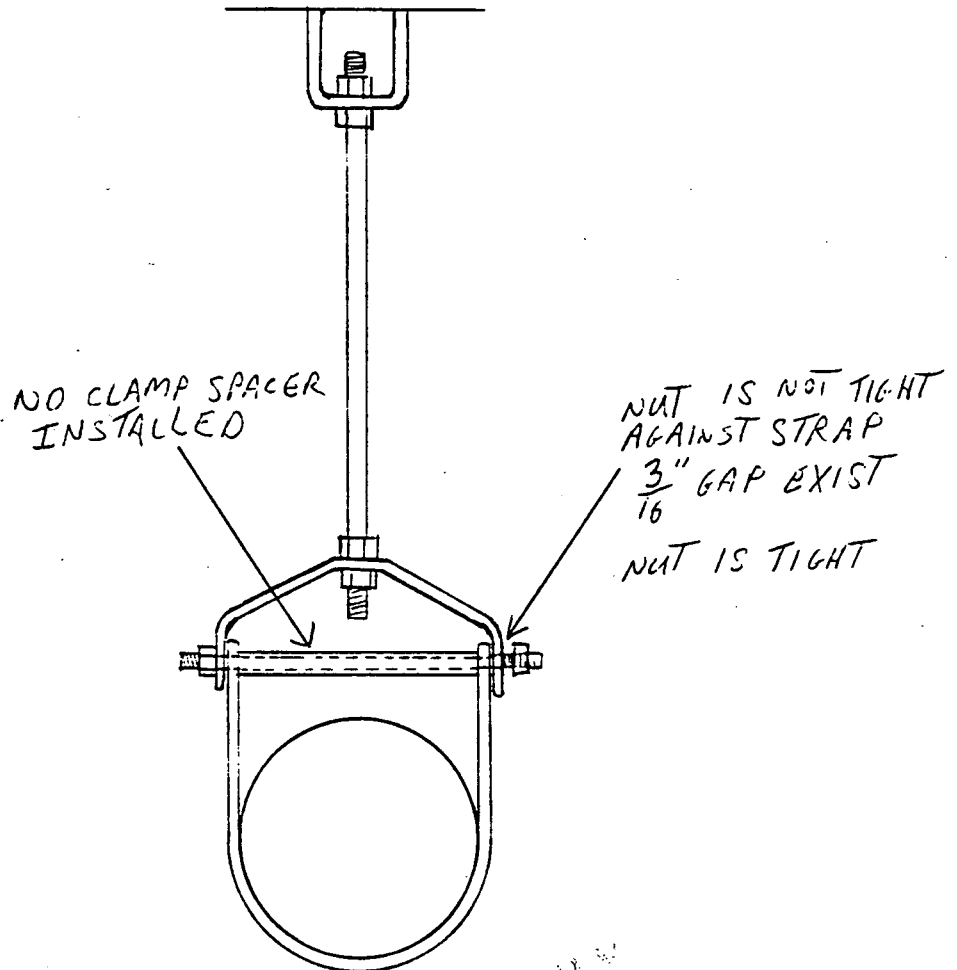
PAGE 1 OF 2

PLANT: <u>HB ROBINSON</u>		UNIT <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> PSI <input checked="" type="checkbox"/> ISI	
SYSTEM: <u>AUX FEED</u>	COMPONENT NAME: <u>BOX RESTRAINT</u>	COMPONENT ID NO.: <u>CPL-331B-E</u>	
DWG./LOC.: <u>CPL-331B REV-0 / COMPONENT COOLANT ROOM</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1097 ERO 4692</u> WDER 613 REV.: 0		<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u>6" SCALE</u>		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES	<input checked="" type="checkbox"/>		SEE ATTACHED SKETCH
MISALIGNMENT		<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>	
CORROSION/EROSION		<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> ERO 4692
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATION</u> <u>ERO 4692</u>			
EXAMINER: <u>Edmund E. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-6-92</u>	
REVIEWER: <u>Art Pinner</u>	LEVEL: <u>II</u>	DATE: <u>4-7-92</u>	
COMPONENT CONDITION: <input type="checkbox"/> SATISFACTORY <input type="checkbox"/> UNSATISFACTORY			
REVIEWED BY:			
REVIEWERS COMMENTS:			
ANII REVIEW: DATE:			

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-80
EXAM ITEM CPL-331B-E
ISO DWG. NO. CPL 331B REV. 0

SKETCH SHEET



EXAMINER

Edmund R. Donovan

LEVEL

II

DATE

4-6-92

EXAMINER

NA

LEVEL

NA

DATE

NA

REVIEWER

W. P. ...

LEVEL

II

DATE

4-7-92

REVIEWER

DATE

DATE

AM

FOR INFORMATION ONLY

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-E

Visual Exam Report No. 1097-80

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Tighten nut against clevis strap.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Clamp spacer does not contribute to structural integrity its function is to prevent overtightening of clevis strap and therefore may be omitted. NUT ON CLEVIS BOLT NOT INVOLVED IN LOAD TRANSFER.

Clement Rajendra / 4-21-92
NED Engineer Date

CP&L
 Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-81

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AUX FEED</u>	COMPONENT NAME: <u>BOX RESTRAINT</u>	COMPONENT ID NO.: <u>CPL 331B-F</u>
----------------------------	---	--

DWG./LOC.: CPL-331B REV-0

☒ VT-3 PROCEDURE: GP-1097 ERD 4-6-92
~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS	<input checked="" type="checkbox"/>			
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/A RECORDABLE INDICATION
ERD
4-8-92

EXAMINER: Edmund R. Donovan LEVEL: II DATE: 4-6-92

REVIEWER: Art P... LEVEL: II DATE: 4-7-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

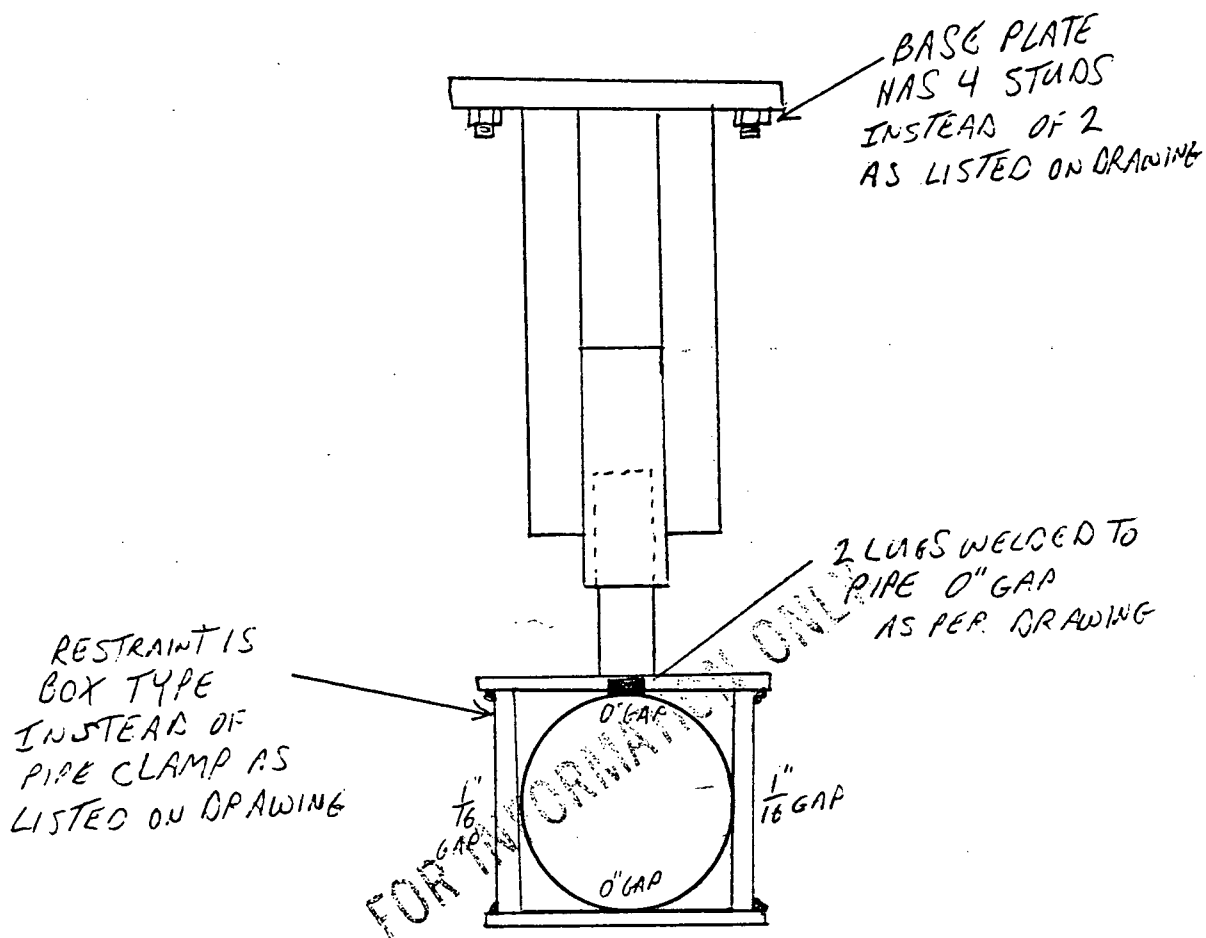
REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

DATA SHEET NO. 1097-81
 EXAM ITEM CPL-331B-F
 ISO DWG. NO. CPL 331B REV. 0

SKETCH SHEET



EXAMINER Edmund Donovan
 EXAMINER NA
 REVIEWER [Signature]
 REVIEWER _____
 REVIEWER [Signature]

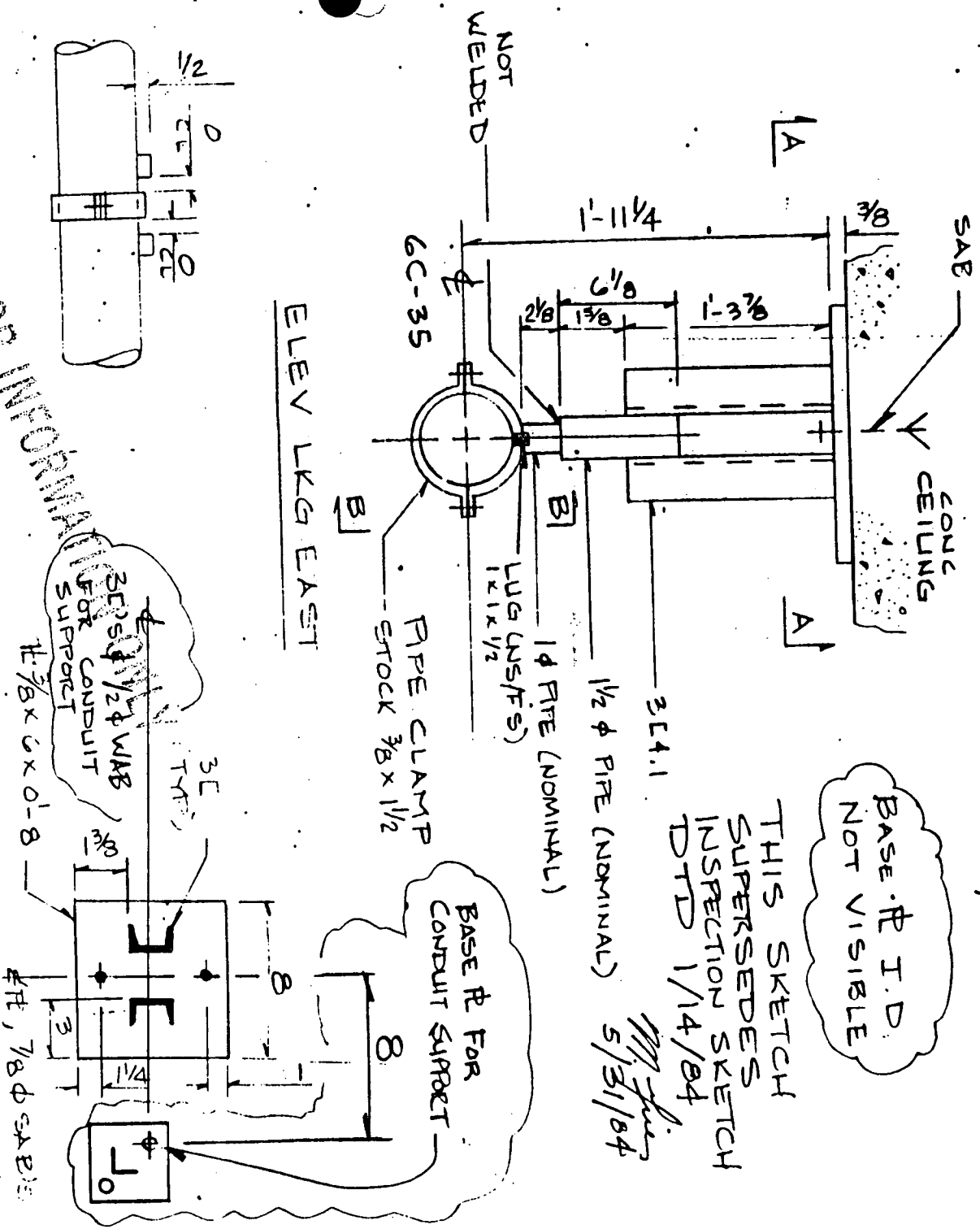
LEVEL II
 LEVEL NA
 LEVEL II
 DATE _____
 DATE _____

DATE 4-6-92
 DATE NA
 DATE 4-7-92

C-1/35/5

BASE # I.D.
 NOT VISIBLE

THIS SKETCH
 SUPERSEDES
 INSPECTION SKETCH
 DTD 1/14/24
 1/1/24
 5/31/24



ELEV FOR INFORMATION

N
 E

SECT A

Inspected By mm fin Date 1/14/24

SUPPORT "F"
 PT # 1355

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-F

Visual Exam Report No. 1097-81

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

EXAMINATION REPORT INDICATES THAT THIS SUPPORT CONFORMS
TO THE LATEST DRAWING AB-CAR-C-1-35/5, REV. 2 DATED
6/28/85 EXCEPT FOR CLEARANCE BELOW PIPE.
THIS SUPPORT IS CLASSIFIED AS A SAFETY-RELATED SEISMIC SUPPORT
WITH 2-WAY HORIZONTAL RESTRAINTS. REF. STRESS ISO C-1, SHT. 7 DP 1355.
RESTRAINT BOX IS ABLE TO MOVE VERTICALLY INDEPENDENT OF
THE REST OF THE SUPPORT. THIS DEVIATION IN CLEARANCE BELOW
PIPE WILL NOT AFFECT THE SUPPORT FUNCTION.

Clement Rajendra 14-21-92
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-34 85 4/

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: S.I. COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-233-D-WS

DWG./LOC.: CPL-233, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: ^{SP-1097 (CN) 4/4/92} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☐ MIRROR TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ OTHER ☒ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Backside lug has insufficient throat and is incomplete on both sides.
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	N/A	ACTUAL:	N/A	STROKE: N/A S/N N/A

COMMENTS: See page #2 for details of structural integrity.

RECORDABLE INDICATIONS

EXAMINER: Cliff Mass (CN) LEVEL: II DATE: 4/4/92

REVIEWER: Edmund L. Davis (CN) LEVEL: II DATE: 4-8-92

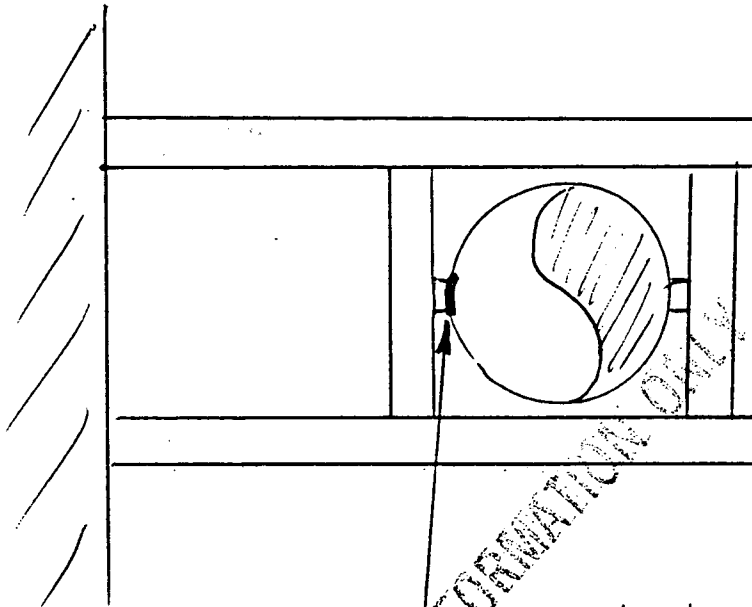
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

1105PAGE 2 OF 2DATA SHEET NO. 1097-31 85 csn 4/22/92EXAM ITEM CPL-233-D-WSISO DWG. NO. CPL-233 REV. 0**SKETCH SHEET**

Back side lug has insufficient
throat and is incomplete (both sides)

Recommend this Welded Support (WS) is not
examined with surface NDE exam until this
weld is repaired/evaluated.

EXAMINER

Cliff Moss

LEVEL

II

DATE

4-4-92

EXAMINER

LEVEL

N/A

DATE

N/A

REVIEWER

Charles R. Dawson

LEVEL

II

DATE

4-6-92

REVIEWER

DATE

REVIEWER

DATE

dm

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-233-D-WS ✓

Visual Exam Report No. 1097-85

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

THIS SUPPORT IS CLASSIFIED AS SAFETY-RELATED SEISMIC SUPPORT
WITH HORIZONTAL RESTRAINT IN EAST-WEST DIRECTION. BECAUSE
THE LOADING IS COMPRESSIVE ON THE LUG, WELD QUALITY IS NOT
SIGNIFICANT TO LOAD TRANSFER. WELDS FUNCTION SIMILAR TO
TACK WELDS ON SHIMS.

Clement Rajendra 14-21-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C. A. Jones / CLEMENT Rajendra</u>		<u>TSE-42-CE</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF <u>1</u>
<u>ATTACHED ARE ISI Visual Reports and sketches</u>		MOD <u>M-</u>
<u>Requiring NED Disposition: Component IDs:</u>		PCN
<u>CPL-222B-A (No Dwg)</u>	<u>241-G (No Dwg)</u>	<u>332-B-WS (B)</u>
<u>222B-B (No Dwg)</u>	<u>222B-B</u>	<u>234A-N</u>
<u>222B-B1 (No Dwg)</u>	<u>315-A</u>	<u>334A-A (No Dwg)</u>
<u>222-A (No Dwg)</u>	<u>325-E</u>	<u>334B-A (No Dwg)</u>
<u>222A-G</u>	<u>325-G</u>	<u>334B-G (No Dwg)</u>
<u>242-A (No Dwg)</u>	<u>331A-2</u>	<u>334A-C1 (No Dwg)</u>
<u>242-B (No Dwg)</u>	<u>331A-WS-AA (331A-AA)</u>	
<u>234-A</u>	<u>331A-BB</u>	
<u>234-B</u>	<u>331A-WS-CC (331A-CC)</u>	
SIGNED: <u>[Signature]</u> <u>4-11-91</u> <u>Ex 1888</u>		DISTRIBUTION
		RESPOND BY:
		<u>A/23/92</u>

*RELEASING AUTHORITY: _____ DATE: 1 / 1

RESPONSE:

DISPOSITIONS FOR THE FOLLOWING COMPONENTS ARE RETURNED HERewith:

<u>CPL-332A-C1</u>	<u>CPL-331-A</u>	<u>CPL-331-B</u>
DISTRIBUTION		
<u>C. A. Jones</u>		

SIGNED: Clement Rajendra*RELEASING AUTHORITY: C. A. Jones by telecon, C&R DATE: 5/15/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-173

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>AFW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 331-A</u>
--------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 331 REV 0 / TURBINE BLDG.

[x] VT-3 PROCEDURE: ^{SP 1097 AP 4-1992}~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x] VIDEO RECORDING NO: [x] N/A

EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS		AP 4-19-92	✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art P... LEVEL: II DATE: 4-19-92

REVIEWER: Chiff Moss LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

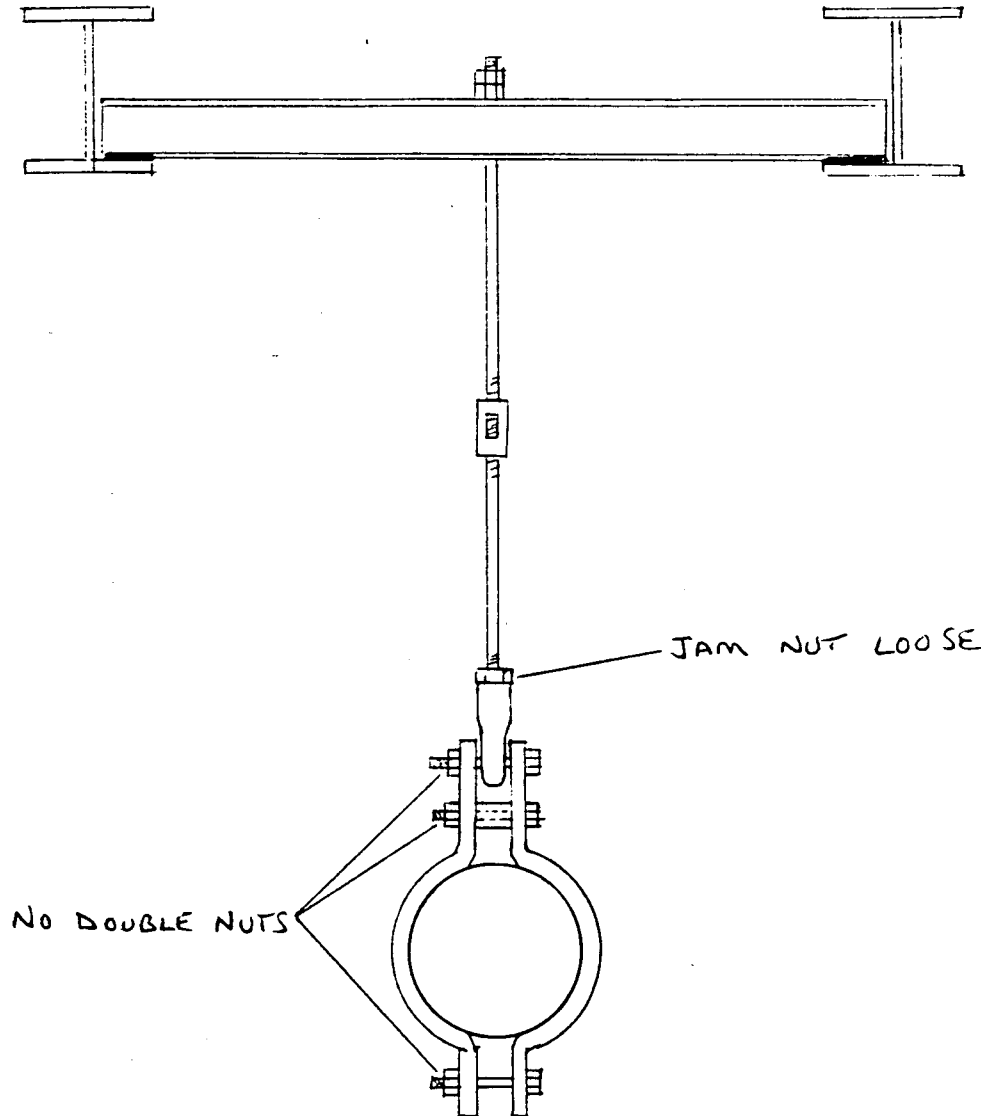
ANII REVIEW: R. Walladans

DATE: 4-23-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-173EXAM ITEM CPL 331 - AISO DWG. NO. CPL 331 REV. 0

SKETCH SHEET



EXAMINER At Purnan
EXAMINER N/A
REVIEWER Jeff Moss
REVIEWER Richard B. Weber
REVIEWER DN

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/21/92
DATE _____

DATE 4-19-92
DATE N/A
DATE 4-20-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331-A

Visual Exam Report No. 1097-173

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN LOOSE JAM NUT ONLY

Basis:

VENDOR DID NOT PROVIDE LOCK NUTS FOR CLAMP BOLTS, THEREFORE
ACCEPTABLE 'AS IS' JAM NUTS/ LOCK NUTS NOT INVOLVED INVOLVED
IN LOAD TRANSFER BUT REQUIRED TO PREVENT SUPPORT GETTING
DISCONNECTED DUE TO VIBRATION LOOSENING. CSA
5/15/92

Clement Rajendra 15-15-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-174

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AFW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 331-B</u>
--------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 331 REV 0 / TURBINE BLDG.

☒ VT-3 PROCEDURE: ^{SP 1097 AP4-R92} ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS		AP ✓ 4-11-92	✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Ferguson LEVEL: II DATE: 4-19-92

REVIEWER: Chf Moss AM LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

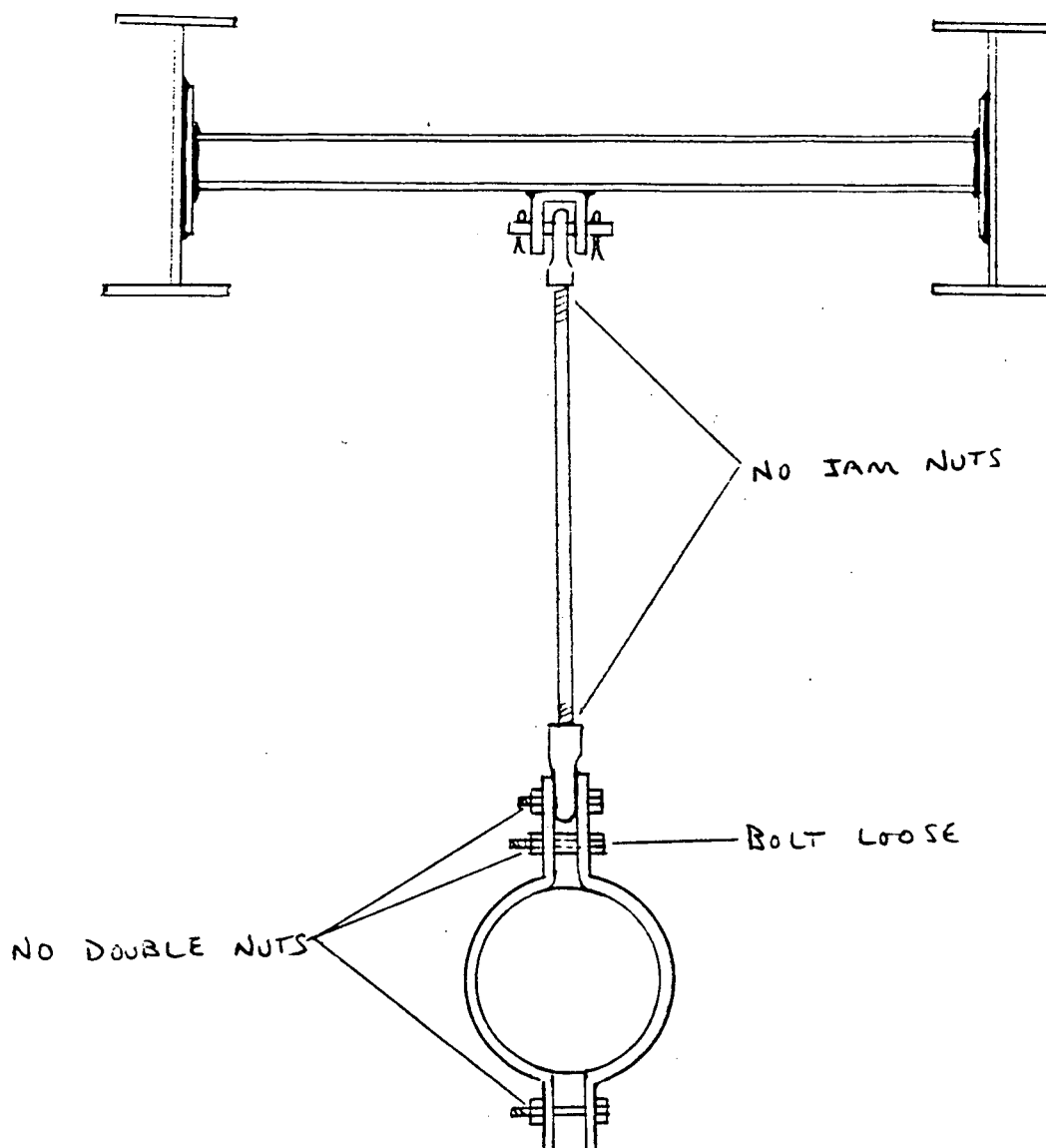
ANII REVIEW: AMalladares

DATE: 4.23-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-173EXAM ITEM CPL 331-BISO DWG. NO. CPL 331 REV. 0

SKETCH SHEET

EXAMINER Get PurnumEXAMINER N/AREVIEWER Cliff MottREVIEWER Richard B. Weber

REVIEWER _____

LEVEL IILEVEL N/ALEVEL IIDATE 4/21/92

DATE _____

DATE 4-19-92DATE N/ADATE 4-20-92

P. O. D-5930; D-5931

B. ROBINSON STATION UNIT #2

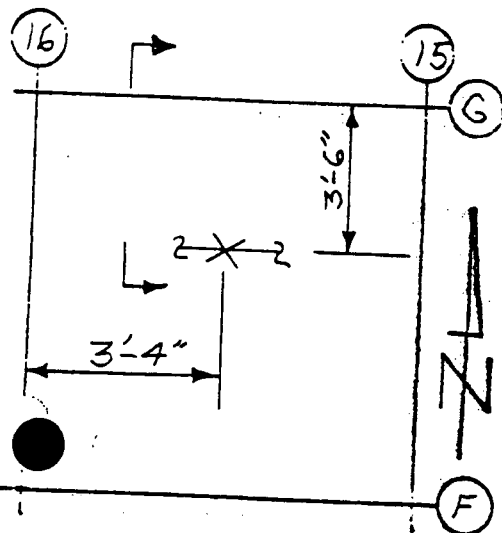
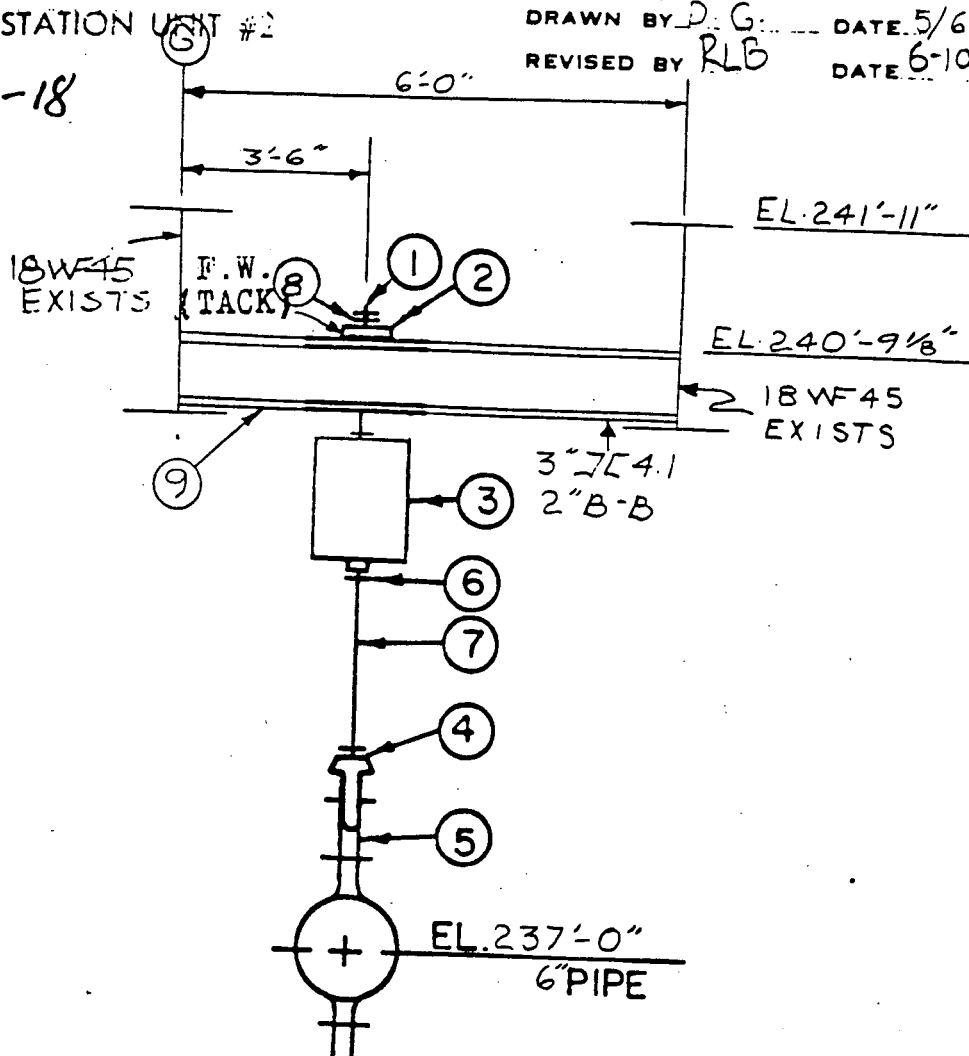
PIPE HANGER DEPARTMENT

DRAWN BY D. G. DATE 5/6/66

REVISED BY RLB DATE 6-10-66

331 Line No. 6-FW-18

Apr. Loc - B
PT # 2190



LOCATION PLAN

ITEM NO.

MATERIALS AND OPERATIONS

HANGER ASSEMBLY CONSISTING OF:

1	5/8"	"x	1	"	6	" Fig. 146	ONE	
2	5/8"	" Fig. 60					1	
3	#8	"A" Fig. 82					1	
4	#1	Fig. 290 w/ 5/8"	HL-	722 #	CL-	703 #	1	
5	6	" Fig. 295	" Tap				1	
6	5/8"	" JAM Nuts					1	
7	5/8"						1	
8	5/8"						1	
9	5/8"						1	
10	5/8"						1	
11	5/8"						1	
12	5/8"						1	
13	5/8"						1	
14	5/8"						1	
15	5/8"						1	
16	5/8"						1	
17	5/8"						1	
18	5/8"						1	
19	5/8"						1	
20	5/8"						1	
21	5/8"						1	
22	5/8"						1	
23	5/8"						1	
24	5/8"						1	
25	5/8"						1	
26	5/8"						1	
27	5/8"						1	
28	5/8"						1	
29	5/8"						1	
30	5/8"						1	
31	5/8"						1	
32	5/8"						1	
33	5/8"						1	
34	5/8"						1	
35	5/8"						1	
36	5/8"						1	
37	5/8"						1	
38	5/8"						1	
39	5/8"						1	
40	5/8"						1	
41	5/8"						1	
42	5/8"						1	
43	5/8"						1	
44	5/8"						1	
45	5/8"						1	
46	5/8"						1	
47	5/8"						1	
48	5/8"						1	
49	5/8"						1	
50	5/8"						1	
51	5/8"						1	
52	5/8"						1	
53	5/8"						1	
54	5/8"						1	
55	5/8"						1	
56	5/8"						1	
57	5/8"						1	
58	5/8"						1	
59	5/8"						1	
60	5/8"						1	
61	5/8"						1	
62	5/8"						1	
63	5/8"						1	
64	5/8"						1	
65	5/8"						1	
66	5/8"						1	
67	5/8"						1	
68	5/8"						1	
69	5/8"						1	
70	5/8"						1	
71	5/8"						1	
72	5/8"						1	
73	5/8"						1	
74	5/8"						1	
75	5/8"						1	
76	5/8"						1	
77	5/8"						1	
78	5/8"						1	
79	5/8"						1	
80	5/8"						1	
81	5/8"						1	
82	5/8"						1	
83	5/8"						1	
84	5/8"						1	
85	5/8"						1	
86	5/8"						1	
87	5/8"						1	
88	5/8"						1	
89	5/8"						1	
90	5/8"						1	
91	5/8"						1	
92	5/8"						1	
93	5/8"						1	
94	5/8"						1	
95	5/8"						1	
96	5/8"						1	
97	5/8"						1	
98	5/8"						1	
99	5/8"						1	
100	5/8"						1	

FOR INFORMATION ONLY

PIPE G-190207-8

STEEL G-190532-7

MARK NO. FWH-66

SKETCH NO. 58.5

REV. 1

PRINTED IN U.S.A. 2-66

EXCEPT MATERIAL

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331-B

Visual Exam Report No. 1097-193

174
6/5/92

- ☐ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☒ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN LOOSE CLAMP BOLT. PROVIDE MISSING JAM NUTS.

Basis:

JAM NUTS/ LOCK NUTS NOT INVOLVED IN LOAD TRANSFER BUT REQUIRED TO PREVENT SUPPORT FROM GETTING DISCONNECTED DUE TO VIBRATION LOOSENING. VENDOR DID NOT PROVIDE LOCK NUTS FOR CLAMP BOLTS, THEREFOR NEED NOT PROVIDE LOCK NUTS FOR CLAMP BOLTS. TIGHTNESS OF CLAMP^{BOLT} NOT CRITICAL FOR LOAD TRANSFER IN THE AXIS OF CLAMP. SUPPORT IS CONSIDERED FUNCTIONAL.

Clement Rajendra 15-15-92
NED Engineer Date



Carolina Power & Light Company

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-105

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: AUX FEEDWATER COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-334A-C1

DWG./LOC.: CPL-334A REV-0 / TURBINE BLDG.

[X] VT-3 PROCEDURE: SP 1097 ERO 4-9-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<u>[X]</u>			<u>SEE ATTACHED SKETCH</u>
MISALIGNMENT	<u>[X]</u>			<u>SEE ATTACHED SKETCH</u>
DEBRIS		<u>[X]</u>		
CORROSION/EROSION		<u>[X]</u>		
STRUCTURAL INTEGRITY	<u>[X]</u>			<u>SEE ATTACHED SKETCH</u>
RESISTANCE TO MOVEMENT			<u>[X]</u>	
CLEARANCES OF MOVING PARTS			<u>[X]</u>	
ARC STRIKES/GOUGES		<u>[X]</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>			STROKE: <u>N/A</u> S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edmund R. Downer LEVEL: II DATE: 4-9-92

REVIEWER: Art Pinner LEVEL: II DATE: 4-11-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS: no Dwg 8-7

ANII REVIEW:

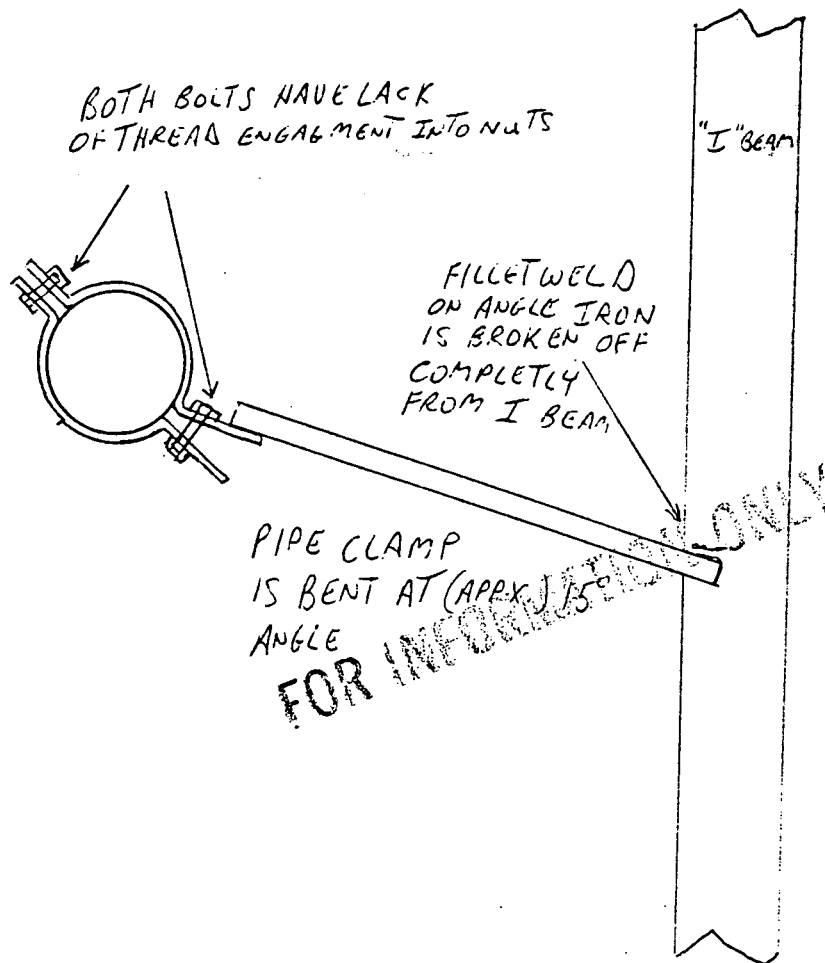
DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-05
EXAM ITEM CPL-332-C1
ISO DWG. NO. CPL 332 REV. 0

SKETCH SHEET

334A
GR 5/15/92



EXAMINER Elmer L. Dawson
EXAMINER NA
REVIEWER W. R. Runcorn
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 4-9-92
DATE NA
DATE 4-11-92

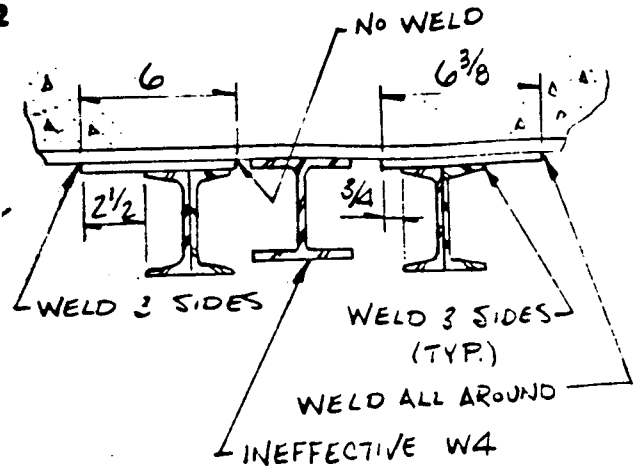
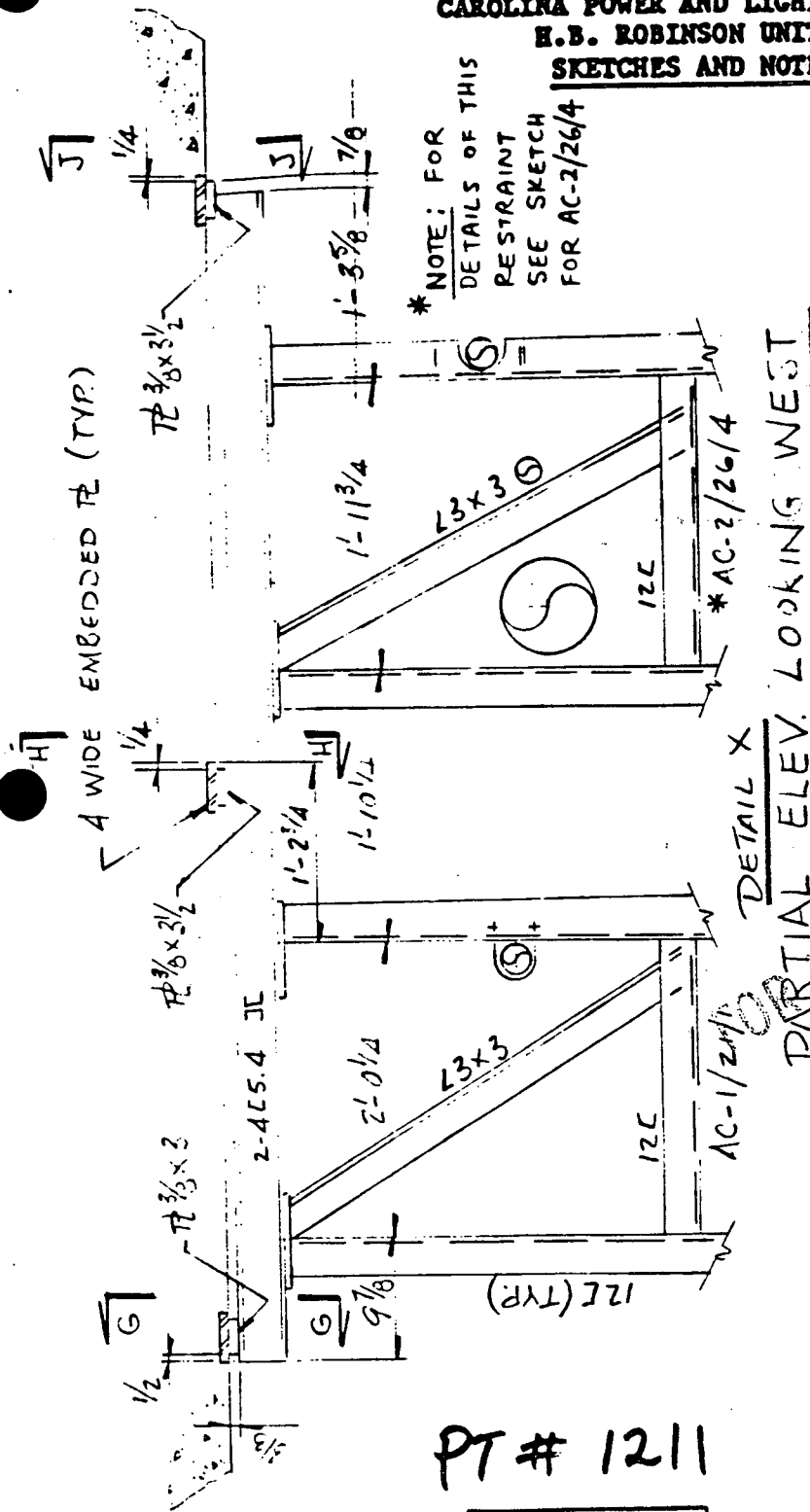
SUPPORT "F"

TITLE
VISUAL INSPECTION OF PIPE SUPPORTS AND RESTRAINTS

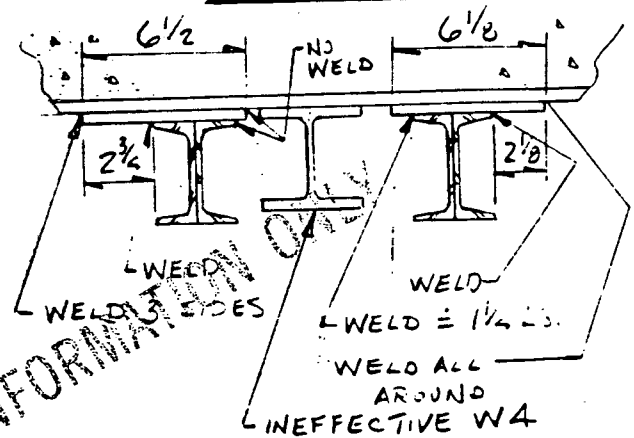
7 of 8
REV PROCEDURE
1 SP-522

CAROLINA POWER AND LIGHT COMPANY
H.B. ROBINSON UNIT 2
SKETCHES AND NOTES

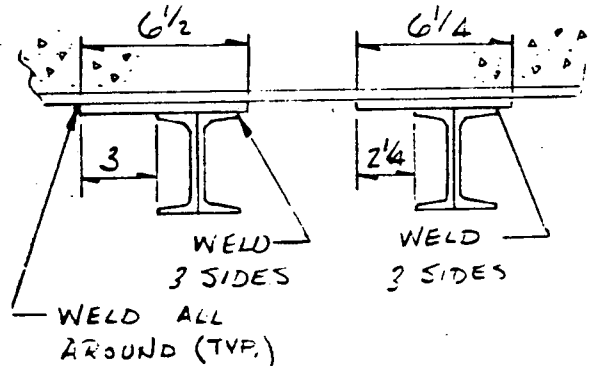
* NOTE: FOR
DETAILS OF THIS
RESTRAINT
SEE SKETCH
FOR AC-2/26/4



SECT. G



SECT. H



SECT. J

PT # 1211

AC-1/21/1

SHT. 3 OF 3

Inspected By

F. C. + Love

Date

May 7, 1984

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-325-F

Visual Exam Report No. 1097-24

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

DEBRIS DOES NOT AFFECT STRUCTURAL INTEGRITY. THIS SUPPORT IS
A SAFETY-RELATED SEISMIC SUPPORT WITH ONE-WAY (VERTICAL)
RIGID RESTRAINT. REF. ISO AC-1, DP 1211. SINCE THE MEASURED
CLEARANCES INDICATE THAT THE SUPPORT ALSO PROVIDES RESTRAINT
IN THE HORIZONTAL (NS) DIRECTION, THE PIPE MOVEMENTS
WERE INVESTIGATED BASED ON PIPE MOVEMENTS ($< 1/32"$) THIS
SUPPORT DOES NOT AFFECT CALCULATED PIPE STRESSES BASED
ON ITS AS-FOUND CONFIGURATION. REF. IRR-RS-92-IL.

Clement Rajendra / 5-11-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C. A. Jones / CLEMENT RAYENDRO</u>		<u>TSE-92-CF</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF <u>1</u>
<u>ATTACHED ARE ISI VISUAL REPORTS AND SKETCHES REQUIRING</u>		MOD M-
<u>NED DISPOSITION. COMPONENT ID'S:</u>		PCN
<u>CPL-331B-E</u>	<u>*328-B Indications and Drawing</u>	RET-R-C*92-BX
<u>*331B-D</u>	<u>327-A 327-WS-A(WS-A)</u>	
<u>*331B-C</u>	<u>327-P</u>	
<u>*331B-A</u>	<u>*328-A</u>	
<u>*330-G(WS-G)</u>	<u>*331B-B</u>	
<u>*330-F(WS-F)</u>	<u>*331B-F</u>	
<u>*330-E(WS-E)</u>	<u>*341-B</u>	
<u>*328-Z</u>	<u>*233-D-WS</u>	
<u>*328-DD</u>		
SIGNED: <u>Jon P. Simpson X1888 4-10-92</u>		RESPOND BY: <u>4/22/92</u>

*RELEASING AUTHORITY: _____ DATE: 1 1

RESPONSE:

ATTACHED IS FINAL DISPOSITION FOR SUPPORT CPL-328-A

	DISTRIBUTION

SIGNED: Clement Rayendo*RELEASING AUTHORITY: L. A. Jones DATE: 5/11/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-64

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-328-A</u>
-------------------------------------	--------------------------------------	---------------------------------------

DWG./LOC.: CPL 328 / REV-0 / SFP HX ROOM

[X] VT-3 PROCEDURE: SP 1097 ERO 4-7-92 ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
MISALIGNMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>			STROKE: <u>N/A</u> S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

ERO 4-8-92

EXAMINER: Shirley R. Dorian LEVEL: II DATE: 4-7-92

REVIEWER: Pat Pinner PM LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

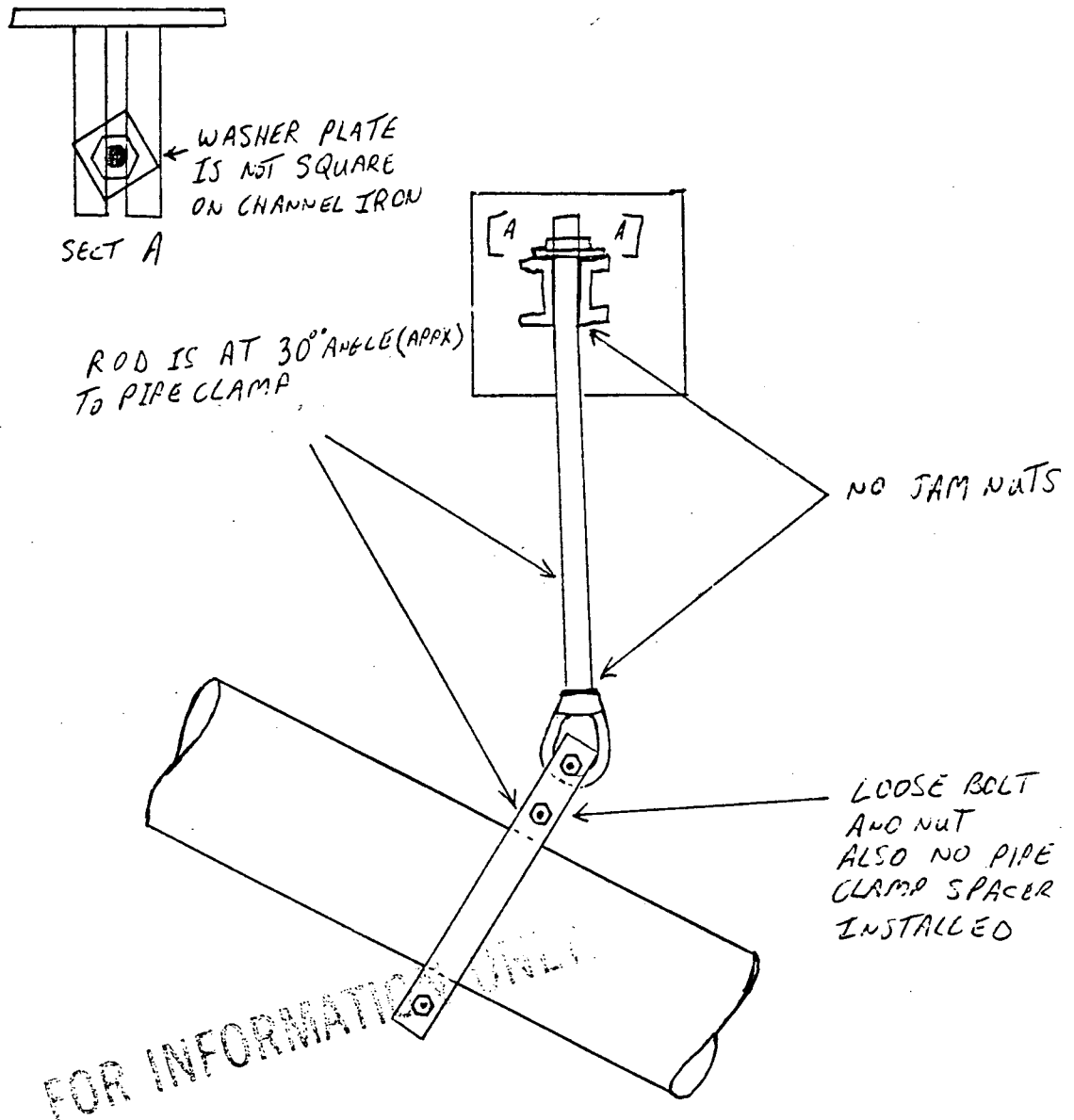
REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

SKETCH SHEET



EXAMINER Edmund R. Donovan

EXAMINER NA

REVIEWER Let Pinner

REVIEWER _____

REVIEWER _____

LEVEL II

LEVEL NA

LEVEL II

DATE _____

DATE _____

DATE 4-7-92

DATE NA

DATE 4-9-92

CPL
 Cessna Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-149

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: <u>ROD HANGER</u>	COMPONENT ID NO.: <u>CPL-328-A</u>
------------------------------	--------------------------------------	---------------------------------------

DWG./LOC.: CPL-328, Rev 0 (SPENT FUEL POOL HX R.M.)

☒ VT-3 PROCEDURE: SP-1097 @ 4-16-92
NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
---	---

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			BOLT MISSING
MISALIGNMENT	<input checked="" type="checkbox"/>			ROD & CLAMP APPROX. 30° MISALIGNED.
DEBRIS		<input checked="" type="checkbox"/>		N/A
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			SEE PAGE #2
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	N/A
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u> FOR INFORMATION ONLY			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS - See page #2 for details.
 This exam supplements data sheet #1097-64 per Engineering request.

EXAMINER: <u>Chf Moss</u> <u>CW</u>	LEVEL: <u>II</u>	DATE: <u>4-16-92</u>
REVIEWER: <u>Wt P</u>	LEVEL: <u>II</u>	DATE: <u>4-18-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

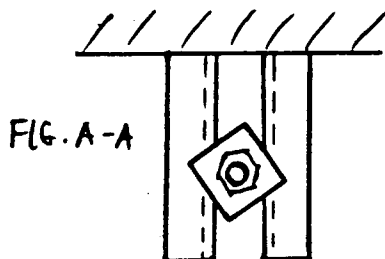
REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

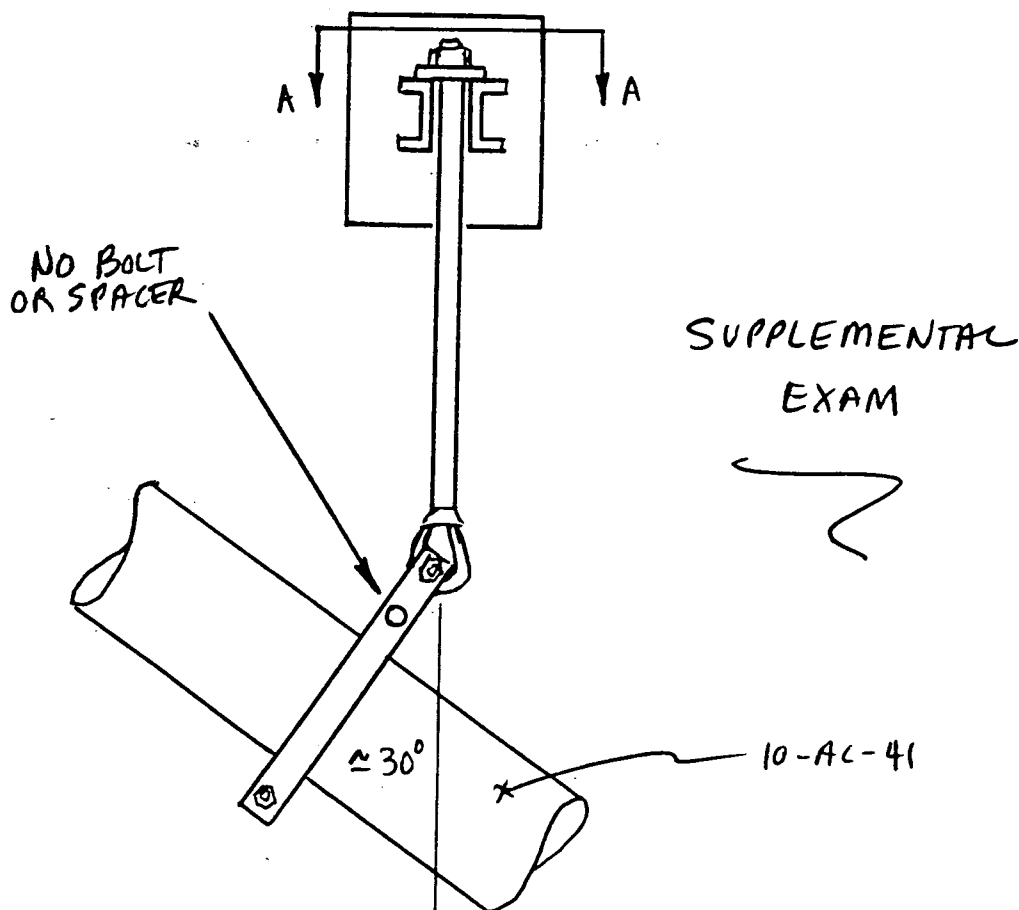
1125

PAGE 2 OF 2
DATA SHEET NO. 1097-149
EXAM ITEM CPL-328-A
ISO DWG. NO. CPL-328 REV. 0

SKETCH SHEET



See VT data sheet
1097-64 for other
pertinent data.



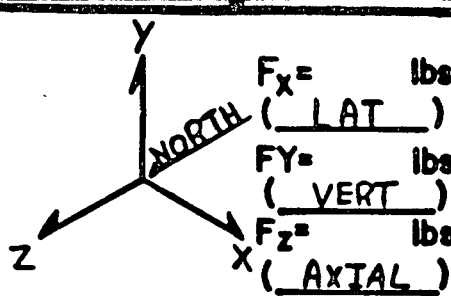
FOR INFORMATION ONLY

EXAMINER Cliff Moss
EXAMINER N/A
REVIEWER Art Pinner
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-16-92
DATE N/A
DATE 4-18-92

10-AC-41-GG-120



LOAD CASE DBE
EBASCO CHART METHOD
(GRINNELL DSN LOADS)

RESTRAINT LOCATION:
SEE ISO NO. AC-4
PT NO. 41/1
RAB - SPENT FUEL PIT
HEAT EXCHANGER
ROOM

**BASE PLATE
IDENTIFICATION**

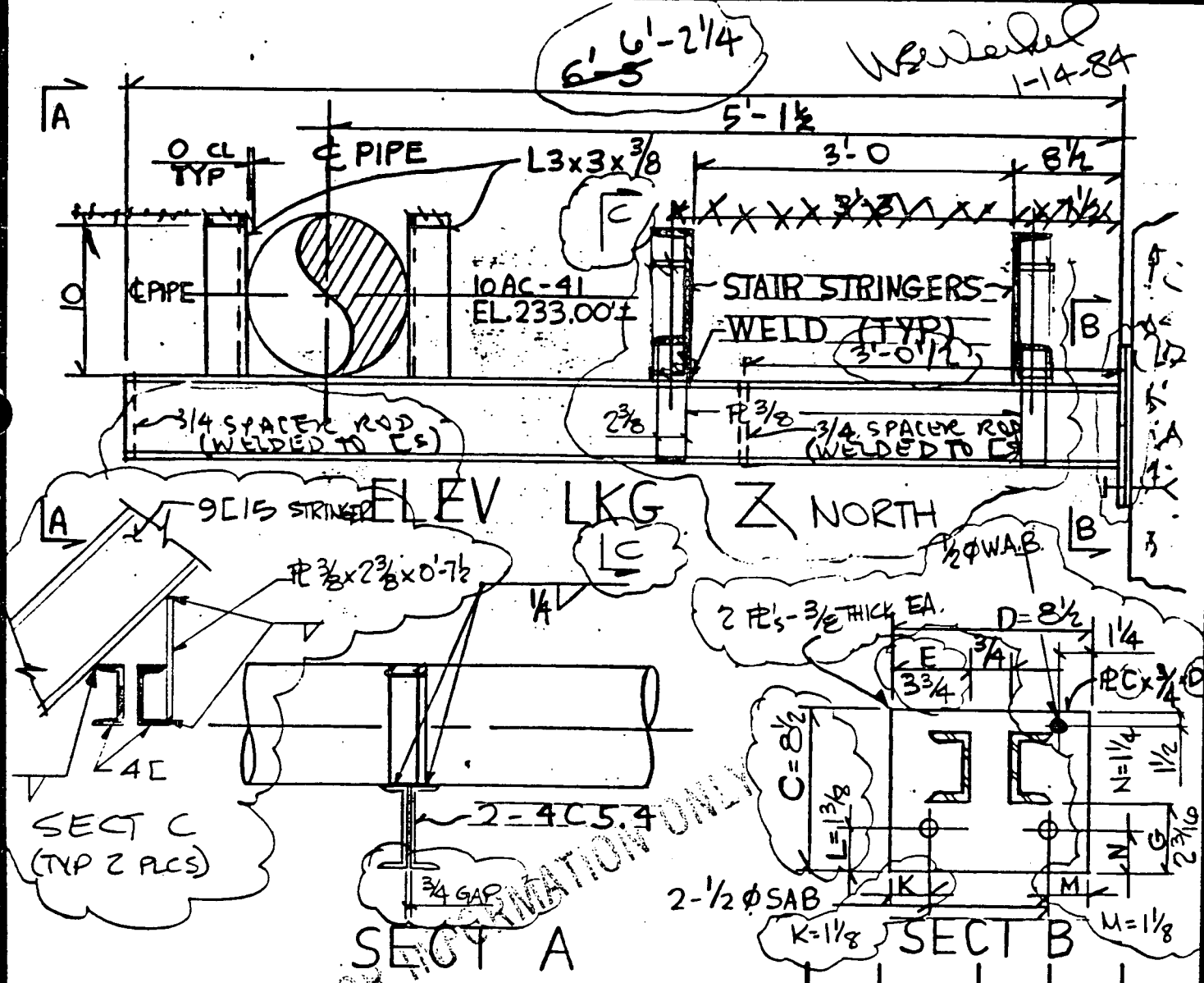
DESIGN LOADS

REST. CALC. NO LB-23

MOD. NO 492-5

PMR NO N/A

PRELIMINARY 12.14.83 SUPPORT "B"



GENERAL NOTES: SEE SK-AB-CAR-AB-1

REV	DATE	BY	CHK	APP'D

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. RG
DATE 12.13.83 CH. S.C
SCALE NTS

APPROVED

H. B. ROBINSON - UNIT 2

AS-BUILT RESTRAINT SKETCH
SYSTEM: COMPONENT COOLING
ISO NO./POINT NO. AC-4/41/1

AB-CAR-
AC-4-41/1
SH. 1 OF 1

PT# 1141

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-A

Visual Exam Report No. 1097-64

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [X] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE MISSING CLAMP BOLT AND NUT. ADJUST WASHER PLATE
SO THAT IT IS SQUARE ON SUPPORTING CHANNEL.

Basis:

THIS SUPPORT IS CLASSIFIED AS 'NON-SAFETY RELATED, NON-SEISMIC'
SUPPORT. SINCE THE SUPPORT IS SUPPORTING THE PIPE IN ITS
PRESENT CONDITION WITHOUT DISTRESS, IT IS CONSIDERED FUNCTIONAL.
CLAMP SPACER DOES NOT CONTRIBUTE TO STRUCTURAL INTEGRITY, ITS
FUNCTION IS TO PREVENT OVERTIGHTENING OF CLAMP BOLTS AND THEREFORE
MAY BE OMITTED. MIS-ALIGNMENT IS CAUSED BY THE FACT THAT THE
PIPE RUNS AT AN ANGLE OF 15.8° TO THE HORIZONTAL. THE SUPPORT LOAD
IS APPROX. 1350#. THE COMPONENT PARALLEL TO PIPE IS $1350 \sin 15.8^\circ = 368\#$
FROM GRINNELL PH83 CATALOG FIG. 295 THE STOCK MATERIAL IS 1/2 x 2 1/2 AND
 $E = 107,000$. $J = bt^3/3 = 2.5 \times 0.5^3/3 = 0.104 \text{ in}^4$ MAX. SHEAR STRESS
 $= 1350 \times \cos 15.8^\circ / (2 \times 2.5 \times 0.5) + 368 \times 10.4375 / (2 \times 0.104) \times 0.5$
 $= 520 + 9233 = 9753 \text{ psi} < 0.4 F_y = 14,400 \text{ psi}$ OK
THEREFORE THE PIPE CLAMP IS ACCEPTABLE FOR SUPPORTING THE LOAD AND
MISALIGNMENT IS ACCEPTABLE.

(REF. IRR-RS-92-116)
HL

CSR
5/11/92

Clement Rajendra
NED Engineer

1/5-11-92
Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO # <u>EI</u>
ATTN: <u>CA JONES / CLEMENT RAYENDRA</u>		<u>TSE - 92 - EI</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>OF</u>
<u>ATTACHED ARE ISI VISUAL REPORTS AND SKETCHES</u>		MOD M-
<u>REQUIRING NED DISPOSITION. THESE SUPPORTS ARE</u>		PCN
<u>PART OF THE EXPANDED SCOPE:</u>		RET-R-6X92-BX
<u>329-I EXPANDED SCOPE</u>		
<u>329-K EXPANDED SCOPE</u>		

	DISTRIBUTION
SIGNED: <u>[Signature]</u> EX 1888 4-29-92	RESPOND BY: <u>5/8/92 gL</u>

*RELEASING AUTHORITY: _____ DATE: 1 1

RESPONSE:

DISPOSITIONS FOR THE ABOVE SUPPORTS CPL-329-I & CPL-329-K	DISTRIBUTION
ARE RETURNED HERewith.	

SIGNED: _____

*RELEASING AUTHORITY: _____

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-236

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

COMPONENT COOLANT

COMPONENT

NAME: ROG HANGER

COMPONENT

ID NO.: CPL-329-I

DWG./LOC.: CPL-329 REV-0 / CONTAINMENT

☒ VT-3 PROCEDURE: SP 1097 ERO 4-29-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR

☒ OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER
☐ MECHANICAL SNUBBER
☒ SUPPORT/HANGER

☐ CONSTANT SUPPORT
☐ VARIABLE SUPPORT

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
MISALIGNMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>			STROKE: <u>N/A</u> SIN <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS PIPE WAS INSULATED
EXPANDED SCOPE

EXAMINER: Edmund R. Donovan

LEVEL: II

DATE: 4-29-92

REVIEWER: Art P...

LEVEL: II

DATE: 4-29-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

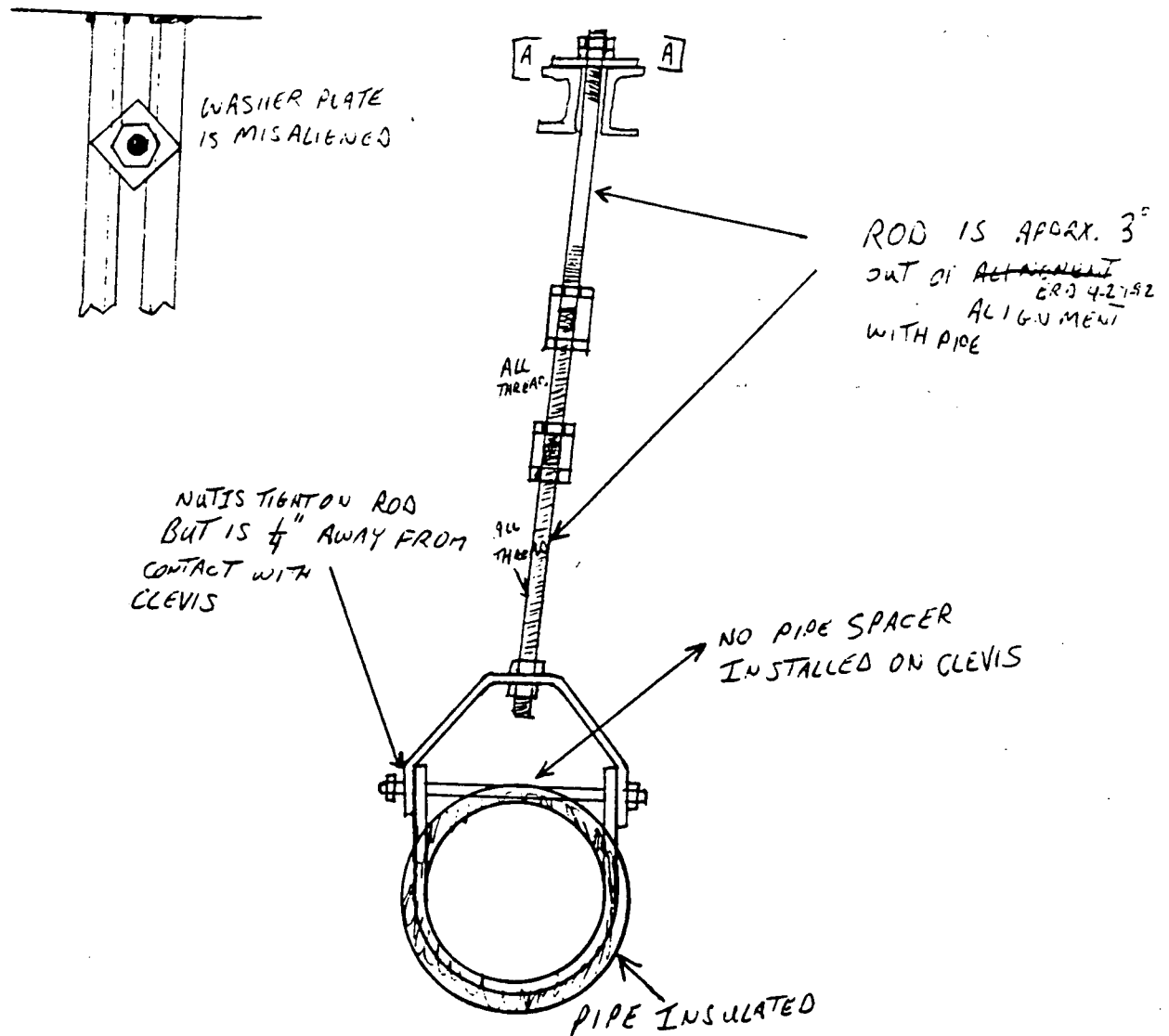
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-236EXAM ITEM CPL-329-IISO DWG. NO. CPL-329 REV. 0

SKETCH SHEET

EXAMINER Richard R. DarrowEXAMINER AREVIEWER W. J. Harrison

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL IILEVEL II

DATE _____

DATE _____

DATE 4-29-92DATE ADATE 4-29-92ERD

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-329-I

Visual Exam Report No. 1097-236

- [] Support is acceptable "as is". No corrective action required.
- [X] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

CORRECT MIS-ALIGNMENT OF WASHER PLATE. TIGHTEN NUT AGAINST
CLEVIS STRAP.

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED', 'NON-SEISMIC'
DEAD WEIGHT SUPPORT. NUTS ON CLEVIS IS NOT INVOLVED IN LOAD TRANSFER.
NOT TIGHTENING IS REQUIRED TO PREVENT SUPPORT FROM GETTING DISCONNECTED
DUE TO VIBRATION LOOSENING. MISALIGNMENT OF ROD HANGER OF 3° IS
WITHIN TOLERANCE OF SPEC. CPL-HBR2-C-011. ^{CLEVIS} CLAMP SPACER DOES NOT
CONTRIBUTE TO STRUCTURAL INTEGRITY, ITS FUNCTION IS TO PREVENT
OVERTIGHTENING OF CLEVIS STRAP AND THEREFORE MAY BE OMITTED.

Clement Rajendra / 5-11-92
NED Engineer Date



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-237

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

COMPONENT

COMPONENT

COMPONENT COOLANT

NAME: RCC HANGER

ID NO.: CPL-329-K

DWG./LOC.: CPL-329 REV-0 / CONTAINMENT

☒ VT-3 PROCEDURE: SP1097 ERO 4-24-82 NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

TYPE OF COMPONENT SUPPORT:

☒ FLASHLIGHT ☒ MIRROR

☐ HYDRAULIC SNUBBER
☐ MECHANICAL SNUBBER
☒ SUPPORT/HANGER

☐ CONSTANT SUPPORT
☐ VARIABLE SUPPORT

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
MISALIGNMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS PIPE WAS INSULATED
EXPANDED SCOPE

EXAMINER: Edmund E. Donovan

LEVEL: II

DATE: 4-29-92

REVIEWER: W. P. ...

LEVEL: II

DATE: 4-29-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

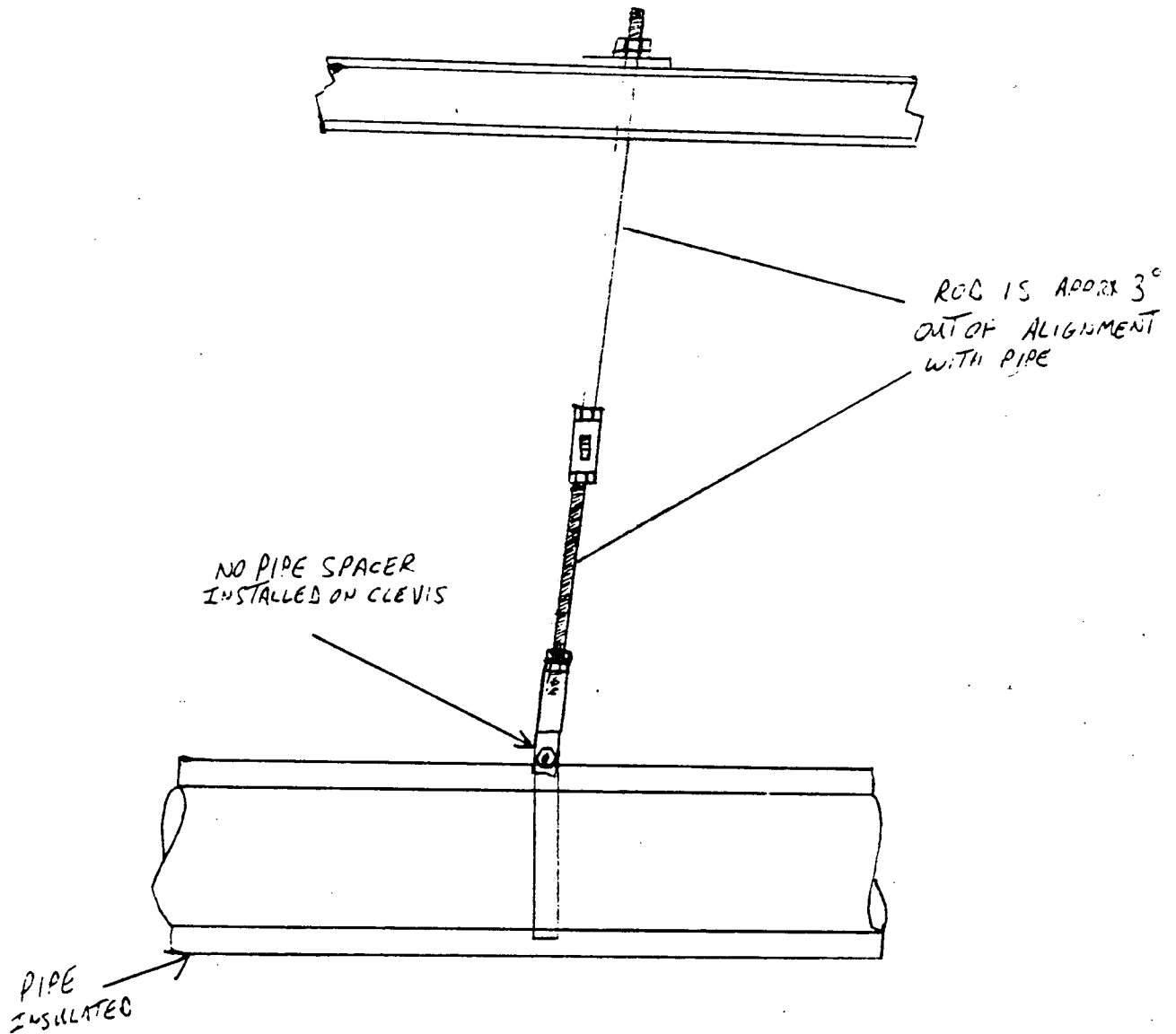
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-337
EXAM ITEM CPL-329-K
ISO DWG. NO. CPL 329 REV. 0

SKETCH SHEET



EXAMINER Edmund E. Dawson
EXAMINER NA
REVIEWER NA
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE _____
DATE _____

DATE 4-29-92
DATE NA
DATE 4-29-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-329-K

Visual Exam Report No. 1097-237

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis: THIS SUPPORT IS CLASSIFIED AS A 'NON SAFETY RELATED', 'NON-SEISMIC' DEAD WEIGHT SUPPORT.

MISALIGNMENT OF ROD HANGER (3°) IS WITHIN TOLERANCE OF SPEC.

CPL- HBR2- C-011, ~~CLEVIS CLAMP~~ SPACER DOES NOT CONTRIBUTE TO STRUCTURAL COR 5/11/92
INTEGRITY, ITS FUNCTION IS TO PREVENT OVERTIGHTENING OF CLAMP BOLTS
AND THEREFORE MAY BE OMITTED. CLEVIS STRAP COR 5/11/92

Clement Rajendra 15-11-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W. M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>CA. JONES / CLEMENT RAJENDRA</u>		<u>TSE-92-CX</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF <u>1</u>
<u>ATTACHED ARE ISI Visual Reports and SKETCHES</u>		MOD M-
<u>Requesting REED Disposition: Component ID's:</u>		PCN
<u>CPL-328-AA</u>		RET-R-6x92-Bx

327-B

327-C

327-R

328-L

328-D

230-A

DISTRIBUTION

SIGNED: [Signature]

EX 1888 4-18-92

RESPOND BY:

4/30/92 gt

*RELEASING AUTHORITY: _____

DATE: 4/20/92

RESPONSE:

ATTACHED ARE DISPOSITIONS FOR SUPPORTS: CPL-230-A, CPL-341-B,

CPL-326-AB, CPL-328-CC.

DISTRIBUTION

SIGNED: Clement Rajendra*RELEASING AUTHORITY: [Signature]DATE: 5/11/92

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-152

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-326-B1</u>
-------------------------------------	-----------------------------------	--

DWG./LOC.: CPL-326 REV.-1 / W.H.U.T. ROOM

☒ VT-3 PROCEDURE: SP-1097 ERO 4-1592 ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edward R. Davis LEVEL: II DATE: 4-15-92

REVIEWER: Art P... LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

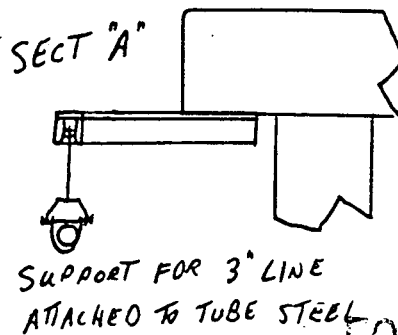
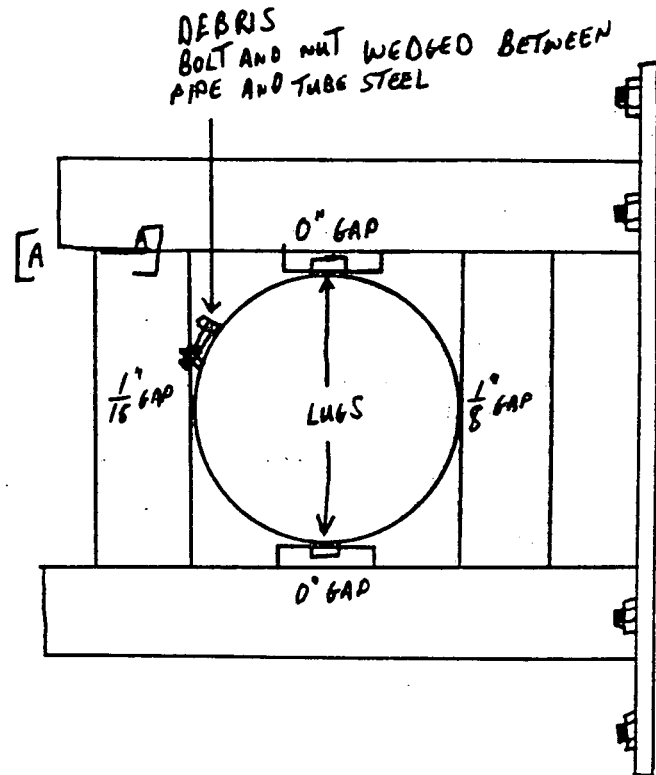
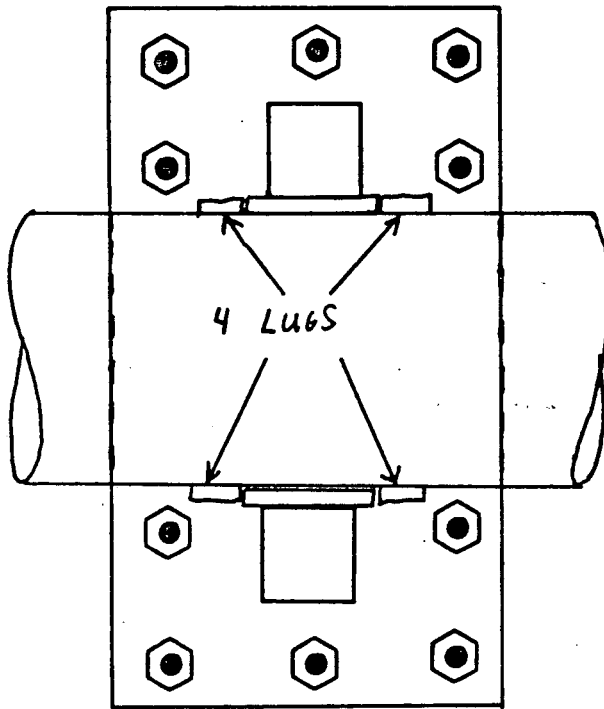
REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW:

DATE:

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edward R. Donovan
 EXAMINER NA
 REVIEWER Art P...
 REVIEWER _____
 REVIEWER _____

LEVEL II
 LEVEL NA
 LEVEL II
 DATE _____
 DATE _____

DATE 4-15-92
 DATE NA
 DATE 4-16-92

VISUAL EXAMINATION DATA SHEET

REPORT NO. _____

 WR&A # N/A

 PAGE 1 OF 2

 PLANT: NB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-326-B1</u>
-------------------------------------	-----------------------------------	--

 DWG./LOC.: CPL-326 REV.-1 / W.H.U.T. ROOM

<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1092 ERO 5-6-92</u> NDEP-613 REV.: <u>0</u>	<input type="checkbox"/> VT-4 PROCEDURE: <u>614 REV.:</u>
---	---

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/> EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS			<input checked="" type="checkbox"/>	
CORROSION/EROSION			<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY			<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

 COMMENTS: NO RECORDABLE INDICATIONS
RE EXAM AFTER REPAIR 5-6-92 FOR GAPS PER NED

 EXAMINER: Edmund R. Dawson LEVEL: II DATE: 5-6-92

REVIEWER: _____ LEVEL: _____ DATE: _____

 COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

1125

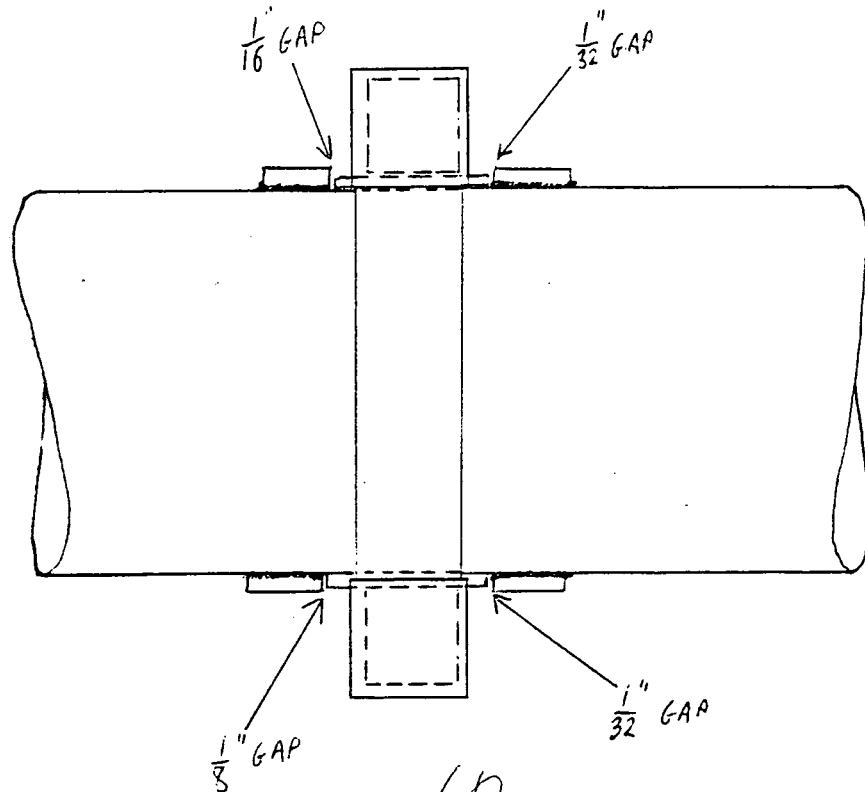
PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CPL-326-B1

ISO DWG. NO. CPL 326 REV. 0

SKETCH SHEET



Info
only

EXAMINER Edmund R. Dorewa
EXAMINER NA
REVIEWER _____
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL _____
DATE _____
DATE _____

DATE 5-6-92
DATE NA
DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-326-B1 *

Visual Exam Report No. 1097-152

254

CR2
5/11/92

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

DEBRIS DOES NOT AFFECT STRUCTURAL INTEGRITY. THIS SUPPORT IS
A SAFETY-RELATED, SEISMIC SUPPORT WITH 3-WAY RIGID RESTRAINTS.
REF. ISO AC-3, SH. 4 DP 1501. THE CLEARANCES ARE ACCEPTABLE GIVEN
THE TOLERANCES AND METHODOLOGY USED TO VERIFY THESE CLEARANCES.

* SUPPORT IS NOT CORRECTLY
LOCATED ON ISI ISOMETRIC
CPL-326.

Clement Rajendra /5-11-92
NED Engineer Date

CPL
Carroll Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-84

WR&A # NA

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>PUMP BASE</u>	COMPONENT ID NO.: <u>CPL-341-B</u>
-------------------------------------	-------------------------------------	---------------------------------------

DWG./LOC.: CPL 341 REV-0 / COMPONENT COOLANT ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 46-92
~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			PUMP BASE HAS CRACK IN SUPPORT LEG SEE ATTACHED SKETCH FOR LOCATION
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORD ABE INDICATION

EXAMINER: Edmund R. Donovan LEVEL: II DATE: 4-8-92

REVIEWER: C. J. MALL AM LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

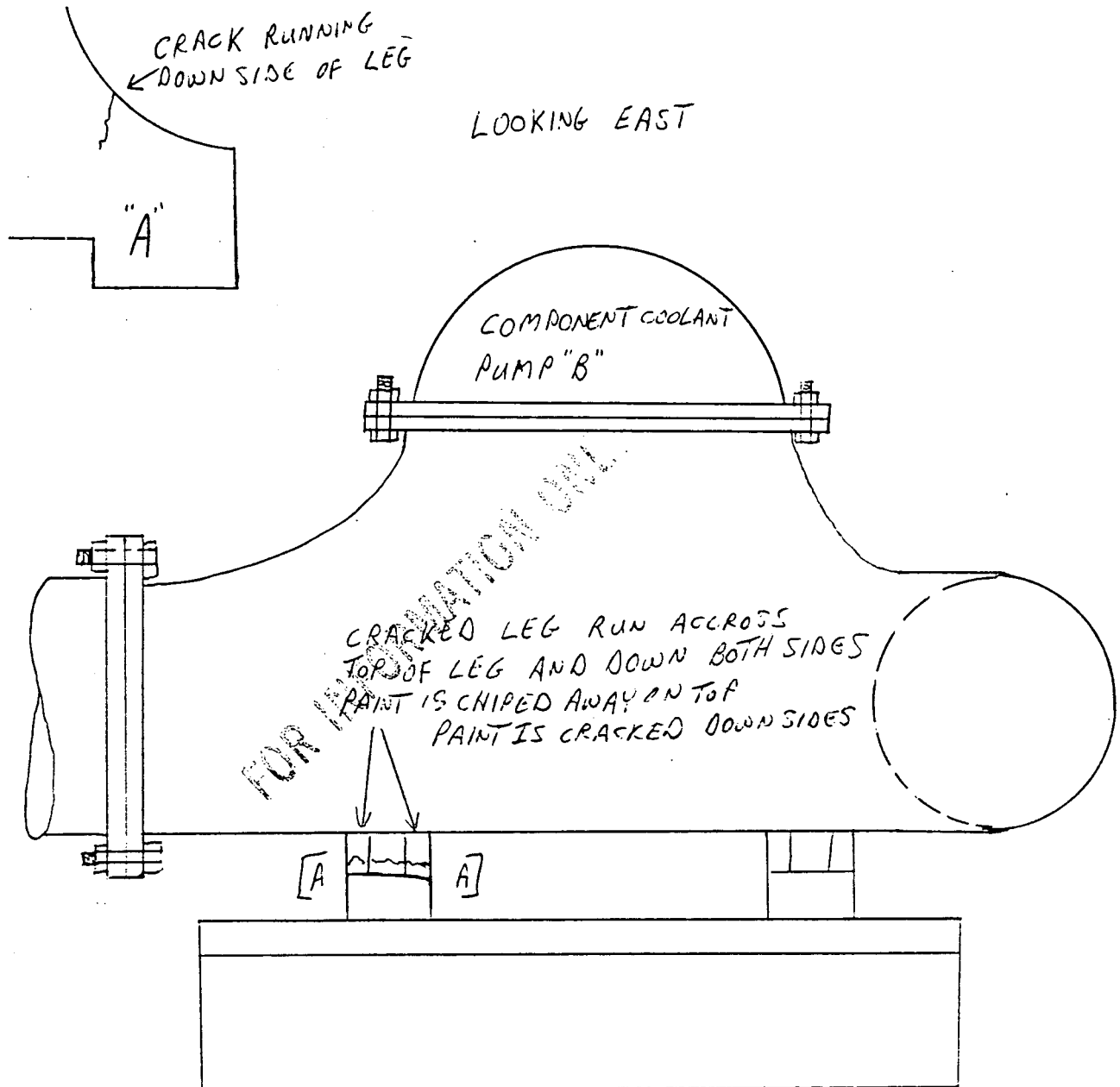
ANII REVIEW: DATE:

DATA SHEET NO. 1097-84

EXAM ITEM CPL-341-B

ISO DWG. NO. CPL-341 REV. 0

SKETCH SHEET



EXAMINER Edward F. Donovan

LEVEL II

DATE 4-6-92

EXAMINER. _____

EXAMINER. *AS*

EEL ²/_A

DATE N/A

REVIEWER: 1001-1-1

LEVEL II

DATE 6-7-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____



SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-341-B

Visual Exam Report No. 1097-84

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SEE EE-92-074

Clement Rajendra 15-11-92
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-Y6

WR&A # NA

PAGE 1 OF 4

PLANT: H. B. ROBINSON

UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM:

SI

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL 230 - A

DWG./LOC.: CPL 230 REV 0 / RHR PUMP RM.

[X] VT-3 PROCEDURE: ^{SP 1097 AP 4-7-92} ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X]

VIDEO RECORDING NO:

[X] N/A

EQUIPMENT USED:

[X] FLASHLIGHT [X] MIRROR

[X] OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

[X] HYDRAULIC SNUBBER

[] MECHANICAL SNUBBER

[] SUPPORT/HANGER

[] CONSTANT SUPPORT

[] VARIABLE SUPPORT

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓	✓		SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT		✓		
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: *8 1/2"		STROKE: 5"	S/N 30080

COMMENTS: * PIN TO SNUBBER
SNUBBER 21 (E-W)

RECORDABLE INDICATIONS

EXAMINER: Art P... LEVEL: II

DATE: 4-7-92

REVIEWER: Edmund R. ... LEVEL: II

DATE: 4-8-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-46

WR&A # N/A

PAGE 2 OF 4

PLANT: <u>H B ROBINSON</u>		UNIT: <u>[] 1 [X] 2 [] PSI [X] ISI</u>	
SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 230 - A</u>	
DWG./LOC.: <u>CPL 230 REV 0 / R42 PUMP RM</u>			
[X] VT-3 PROCEDURE: ^{SP 1097 AP4-A-92} NDEP-613 REV.: <u>0</u>		[] VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT [X] REMOTE [X]		VIDEO RECORDING NO: [X] N/A	
EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>		TYPE OF COMPONENT SUPPORT: [X] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [] SUPPORT/HANGER	
CONDITION Present	YES	NO	N/A
FASTENING DEVICES	✓		
MISALIGNMENT		✓	
DEBRIS		✓	
CORROSION/EROSION		✓	
STRUCTURAL INTEGRITY		✓	
RESISTANCE TO MOVEMENT		✓	
CLEARANCES OF MOVING PARTS	✓		
ARC STRIKES/GOUGES		✓	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>		
SNUBBER	ACTUAL: <u>* 8 3/8"</u>		STROKE: <u>5"</u> S/N <u>30077</u>
COMMENTS: <u>* PIN TO SNUBBER</u>		RECORDABLE INDICATIONS	
SNUBBER <u>22 (N-S)</u>			
EXAMINER: <u>Go Purnum</u>	LEVEL: <u>II</u>	DATE: <u>4-7-92</u>	
REVIEWER: <u>Edmund R. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-8-92</u>	
COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY			
REVIEWED BY:			
REVIEWERS COMMENTS:			
ANII REVIEW: DATE:			

1125

PAGE 3 OF 4

DATA SHEET NO. 1097-46

EXAM ITEM CPL 230-A (NUMBER 21)

ISO DWG. NO. CPL 230 REV. 0

SKETCH SHEET

NO DOUBLE NUTS

EXAMINER Art P...
EXAMINER N/A
REVIEWER Edmund R. D...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

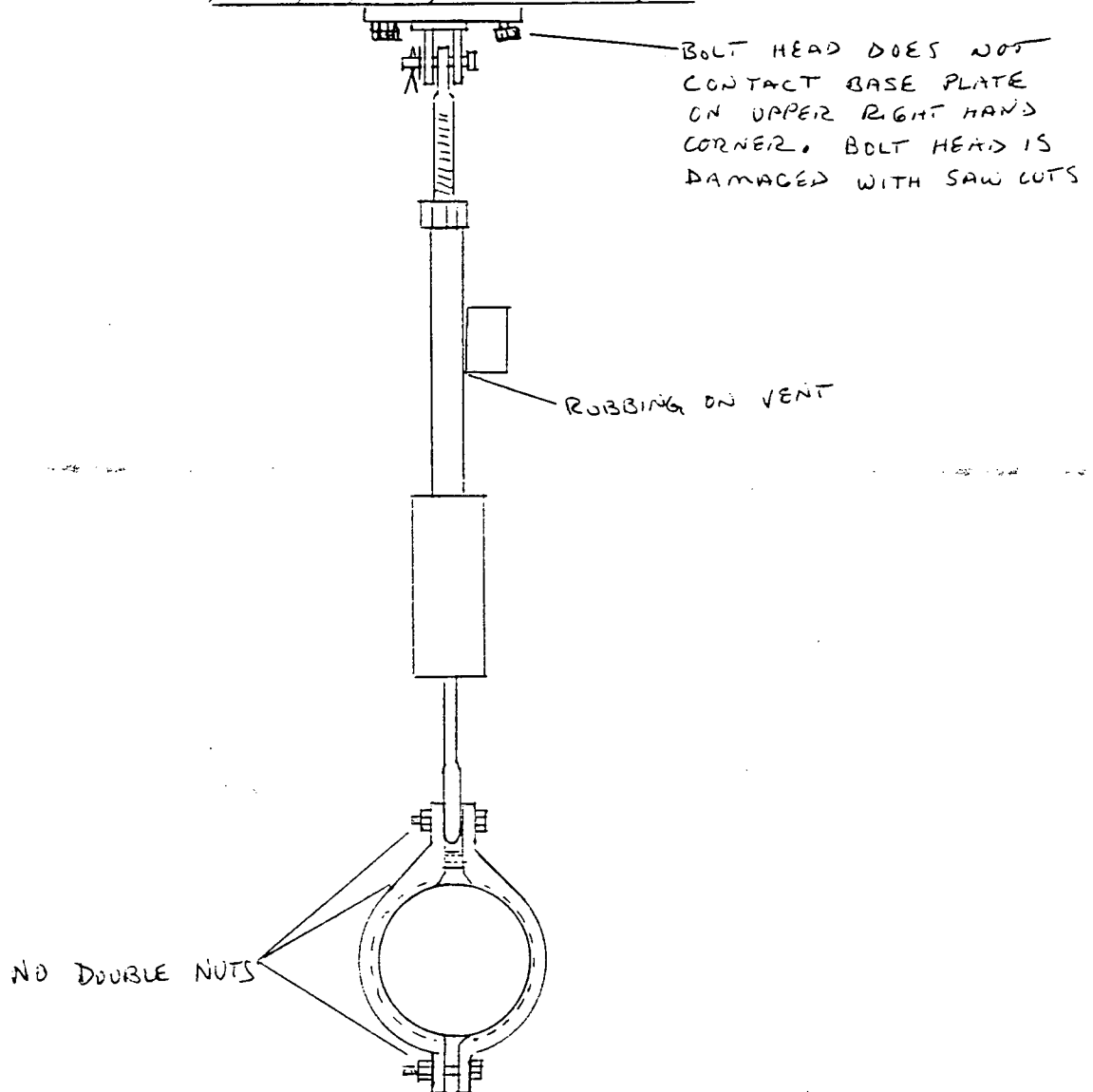
DATE 4-7-92
DATE N/A
DATE 4-8-92

DN

1125

PAGE 4 OF 4DATA SHEET NO. 1097-46EXAM ITEM CPL 230-A (SNUBBER 22)ISO DWG. NO. CPL 230 REV. 0

SKETCH SHEET

EXAMINER Carl P. PurnellLEVEL IIDATE 4-7-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Edmund R. DonovanLEVEL IIDATE 4-7-92

REVIEWER _____

DATE _____

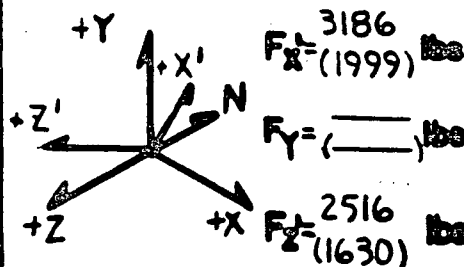
REVIEWER _____

DATE _____

DN

(SECT A)
10-SI-15-CF-80
— (SECT B)

BASE PLATE
IDENTIFICATION



LOAD CASE THRM+OBE
(THRM+DBE)

EBASCO CMPTR RUN

DATE: 11-15-84 TIME: 8:12 PM
RESTART 1-15-86 9:58 AM

RESTRAINT LOADS

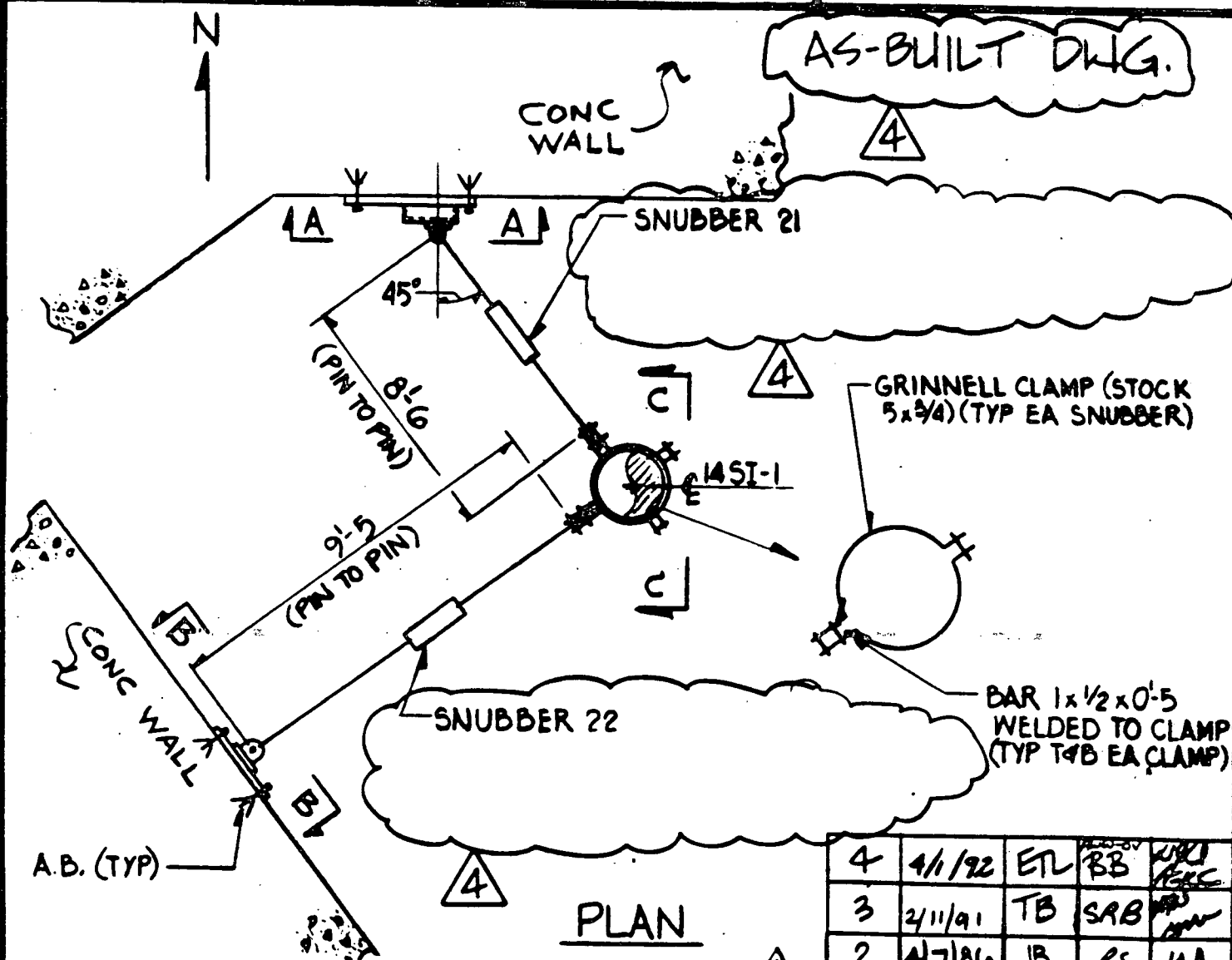
RESTRAINT LOCATION:
SEE ISO NO. SI-20
PT NO. 18 (18)
REACTOR AUX BLDG
RHR PUMP PIT

REST. CALC. NO. SI-20-18

MOD. NO. N/A

PMR. NO. N/A

AS-BUILT DWG.



NUCLEAR SAFETY RELATED

REV. 4 - ADDED SHTS. 3 & 4 PER RET-R692-AH.

4	4/1/92	ETL	BB	WKS
3	2/11/91	TB	SAB	WKS
2	4/7/86	JB	ES	WKS
1	1/8/85	WC	Hsw	WKS
REV	DATE	BY	CHK	APP'D

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. DWR
DATE: 10/84 CH. MI.
SCALE: NTS

APPROVED

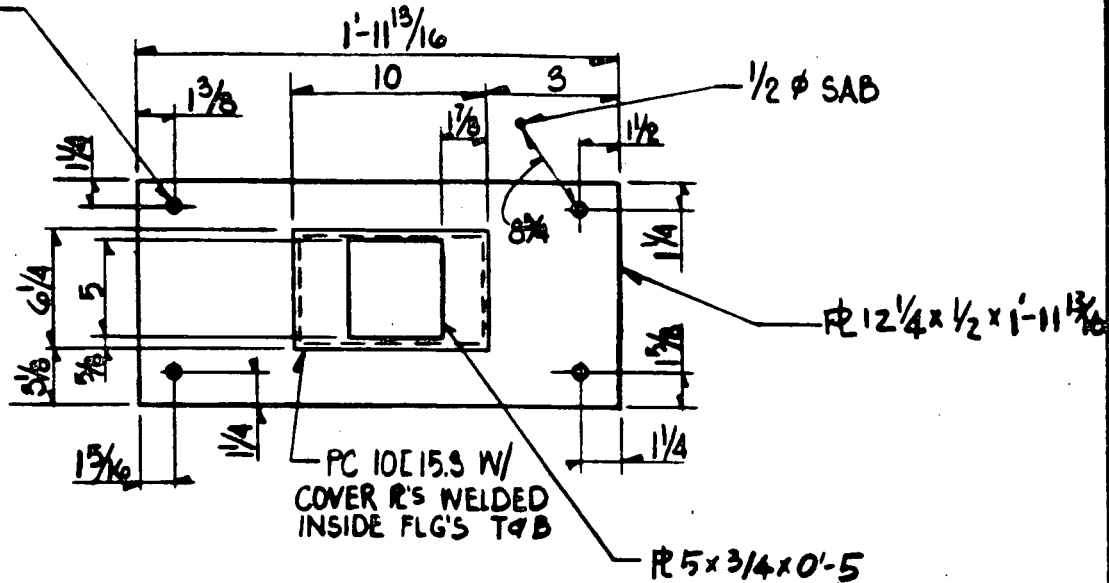
MD
UH

H.B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: SAFETY INJECTION
ISO NO./POINT NO. SI-20/18

AB-CAR-
SI-20-18
SH. 1 OF 4

ALL INFORMATION UNCLASSIFIED

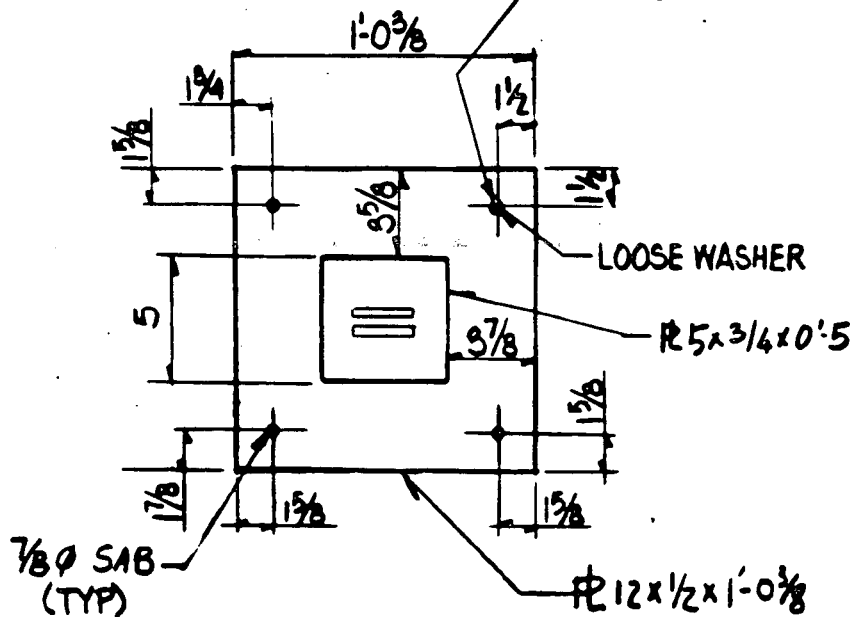
FOR INFORMATION ONLY

 $\frac{7}{8}$ ϕ SAB
(TYP U.N.)

SECTION A

AS-BUILT DRAWING

4

THIS BOLT IS NOT CONSIDERED
FOR CALCULATION PURPOSES
DUE TO INABILITY TO ACHIEVE
PROPER TORQUE.

SECTION B



SECTION C

REV	DATE	BY	CHK	APPD
4	4/1/92	ETL	BS	WRO/GSC
3	2/11/91	TB	SAB	WRO
2	4/7/86	JB	ES	WRO
1	1/18/85	WC	Hsw	WRO

NUCLEAR SAFETY RELATED

EBASCO SERVICES INCORPORATED

DIV. CIVIL DRNG/ST
DATE 1/10/94 CHLC/MZ
SCALE NTS

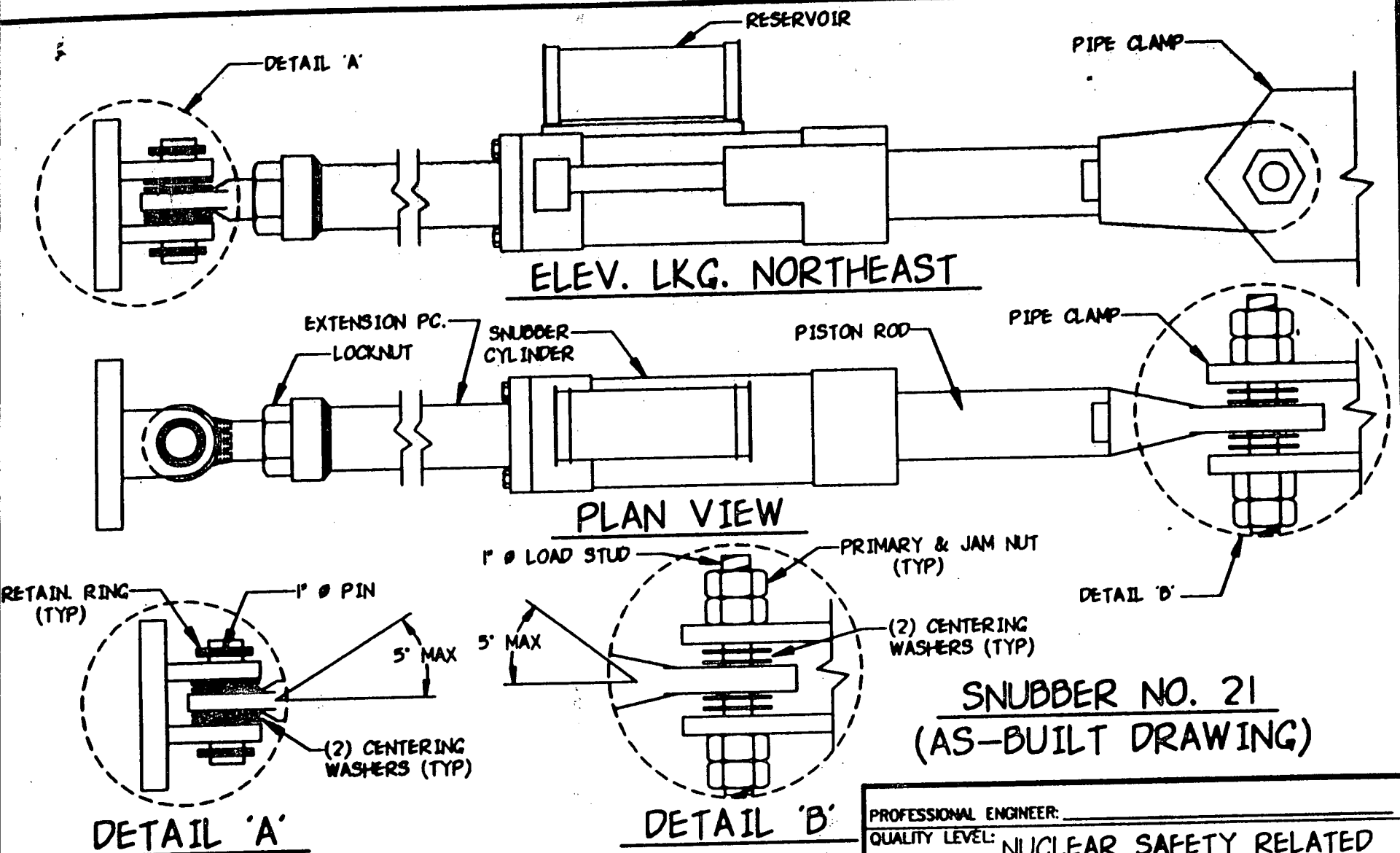
APPROVED

WRO
UH

H.B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: SAFETY INJECTION
ISO NO./POINT NO. SI-20/18

AB-CAR-
SI-20-18
SH. 2 OF 4

FOR INFORMATION ONLY



SNUBBER NO. 21 (AS-BUILT DRAWING)

NOTES:
1) REFER TO PROCEDURE EST-032 FOR ADDITIONAL INFORMATION.

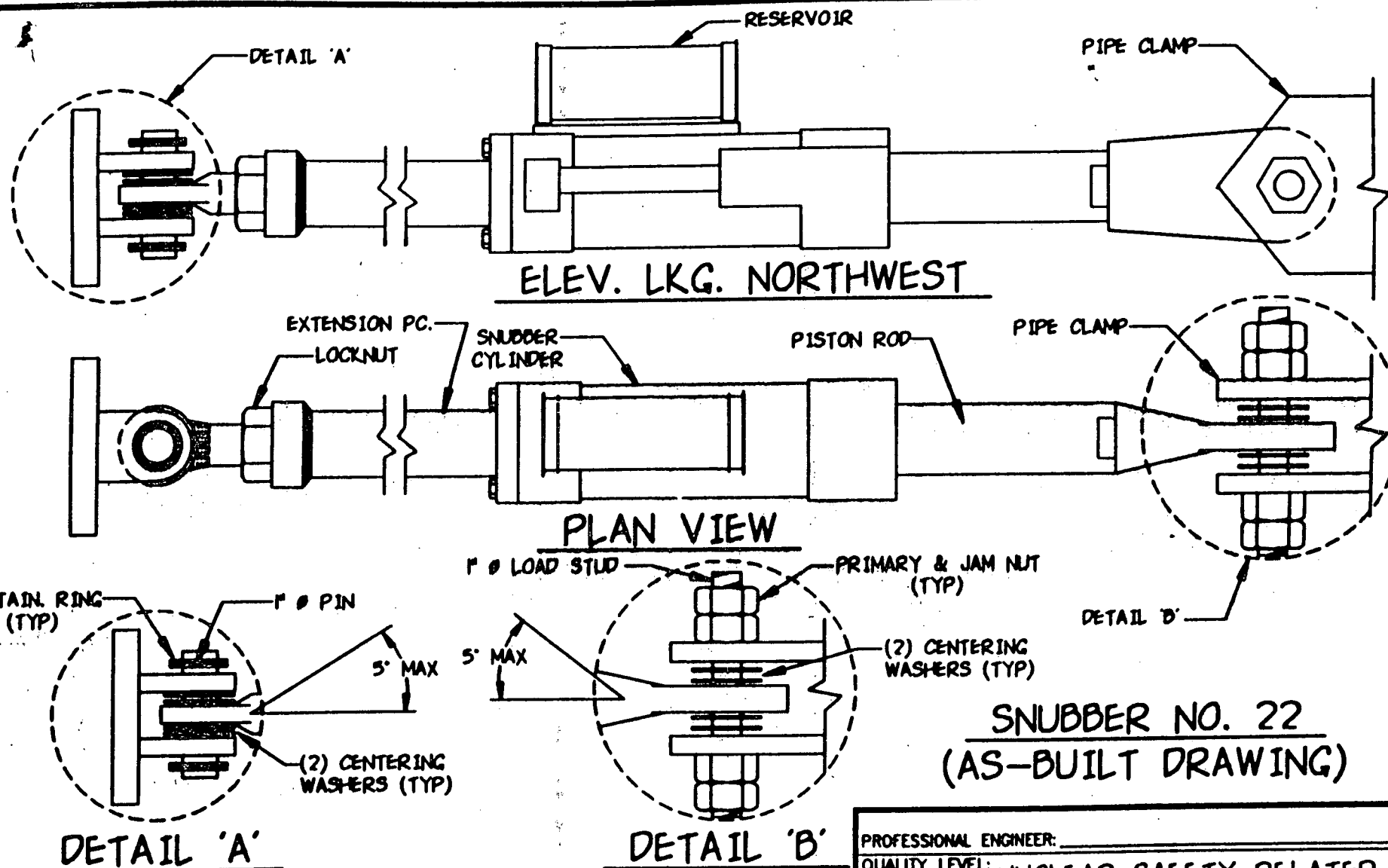
TYPE: GRINNELL
MODEL: FIG. 200/201
CS: 2 1/2"
STROKE: 5"
OPS RANGE: 1/2" TO 4 1/8"
RANGE: 1/2" TO 4 1/2"

REV	DATE	DESCRIPTION	DWN	DSN	CHK	BY	DATE	DPPE
0	4/1/77	ISSUED PER RET-RG92-AN	ET	ET	GR	7/77	4/1/77	4/1/77

PROFESSIONAL ENGINEER: _____	
QUALITY LEVEL: NUCLEAR SAFETY RELATED	
CAROLINA POWER & LIGHT COMPANY NUCLEAR ENGINEERING DEPARTMENT	
PLANT: H.D. ROBINSON - UNIT 2	SCALE: NONE
TITLE: SNUBBER NO. 21 RHR PUMP PIT UPSTREAM OF VALVE SI-862A	
PLANT DWG. NO.	REV. SHT: OF
MOO SKETCH NO. AB-CAR-SI-20-18	
SHT: 3	

CAD . LE: TL255

FOR INFORMATION ONLY



SNUBBER NO. 22 (AS-BUILT DRAWING)

NOTES:
1) REFER TO PROCEDURE EST-032 FOR ADDITIONAL INFORMATION

TYPE: GRINNELL
MODEL: FIG. 200/201
B3: 2 1/2"
STROKE: 5"
OPS RANGE: 1/2" TO 3 7/8"
RANGE: 1/2" TO 4 1/2"

REV	DATE	DESCRIPTION	DWN	DSN	CHK	APP	DATE
0	4/1/76	ISSUED PER RET-RG92-AN	ETL	ETL	WJP	WJP	4/1/76

PROFESSIONAL ENGINEER: _____	
QUALITY LEVEL: NUCLEAR SAFETY RELATED	
CAROLINA POWER & LIGHT COMPANY NUCLEAR ENGINEERING DEPARTMENT	CP&L
PLANT: H.D. ROBINSON - UNIT 2	SCALE: NONE
TITLE: SNUBBER NO. 22 RHR PUMP PIT UPSTREAM OF VALVE SI-862A	
PLANT DRG. NO.	REV.
MOD SKETCH NO. AB-CAR-SI-20-18	SHT: 4 of 4

CAD FILE: TL256

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-230-A

Visual Exam Report No. 1097-46

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

MODIFY DUCT WORK TO CREATE APPROX. 1" CLEARANCE BETWEEN
SNUBBER AND DUCT AT INTERFERENCE.

Basis:

DAMAGE ON ANCHOR BOLT ON BASE PLATE FOR SNUBBER 22 HAS
BEEN ALREADY EVALUATED PER NOTE ON PIPE SUPPORT DRAWING
AB-CAR-SI-20-18, Sh.2. THIS SUPPORT WAS ALSO REVIEWED FOR
TECH. SPEC. REQUIREMENTS AT A LATER DATE PER PROC. EST-032
ON 4/18/92. SETTINGS WERE RECORDED AS 3 1/2' FOR SNUBBER 21,
3 1/4' FOR SNUBBER 22 AND ARE ACCEPTABLE. ALTHOUGH THERE IS EVIDENCE
OF SOME RUBBING BY SNUBBER ON DUCT, NO DEFORMATION WAS NOTED.
SINCE THE PLANT HAS OPERATED IN THIS CONFIGURATION FOR SEVERAL
YEARS, ANY FUTURE THERMAL CYCLING WILL NOT RESULT IN DAMAGE
TO SNUBBER. THE CONTACT POINT BETWEEN SNUBBER AND VENT IS ON THE
EXTENSION PIPE OF THE SNUBBER WHICH IS MUCH STRONGER THAN
SHEET METAL OF DUCT. THEREFORE SEISMIC MOVEMENT WILL NOT DAMAGE
THE SNUBBER TO MAKE IT NON-FUNCTIONAL.

Clement Rajendra 15-11-92
NED Engineer Date

**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-222

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>CCW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 328 - CC</u>
--------------------	--------------------------------	---------------------------------------

DWG./LOC.: CPL 328 REV 0 / PIPE ALLEY - B.A. EVAP B ROOM

☒ VT-3 PROCEDURE: SP1097 AP 426-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N/A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS
NO SUPPORT ON PIPE ALLEY SIDE
NO PIPE CLAMPS ON B.A. EVAP RM. SIDE.

EXAMINER: Art Purnan LEVEL: II DATE: 4-26-92

REVIEWER: Edward R. Dorrance ED LEVEL: II DATE: 4-27-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: FOR INFORMATION ONLY

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID 334A
CPL-332-C1
CSR 5/15/91

Visual Exam Report No. 1097-105

N/A

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE SUPPORT BY DISCONNECTING CLAMP FROM PIPE AND
TRIMMING SUPPORT ANGLE.

Basis:

THIS SUPPORT WAS MADE NON-FUNCTIONAL BY MOD M-988 BY
THE ADDITION OF SUPPORT FW-1-239. SUPPORT CPL-332-C1
IS NOT REQUIRED TO SUPPORT PIPING 4-FW-27.

NOTE: ISI DRAWINGS AND DATA BASE SHOULD BE REVISED TO ELIMINATE
THIS SUPPORT.

Clement Rajendra / 5-15-92
NED Engineer Date

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C.A. JONES / CLEMENT RAJENDRA</u>		<u>TSE-92-CG</u>
SUBJECT: <u>Resolution of ISI Indications</u>		SHEET <u>1</u> OF <u>1</u>
<u>ATTACHED ARE ISI VISUAL REPORTS AND SKETCHES</u>		MOD M-
<u>Requiring NEP Disposition: Component ID's:</u>		PCN
<u>*CPL-325-E1 (NOTE NO DRAWING)</u>		RET-R-GX92-BX
<u>*221B-E</u>		
<u>*222B-C</u>		
<u>*222A-F</u>		
<u>*222-G</u>		
<u>*233-C</u>		DISTRIBUTION
<u>*325-F</u>		
<u>325-I</u>		
SIGNED: <u>Richard B. Weber 4/19/92</u>		RESPOND BY: <u>4/23/92</u>

*RELEASING AUTHORITY: _____ DATE: 1 1

RESPONSE:

ATTACHED IS THE DISPOSITION FOR SUPPORT CPL-325-F.

	DISTRIBUTION

SIGNED: Clement Rajendra*RELEASING AUTHORITY: C.A. Jones DATE: 5 11 1992

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-24
 WR&A # N/A
 PAGE 1 OF 2

PLANT: H B ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI
 SYSTEM: COMPONENT COOLANT COMPONENT NAME: BOX RESTRAINT COMPONENT ID NO.: CPL-325-F

DWG./LOC.: CPL-325 REV-1 / COMPONENT COOLANT ROOM

☒ VT-3 PROCEDURE: SP 1097 ERD 4.4.92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A
 EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR TYPE OF COMPONENT SUPPORT:
☐ OTHER 6" SCALE ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH FOR LOCATION
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edward R Downer LEVEL: II DATE: 4-4-92
 REVIEWER: Art Pinner LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/9/92

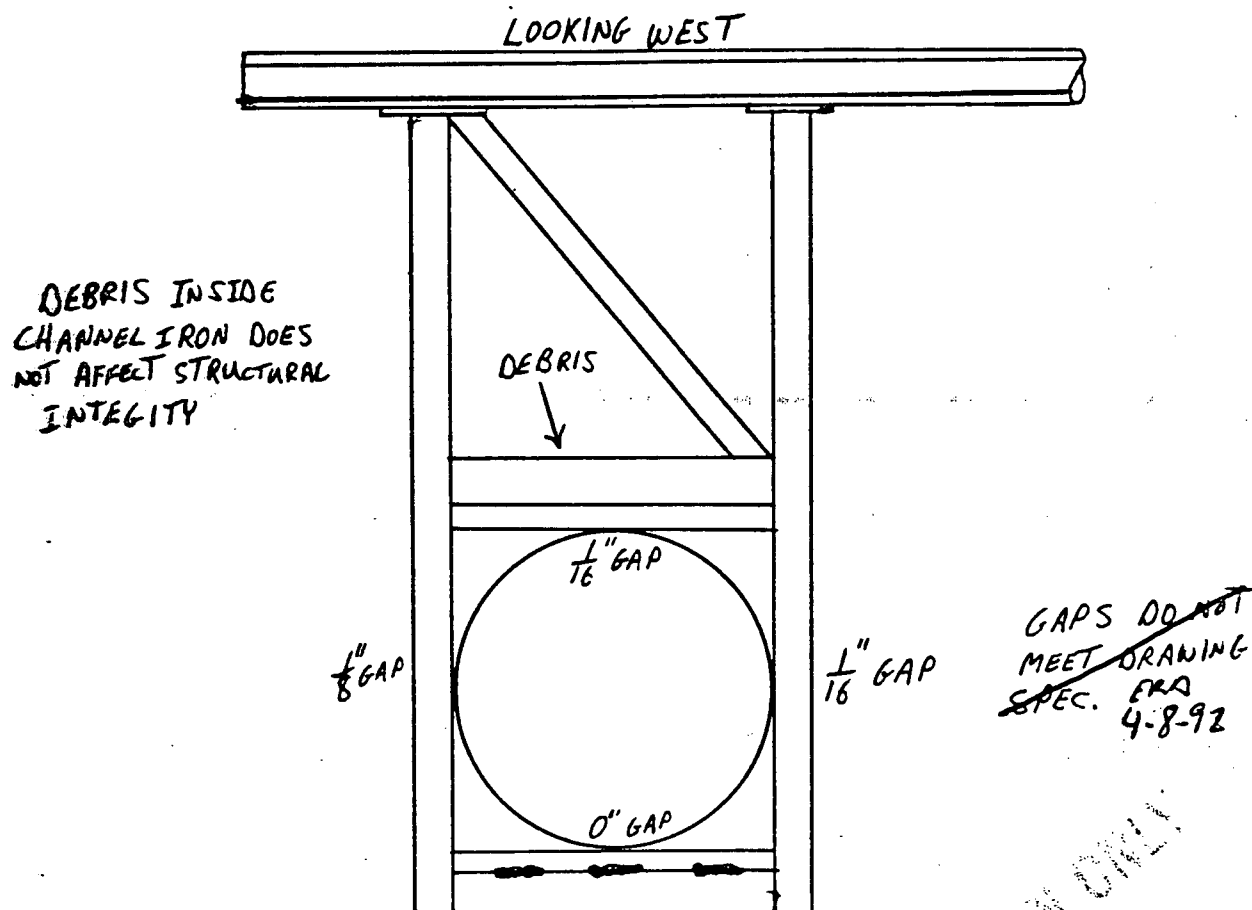
REVIEWERS COMMENTS:

ANII REVIEW: R. Walladanes DATE: 4.9.92

nes

PAGE 2 OF 2
DATA SHEET NO. 1097-24
EXAM ITEM CPL-325-F
ISO DWG. NO. CPL-325 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

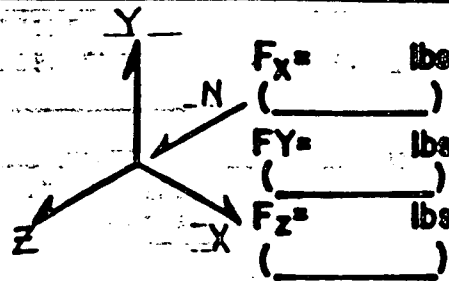
EXAMINER Edmund R. Donovan
EXAMINER NA
REVIEWER Art Pinner
REVIEWER Richard A. Weber
REVIEWER DM

LEVEL II
LEVEL NA
LEVEL II
DATE 4/9/92
DATE

DATE 4-4-92
DATE NA
DATE 4-6-92

new
stack ~~6 of 8~~
5 of 8

NOT APPLICABLE



LOAD CASE DBE
EBASCO CHART METHOD
(GRINNEL DSN LOADS)

RESTRAINT LOCATION:
SEE ISO NO. AC-1
PT NO. 21/1

RAB
'A' COMPONENT COOLANT
HEAT EXCHANGER

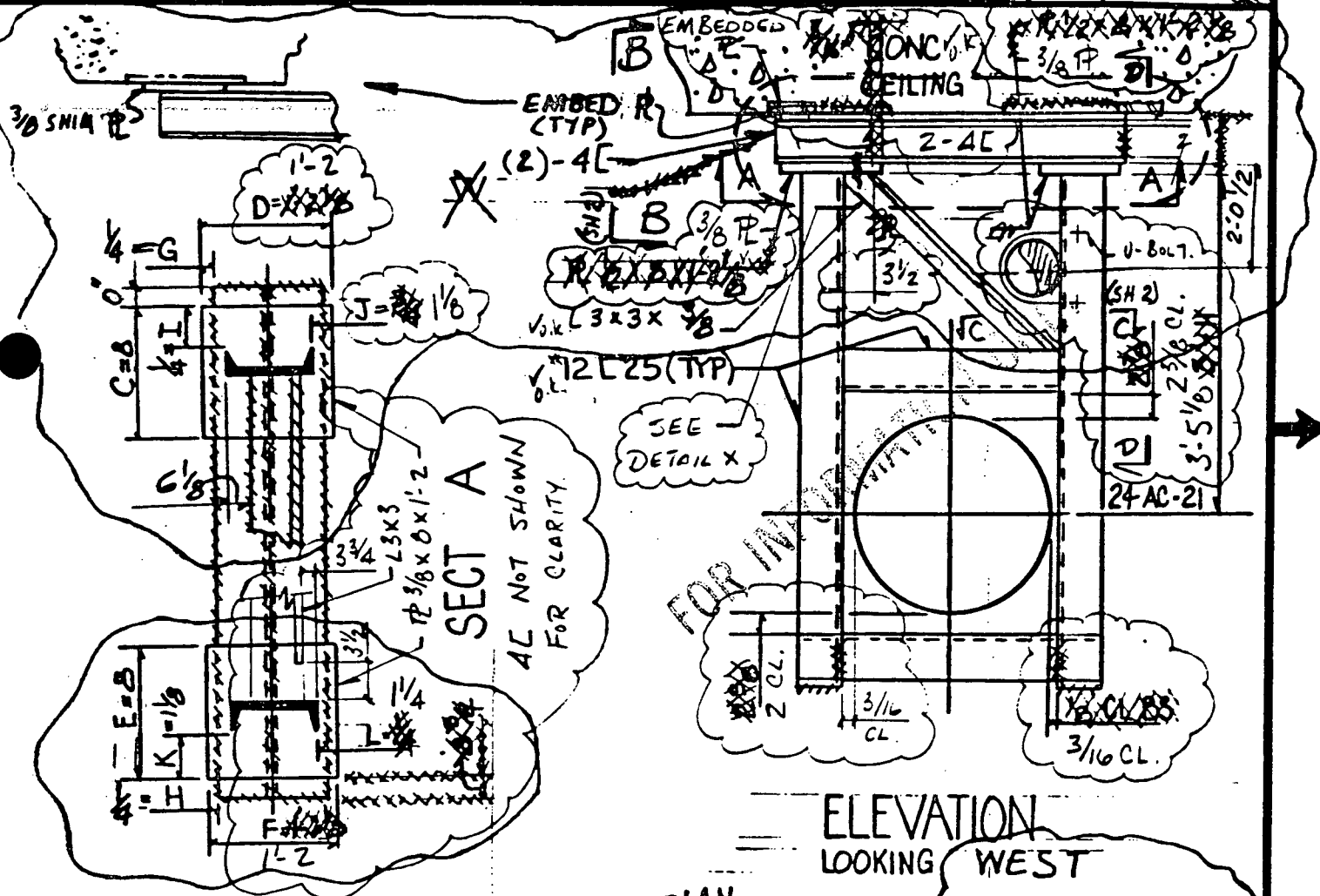
BASE PLATE IDENTIFICATION

DESIGN LOADS

REST CALC NOT DPW-3

MOD. NO N/A

PMR NO N/A



THIS SKETCH SUPERSEDES
INSPECTION SKETCH
DATED 12-16-83

5417. 1 OF 3

N. GHASSABIAN
12-16-83
H. C. Howe
May 7, 1984

GENERAL NOTES: SEE SK-AB-CAR-AB-1

ELEVATION
LOOKING WEST

-SH 1 OF 2

PT #1211

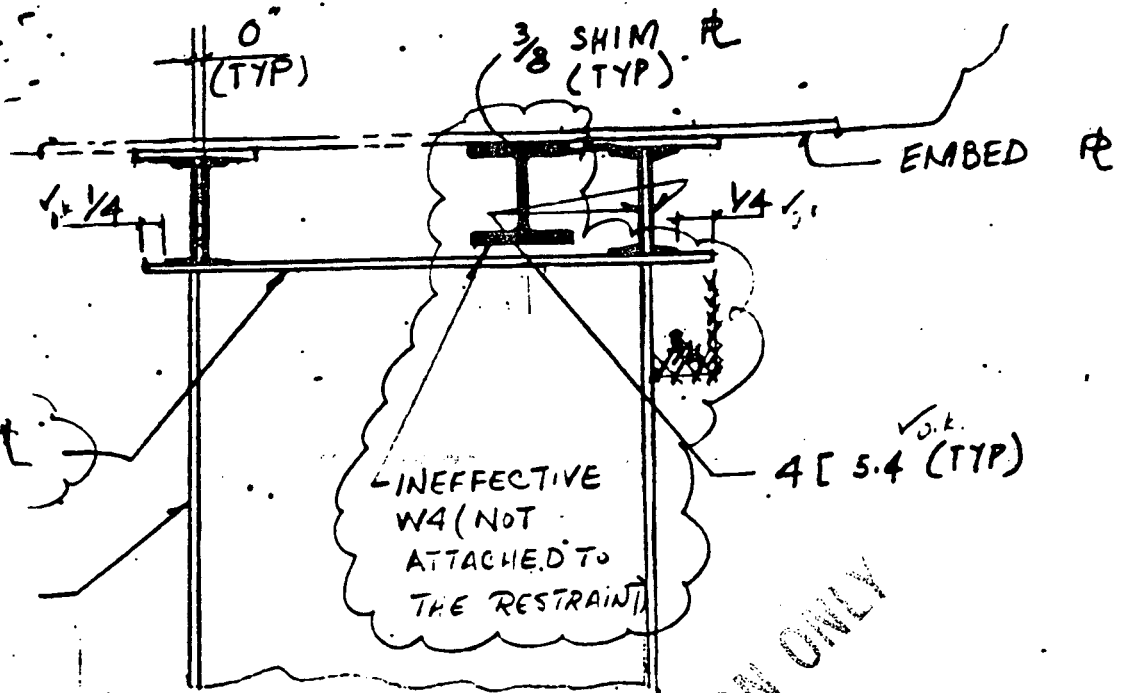
EBASCO SERVICES INCORPORATED
DIV. CIVIL DR. TMR APPROVED

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH

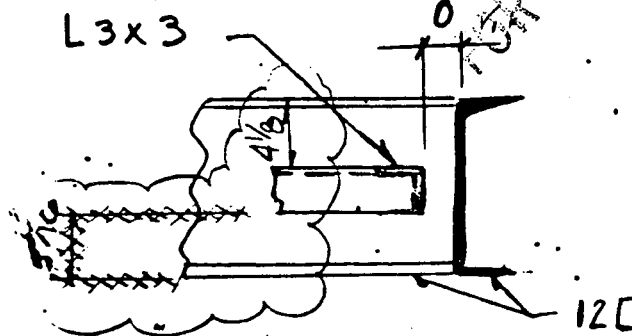
AB-CAR-

REV	DATE	BY	CHK	APP'D
-----	------	----	-----	-------

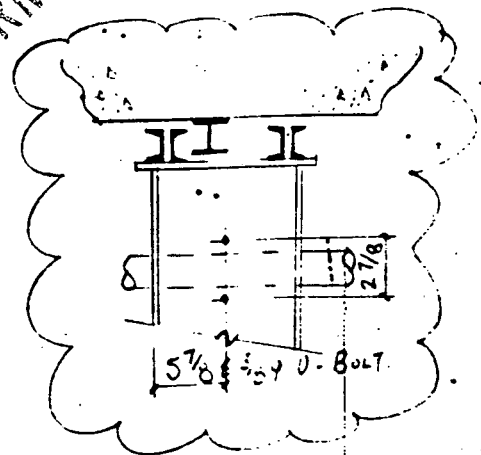
AC-1/21/1



SECT B (SH 1)



SECT C (SH 1)



GHASSABIAN

Date

12-16-83

Flange

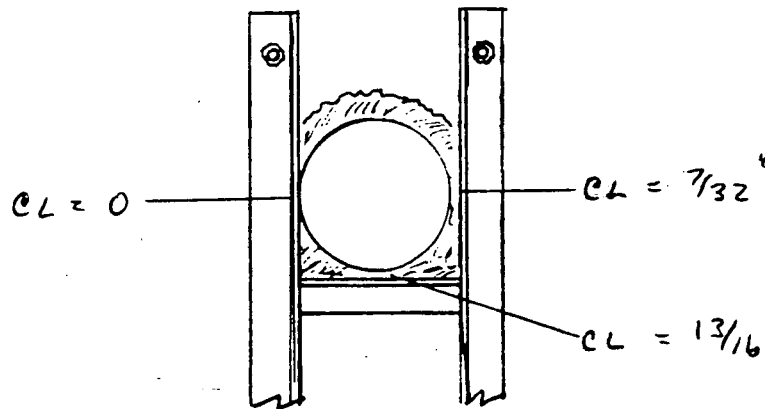
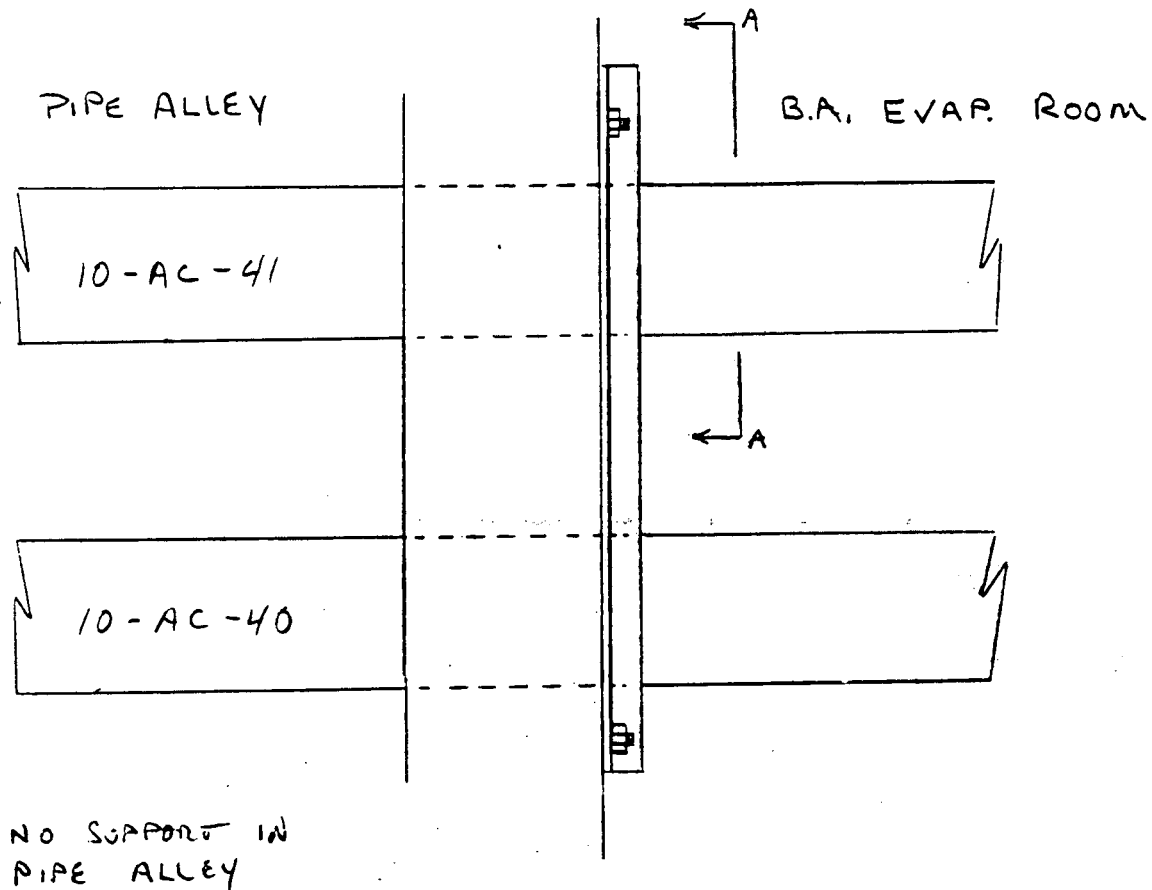
May 7, 1984

SUPPORT "F"
PT # 1211

1125

PAGE 2 OF 2DATA SHEET NO. 1097-222EXAM ITEM CPL 328 - CCISO DWG. NO. CPL 328 REV. 0

SKETCH SHEET



A-A

FOR INFORMATION ONLY

EXAMINER Cert PumaEXAMINER N/AREVIEWER Edmund L. Darrow

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL N/ALEVEL II

DATE _____

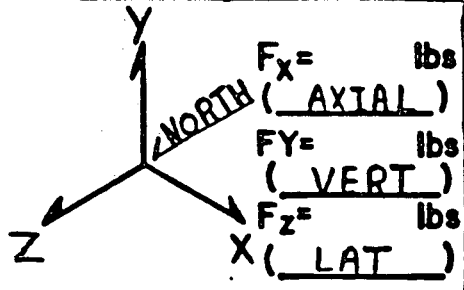
DATE _____

DATE 4-26-92DATE N/ADATE 4-27-92

SUPPORT "CC"
PRELIMINARY 12.14.83

N/A

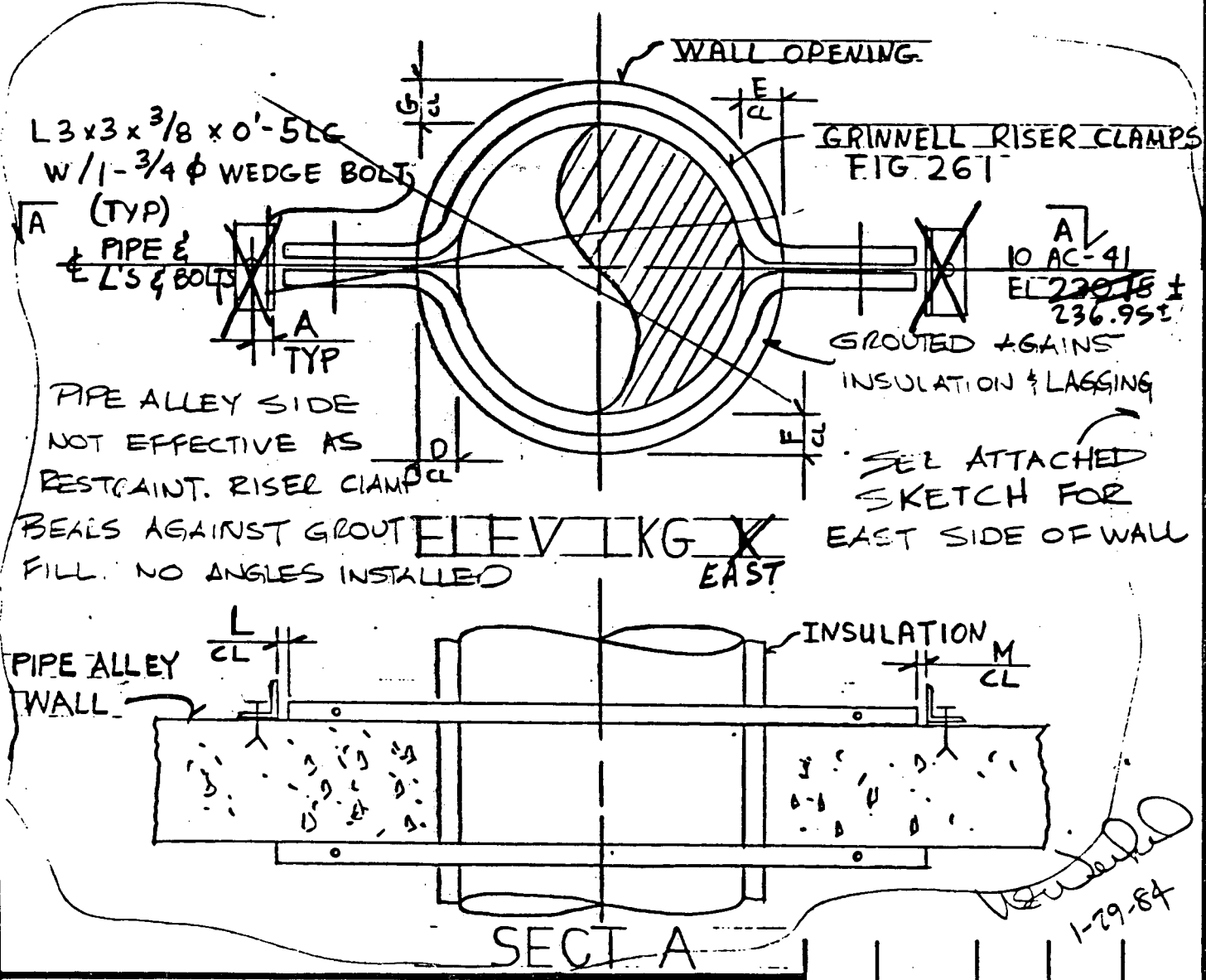
BASE PLATE IDENTIFICATION



LOAD CASE DBE
EBASCO CHART METHOD
(GRINNELL DSN LOAD)

DESIGN LOADS

RESTRAINT LOCATION:
SEE ISO NO. AC-4
PT NO. 41/5
RAB BORIC ACID
EVAPORATOR
(PIPE ALLEY)
PIPE ALLEY NORTH
CORRIDOR & BORIC ACID
EVAP B ROOM
REST CALC NO: N/AV
MOD. NO 492-5 R1
PMR NO 492-5



GENERAL NOTES: SEE SK-AB-CAR-AB-1

REV	DATE	BY	CHK	APP'D

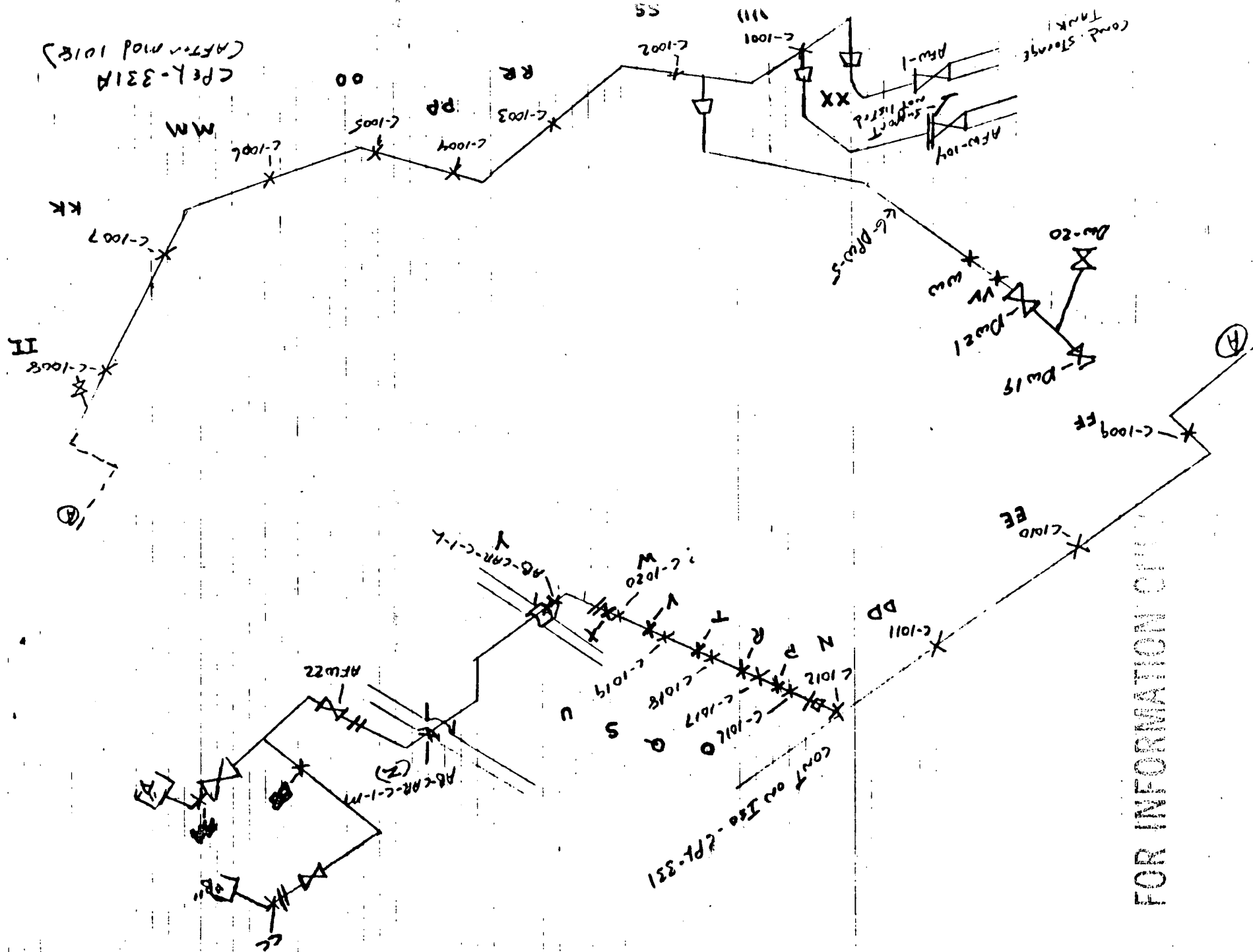
EBASCO SERVICES INCORPORATED
DIV. CIVIL DR. RG
DATE 12.13.83 CH. S.C.
SCALE NTS

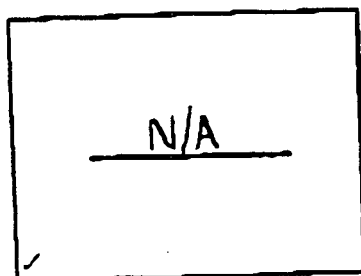
APPROVED

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: COMPONENT COOLING
ISO NO./POINT NO. AC-4/41/5

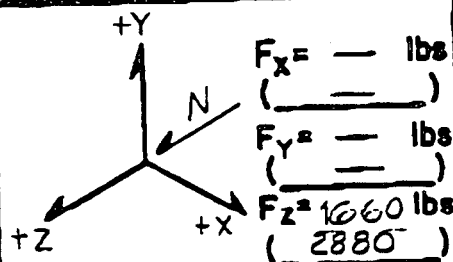
AB-CAR-
AC-4-41/5
SH. 1 OF 1

1415

[illegible]



BASE PLATE IDENTIFICATION



LOAD CASE THRM + DBE
(THRM + DBE)

EBASCO CMPTR RUN
DATE: 7-5-84 TIME: 4:38 PM

RESTRAINT LOADS*

RESTRAINT LOCATION:

SEE ISO NO. AC-4
PT NO. 41/5 (1415)

RAB - PIPE ALLEY
NORTH CORRIDOR &
BORIC ACID EVAP B ROOM

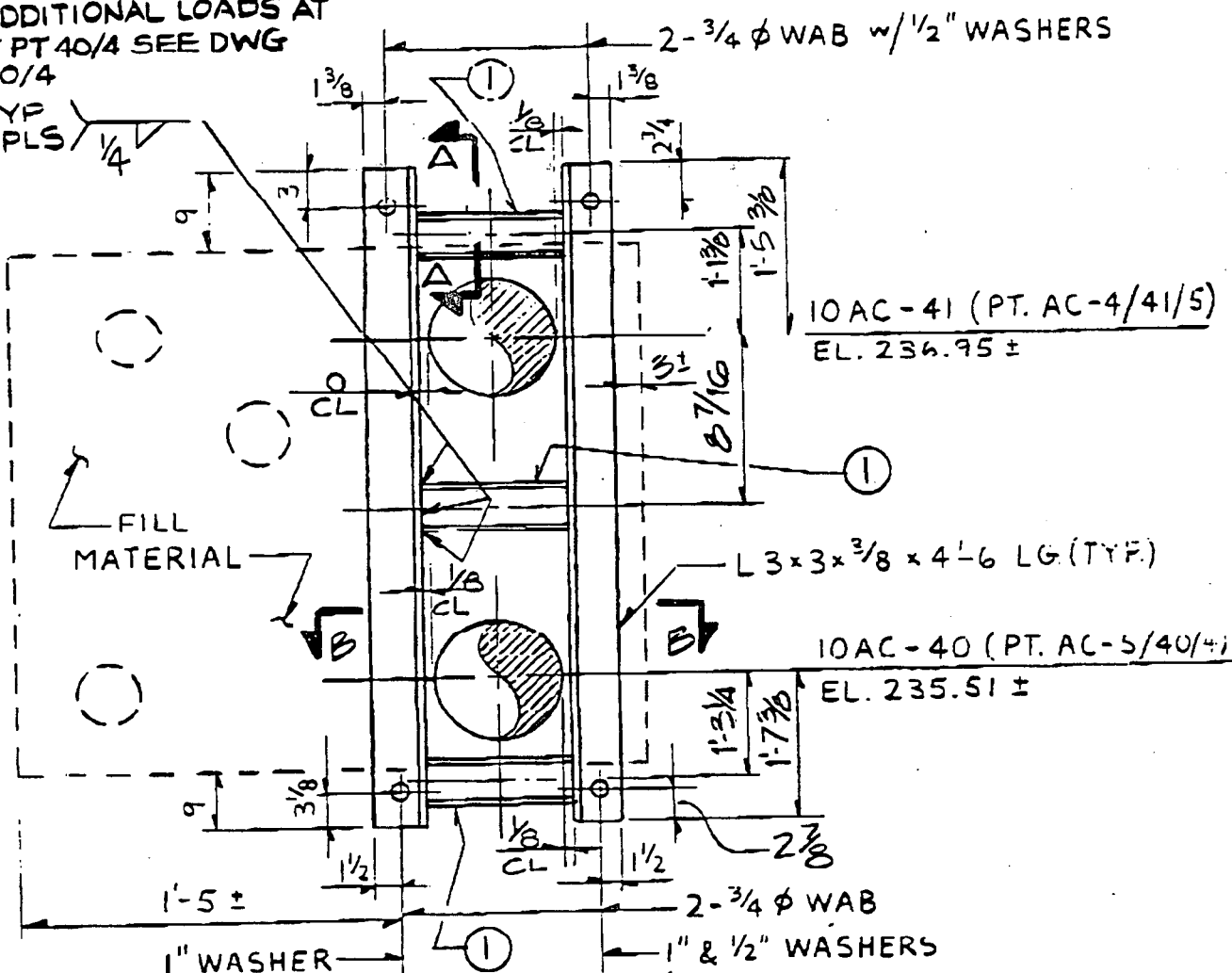
REST CALC NO. AC-4-4-41/5

MOD NO. M492-REV 3

PMR NO. 0

* FOR ADDITIONAL LOADS AT
AT REST PT 40/4 SEE DWG
AC-5-40/4

TYP
6 PLS 1/4



NUCLEAR SAFETY RELATED

REV. 1 INCORPORATES
AS-BUILT CONDITION

ELEV LKG WEST
(BORIC ACID EVAP ROOM)

1	4/16/85	DLL	Hsw	JD
REV	DATE	BY	CHK	APPD

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. JMS/TD
DATE 7/3/84 CH. BV
SCALE NTS

APPROVED

Hsw MSN

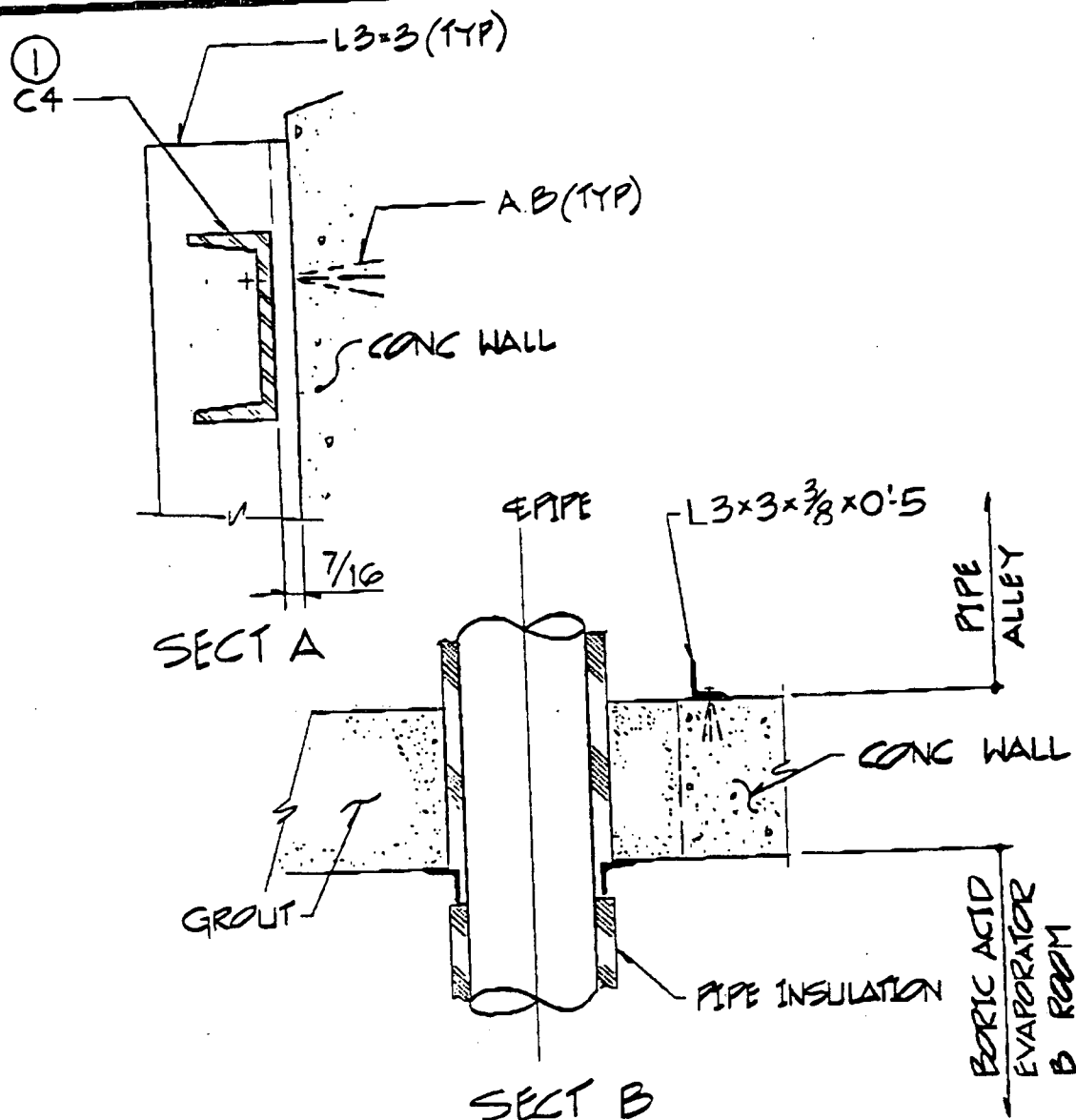
H. B. ROBINSON - UNIT 2

AS-BUILT RESTRAINT SKETCH
SYSTEM: AUXILIARY COOLANT
ISO NO./POINT NO. AC-4/41/5

AB-CAR-

AC-4-41/5

SH. 1 OF 3



1	4/16/85	DLL	HSW	AD
REV	DATE	BY	CHK	APP

NUCLEAR SAFETY RELATED

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. *JPS*
 DATE 7/3/84 CH. BV
 SCALE NTS

APPROVED

HSW
 HSW HSW

H.B. ROBINSON - UNIT 2
 AS-BUILT RESTRAINT SKETCH
 SYSTEM: AUXILIARY COOLANT
 ISO NO./POINT NO. AC-4/41/5

AB-CAR-
 AC-4-41/5
 SH. 2 OF 3



BILL OF MATERIALS

QA CLASS

ITEM

QTY

DESCRIPTION

Q

NA

①

3

CA-7.25-0-11 LG (CLIP TO SUIT)

YES

ALL STRUCTURAL STEEL ASTM A 36 UNLESS NOTED

REV

DATE

BY

CHK

APP'D

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. JTB

DATE 9/3/84 CH. BV

SCALE NONE

APPROVED

H. B. Robinson
Hsw / NSWCP&L / H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: AUXILIARY COOLANT
ISO NO./POINT NO. AC-4/41/5

AB-CAR-

AC-4-41/5

SH. 3 OF 3

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-Cc

Visual Exam Report No. 1097-222

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH ONE-WAY HORIZONTAL RESTRAINT. REF. ISO AC-4, Sht. 2 DP 14/5, THE CLEARANCES ARE ACCEPTABLE GIVEN THE TOLERANCE AND METHODOLOGY USED TO VERIFY THESE CLEARANCES.

Clement Rajendra 15-11-92
NED Engineer Date

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C.A. JONES / CLEMENT RAJENDRA</u>		<u>TSE .92 EQ</u>
SUBJECT: <u>ISI INDICATION'S</u>		SHEET <u>1</u> OF <u>2</u>
<u>ATTACHED ARE Reports AND SKETCHS Requested</u>		MOD M-
<u>By CLEMENT For Resolution ON ISI Reports</u>		PCN
<u>CPL-241-B</u>		RET-R-6x92-BX
<u>CPL-331A-BB</u>		
<u>CPL-331A-Z</u>		

	DISTRIBUTION
SIGNED: <u>[Signature]</u> <u>EX 1888 5-2</u>	RESPOND BY: <u>5/11/92</u>

*RELEASING AUTHORITY: _____ DATE: 5/5/92

RESPONSE:

DISPOSITIONS FOR THE FOLLOWING COMPONENTS ARE RETURNED

HEREWITH:

CPL-314-A, CPL-314-J, CPL-323-D,

CPL-323-A, CPL-323-T, CPL-323-A,

CPL-323-C, CPL-313-A, CPL-313-D,

CPL-313-C, CPL-313-E, CPL-313-F

DISTRIBUTION

SIGNED: _____	
*RELEASING AUTHORITY: _____	DATE: <u>5/5/92</u>
*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE	

ATTACHMENT 1
PAGE 2 OF 2

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM CONTINUATION SHEET

SITE MEMO #
TSE- 92 - EQ
SHEET 2 OF 2

CPL-323-A1 , CPL-230-B , CPL-221A-A , CPL-220-U
CPL-222-C , CPL-222A-J , CPL-241-B , CPL-334B-G
CPL-234-A

CPL
Conditioning Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-56
 WR&A # N/A
 PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 X2 1 PSI X ISI

SERV. & COOL. WATER COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-314-A

DWG./LOC.: CPL-314, Rev 0 / COMPONENT COOLANT RM.

X VT-3 PROCEDURE: SP-1097 ERO 4-8-92 NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR
1 OTHER 6" SCALE
 TYPE OF COMPONENT SUPPORT:
X HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER 1 VARIABLE SUPPORT
X SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>X</u>		
MISALIGNMENT		<u>X</u>		
DEBRIS		<u>X</u>		
CORROSION/EROSION		<u>X</u>		
STRUCTURAL INTEGRITY		<u>X</u>		
RESISTANCE TO MOVEMENT	<u>X</u>			<u>SEE ATTACHED SKETCH</u>
CLEARANCES OF MOVING PARTS	<u>ERO 4-7-92</u>	<u>X</u>	<u>X</u>	
ARC STRIKES/GOUGES		<u>X</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N RECORDABLE INDICATION
ERO 4-8-92

EXAMINER: Edward L. Donovan LEVEL: II DATE: 4-6-92

REVIEWER: Art Pinner LEVEL: II DATE: 4-7-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1125

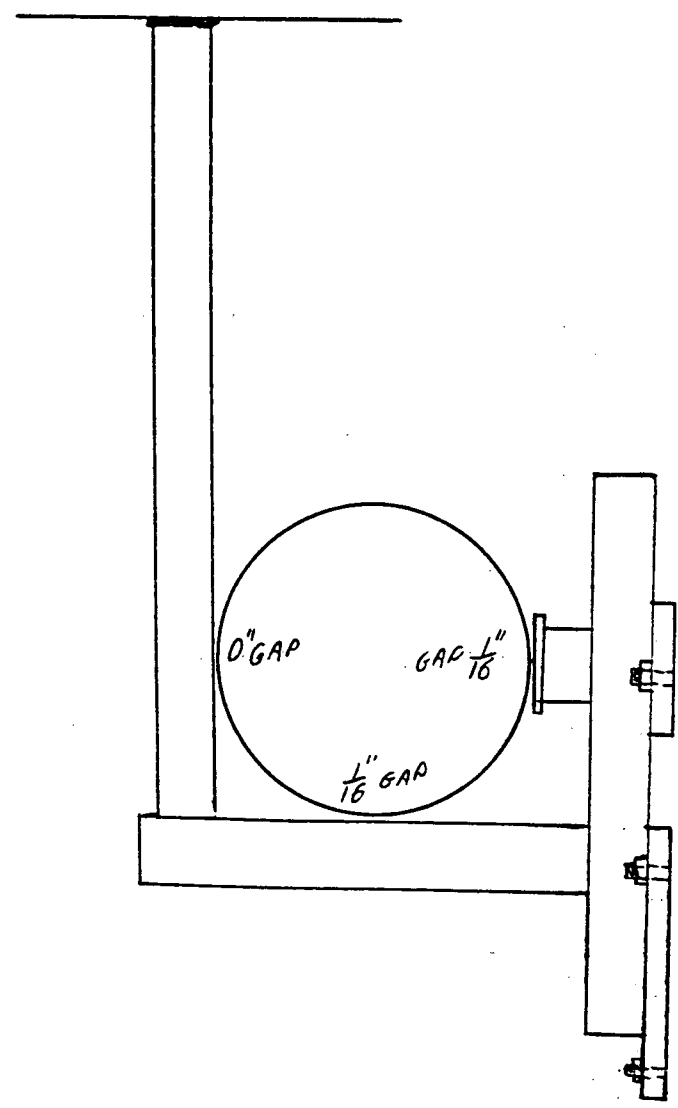
PAGE 2 OF 2

DATA SHEET NO. 1077-56

EXAM ITEM CPL-314-A

ISO DWG. NO. CPL-314 REV. 0

SKETCH SHEET



NEED TO KNOW
GAP TOLERANCE ERD 4.9-92
TOLERANCE

FOR INFORMATION ONLY

EXAMINER Edmund L. Davoren
EXAMINER SA
REVIEWER Art Penneman
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL II
LEVEL II
DATE _____
DATE _____

DATE 4-6-92
DATE 4-7-92
DATE 4-7-92

QAR

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-314-A

Visual Exam Report No. 1097-56

- ☐ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☒ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

SHIM UNDERSIDE OF PIPE IN ACCORDANCE WITH SPEC. CPL-HBR2-C-011,
SEC. 14.1.21 SO THAT THERE IS 0" CLEARANCE BELOW PIPE.
REMOVE PAINT ON TOP OF TUBE STEEL WITH EMERY CLOTH FOR
THE WIDTH OF SHIM (MIN.).

Basis:

THIS SUPPORT IS DESIGNED TO RESIST SEISMIC AND DEAD WEIGHT
LOADING AND IS CLASSIFIED AS A SEISMIC, SAFETY-RELATED
SUPPORT. CLEARANCE IS ACCEPTABLE FOR THE SUPPORT TO FUNCTION
AS A SEISMIC SUPPORT BUT NOT AS A DEAD WEIGHT SUPPORT.
HOWEVER B31.1 SPAN FOR DEAD WEIGHT LOADING IS NOT EXCEEDED.
THEREFORE THIS SUPPORT IS CONSIDERED ACCEPTABLE FOR SHORT
TERM DURATION. REF. IRR-RS-92-HL.

Clement Rajendra / 5-11-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-58

WR&A # N/A

PAGE 1 OF 2

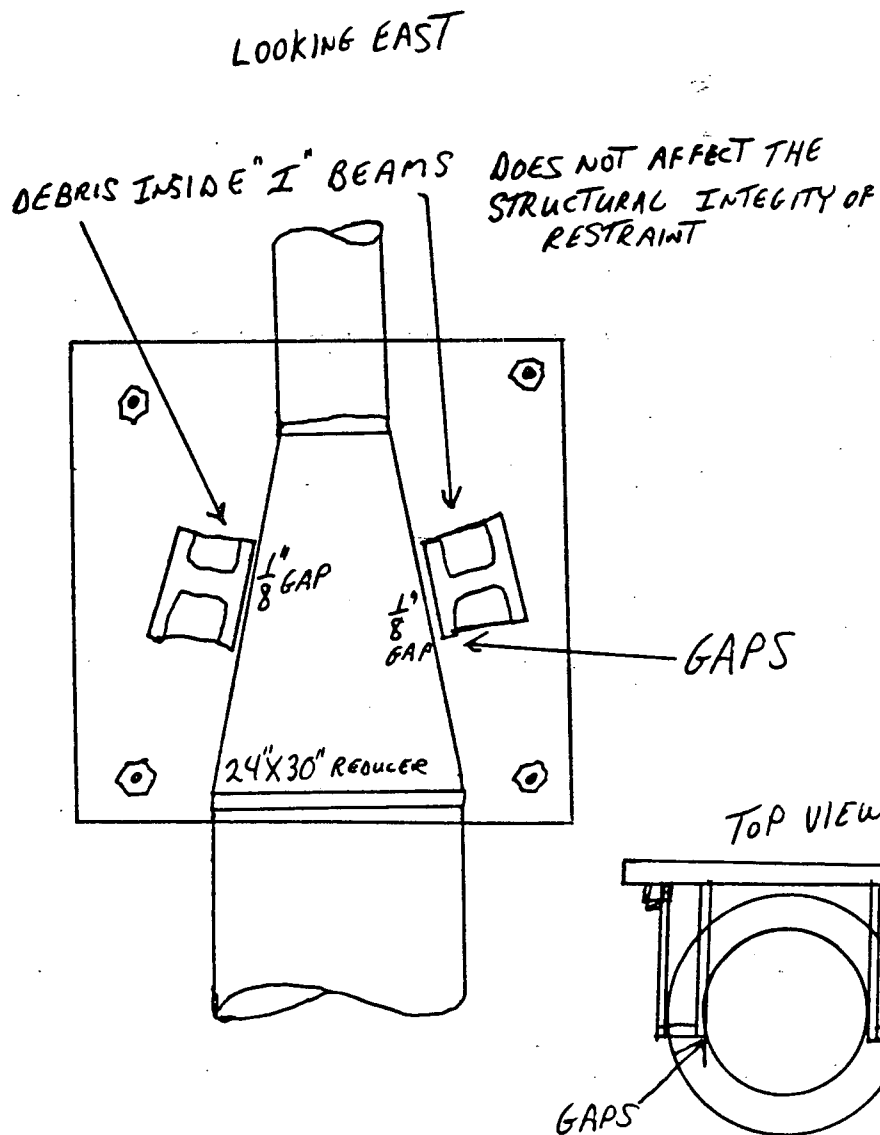
PLANT: <u>HB ROBINSON</u>		UNIT <u>1</u> <u>1</u> <input checked="" type="checkbox"/> <u>2</u> <u>1</u> <u>PSI</u> <input checked="" type="checkbox"/> <u>ISI</u>	
SYSTEM: <u>COOL WATER</u>		COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-314-J</u>
DWG./LOC.: <u>CPL-314 Rev 0</u> / <u>COMPONENT COOLANT RM.</u>			
<input checked="" type="checkbox"/> VT-3 PROCEDURE: <u>SP 1097 ERO 4-6-92</u> <u>NOEP 613 REV.: 0</u>		<u>1</u> <u>1</u> VT-4 PROCEDURE: <u>614 REV.:</u>	
DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>		VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A	
EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____		TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER <u>N/A</u>	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATION</u> <u>ERO 4-8-92</u>				
EXAMINER: <u>Edmund L. Dorman</u>		LEVEL: <u>II</u>		DATE: <u>4-6-92</u>
REVIEWER: <u>Art R...</u>		LEVEL: <u>II</u>		DATE: <u>4-7-92</u>
COMPONENT CONDITION: <u>1</u> <u>1</u> SATISFACTORY <u>FOR INFORMATION ONLY</u> UNSATISFACTORY				
REVIEWED BY:				
REVIEWERS COMMENTS:				
ANII REVIEW: _____ DATE: _____				

105

PAGE 2 OF 2DATA SHEET NO. 1097-58EXAM ITEM CPL-314-JISO DWG. NO. CPL-314REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Charles R. DonovanLEVEL IIDATE 4-6-92EXAMINER NALEVEL NADATE NAREVIEWER Git P...LEVEL IIDATE 4-7-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-314-J

Visual Exam Report No. 1097-58

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

CIR 5/11/92
THIS SUPPORT IS A SAFETY-RELATED, ~~SIS~~ SEISMIC SUPPORT WITH
ONE-WAY HORIZONTAL RESTRAINTS. REF. STRESS ISO SW-2, DP 220.
THE CLEARANCES ARE ACCEPTABLE GIVEN THE TOLERANCE AND
METHODOLOGY USED TO VERIFY THESE CLEARANCES.

Clement Rajendra / 5-11-92
NED Engineer Date



VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-204

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:

CW

COMPONENT

NAME: SUPPORT

COMPONENT

ID NO.: CPL 323-ED ^{AP4-21-92}

DWG./LOC.: CPL 323 REV 1 / Aux BLDG HALLWAY

☒ VT-3 PROCEDURE: ^{SP 1097 AP4-21-92} NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

☒ FLASHLIGHT ☒ MIRROR
☐ OTHER _____

TYPE OF COMPONENT SUPPORT:

☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS
COMPONENT IS INSULATED

EXPANDED SCOPE

FOR INFORMATION ONLY

EXAMINER: Art Pinner

LEVEL: II

DATE: 4-20-92

REVIEWER: Edward R. Darrow

LEVEL: II

DATE: 4-22-92

COMPONENT CONDITION: ☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

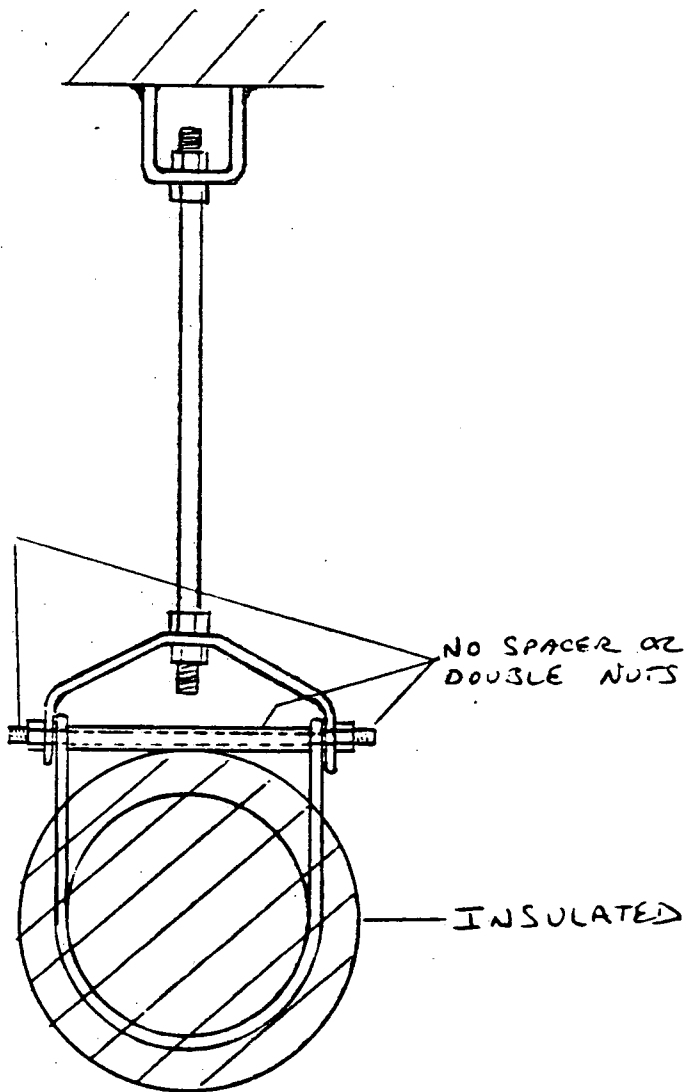
ANII REVIEW:

DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097-204EXAM ITEM CPL 323-DISO DWG. NO. CPL 323 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Art PinnerLEVEL IIDATE 4-20-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Edward R. DannerLEVEL IIDATE 4-22-92REVIEWER Richard B. WeberDATE 4/25/92

REVIEWER _____

DATE _____

AN

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL- 323 -D

Visual Exam Report No. 1097-204

- [X] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted. Per vendor catalog the clevis bolt was not provided with locknuts.

Clement Rajendra 15-11-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-205

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>CW</u>	COMPONENT NAME: <u>SUPPURT</u>	COMPONENT ID NO.: <u>CPL 323 - R</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL-323 REV 1 / AUX. BLDG. HALLWAY

[X] VT-3 PROCEDURE: SP1047 AP4-21-92 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXPANDED SCOPE

FOR INFORMATION ONLY

EXAMINER: Art Purnan LEVEL: II DATE: 4-20-92

REVIEWER: Edmund R. Donovan ED LEVEL: II DATE: 4-22-92

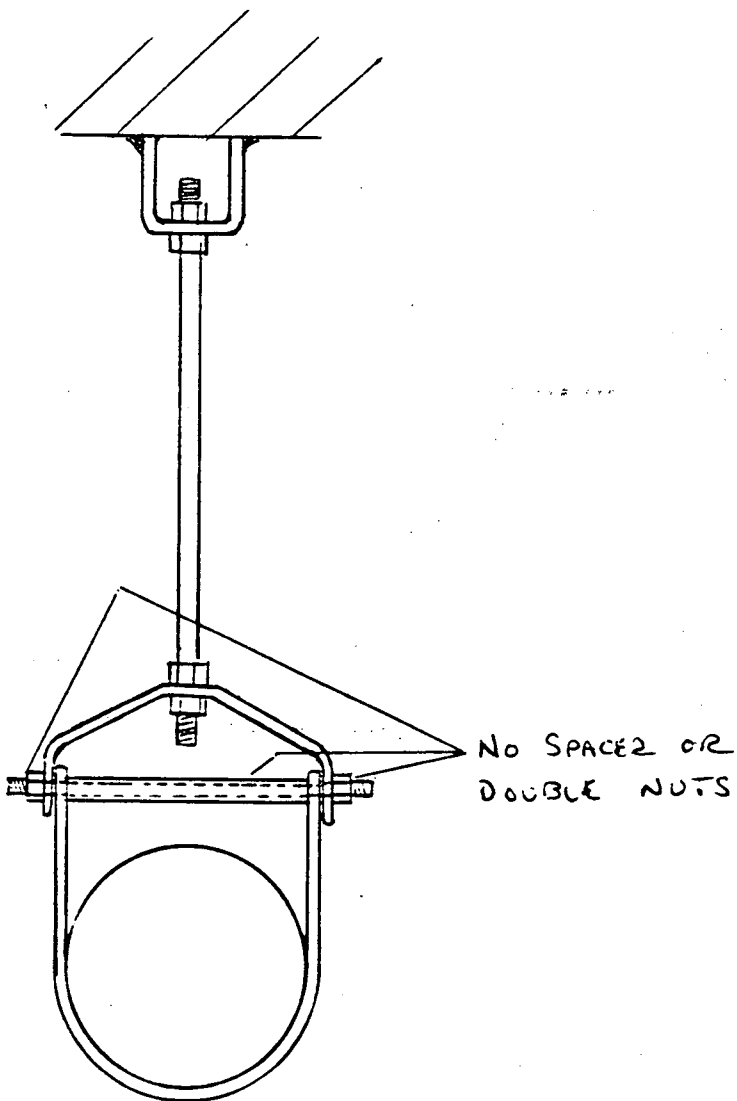
COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Frederick B. Weber 4/25/92

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER	<u>Art Pinner</u>	LEVEL	<u>II</u>	DATE	<u>4-20-92</u>
EXAMINER	<u>NA</u>	LEVEL	<u>NA</u>	DATE	<u>NA</u>
REVIEWER	<u>Glenn R. Dargatzis</u>	LEVEL	<u>II</u>	DATE	<u>4-22-92</u>
REVIEWER	<u>Richard B. Weber</u>	DATE	<u>4/25/92</u>		
REVIEWER		DATE			

Don

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-323-R

Visual Exam Report No. 1097-205

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

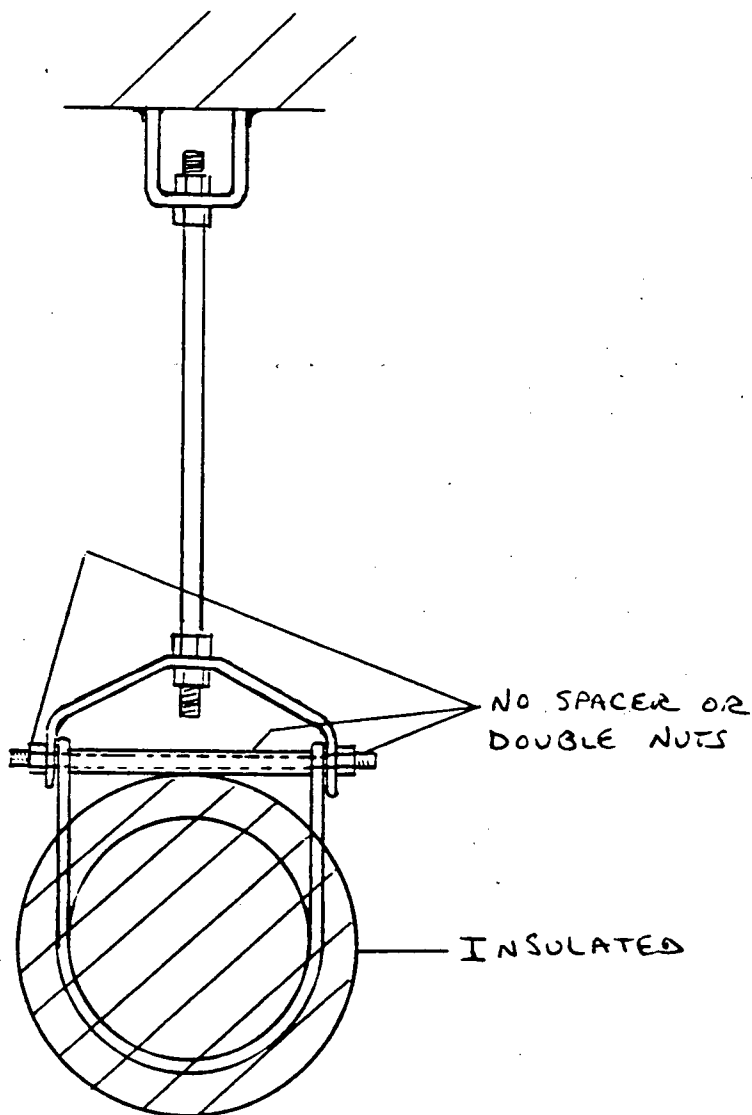
This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted. Per vendor catalog the clevis bolt was not provided with locknuts.

Clement Rajendra / 5-11-92
NED Engineer Date

1125

PAGE 2 OF 2DATA SHEET NO. 1097-206EXAM ITEM CPL 323 -TISO DWG. NO. CPL 323 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Art RimmerLEVEL IIDATE 4-20-92EXAMINER NALEVEL NADATE NAREVIEWER Charles R. DixonLEVEL TLDATE 4-22-92REVIEWER Richard B. WeberDATE 4/25/92

REVIEWER _____

DATE _____

AD

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-323-T

Visual Exam Report No. 1097-206

- [X] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted. Per vendor catalog the clevis bolt was not provided with locknuts.

Clement Rajendra 15-11-92
NED Engineer Date



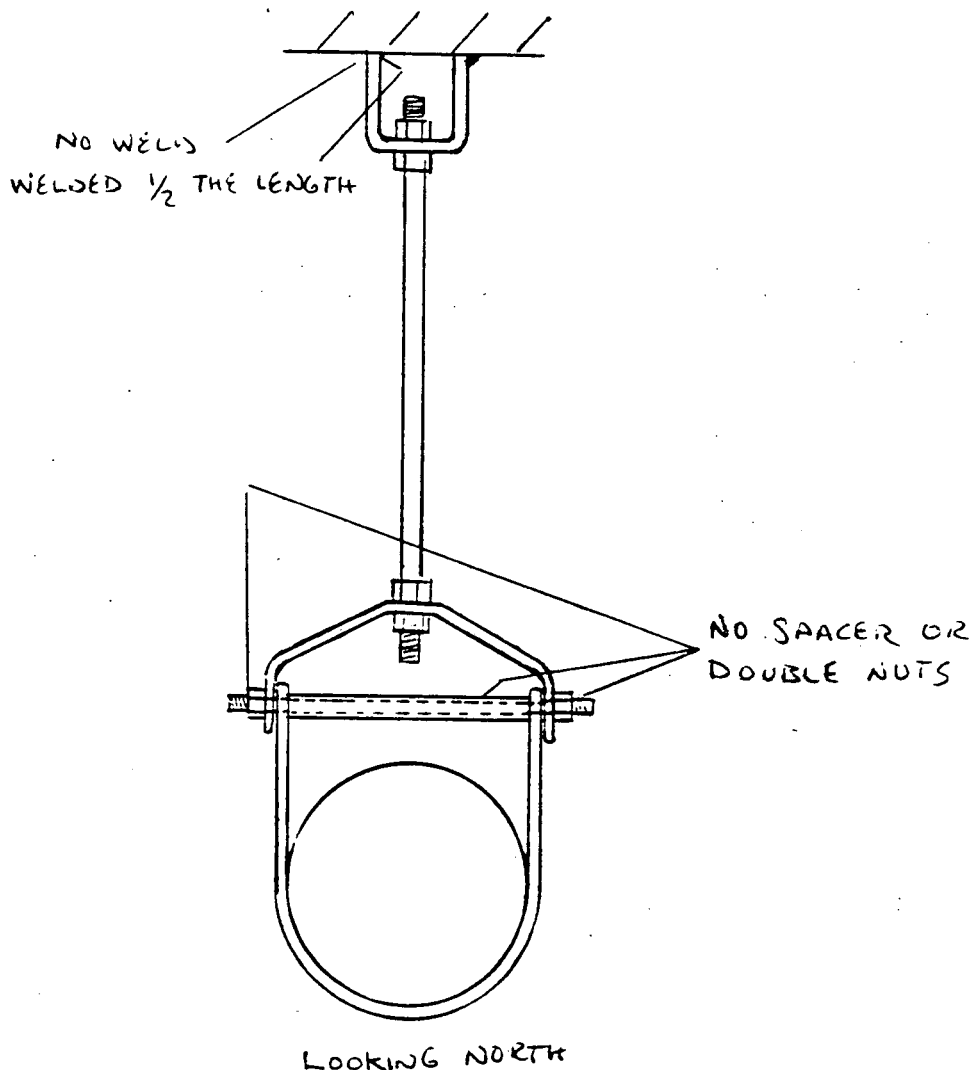
PAGE 1 OF 2

QA NOE ISI 5, Revision 5 11/88

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-168
EXAM ITEM CPL 323-A
ISO DWG. NO. CPL 323 REV. 1

SKETCH SHEET



EXAMINER Art Rumm
EXAMINER N/A
REVIEWER Chris Moss
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/21/92
DATE _____

DATE 4-18-92
DATE N/A
DATE 4-20-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL -323-A

Visual Exam Report No. 1097-168

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted. Per vendor catalog the clevis bolt was not provided with locknuts. BASED ON SAMPLING DONE BY EBASCO, EXISTING WELDS ARE ACCEPTABLE.

Clement Rajendran 15-11-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097770

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SW</u>	COMPONENT NAME: <u>SUPP-27</u>	COMPONENT ID NO.: <u>CPL 323-C</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 323 REV 1 / AUX. BLDG. HALLWAY

[X] VT-3 PROCEDURE: ^{SP 1097 RP 4-18-92} NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
[X] FLASHLIGHT [X] MIRROR	[] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[] OTHER	[] MECHANICAL SNUBBER [] VARIABLE SUPPORT
	[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION	✓			SEE ATTACHMENT
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Pym LEVEL: II DATE: 4-18-92

REVIEWER: Chf Moss LEVEL: II DATE: 4-20-92

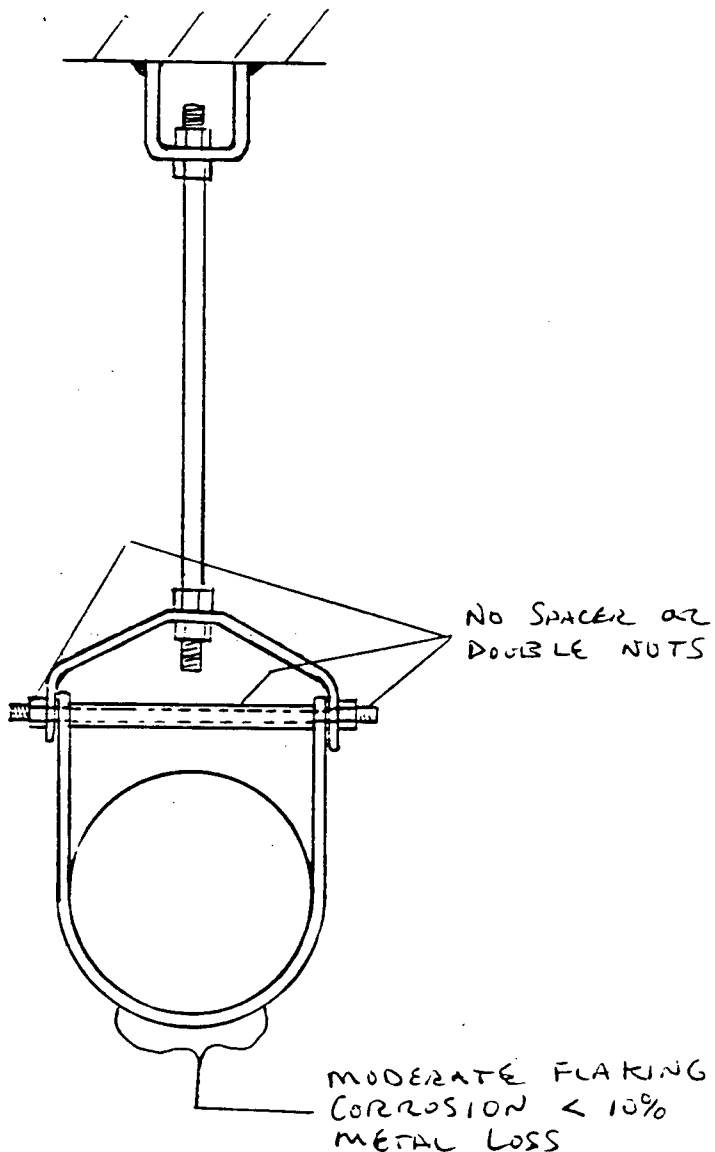
COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Walladane DATE: 4-23-92

SKETCH SHEET



EXAMINER

Art P... ..

LEVEL II

DATE 4-18-92

EXAMINER

N/A

LEVEL N/A

DATE N/A

REVIEWER

Chad Moss

LEVEL II

DATE 4-20-92

REVIEWER

Richard B. Weber

DATE 4/21/92

REVIEWER

DATE

AM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-323-C

Visual Exam Report No. 1097-170

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted. Per vendor catalog the clevis bolt was not provided with locknuts. SMALL AMOUNT OF RUST DOES NOT AFFECT THE STRUCTURAL INTEGRITY OF A SUPPORT. DEPENDING ON ENVIRONMENTAL CONDITIONS, RUST CAN IN FACT FORM A PROTECTIVE LAYER. CLEANING THE RUST AND RE-PAINTING DOES NOT NECESSARILY STOP CORROSION UNLESS THE CLEANING IS DONE VERY CAREFULLY TO ENSURE THAT ALL RUST IS REMOVED BEFORE RE-PAINTING.

Clement Rajendra 15-11-92
NED Engineer Del

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-172

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>SW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 323-WW</u>
-------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL 323 REV 1 / AUX. BLDG. HALLWAY

[X] VT-3 PROCEDURE: SP 1097 AP 4-18-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT	✓			SEE ATTACHMENT
DEBRIS		✓		N/A
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Purnum LEVEL: II DATE: 4-18-92

REVIEWER: Cliff Malt LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

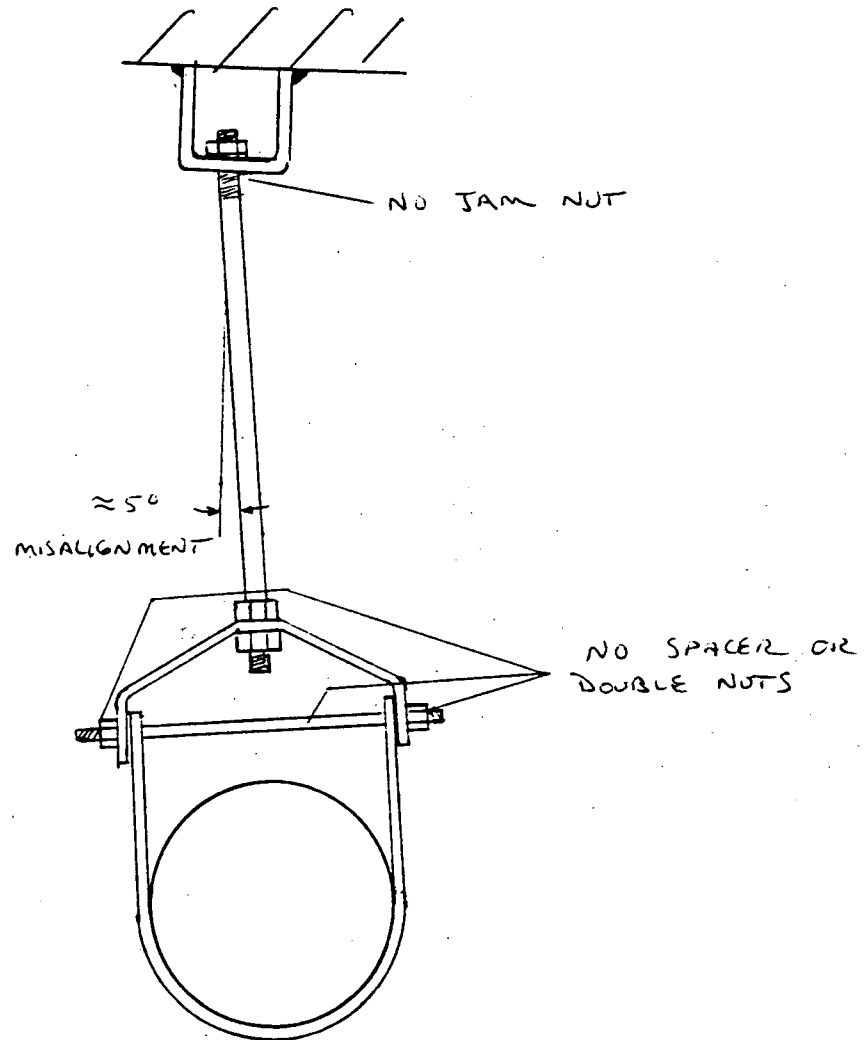
ANII REVIEW: RP Valladares

DATE: 4-23-92

1125

PAGE 2 OF 2DATA SHEET NO. 1077-172EXAM ITEM CPL-323 - WWISO DWG. NO. CPL 323 REV. 1

SKETCH SHEET

EXAMINER Art P...EXAMINER N/AREVIEWER Chad MossREVIEWER Richard B. WeberREVIEWER ANLEVEL IILEVEL N/ALEVEL IIDATE 4/21/92

DATE _____

DATE 4-18-92DATE N/ADATE 4-20-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-323-WW

Visual Exam Report No. 1097-172

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not applicable.

Basis:

This support is classified as a "non-safety related, non-seismic", dead weight support. Spacer on clevis bolt does not contribute to structural integrity, its function is to prevent overtightening of clevis strap and therefore may be omitted. Per vendor catalog the clevis bolt was not provided with locknuts. SMALL MISALIGNMENT OF HANGIER ROD, ACCEPTABLE, DUE TO HIGH FACTOR OF SAFETY FOR DEAD WEIGHT SUPPORTS. JAM NUT PROVIDED AT CLEVIS STRAP END, THEREFORE JAM NUT NOT REQUIRED AT BEAM ATTACHMENT END.

Clement Rajendra 15-11-92
NED Engineer Date

CP&L

Cable Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-211
 WR&A # N/A
 PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>CW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 313 - A</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 313 REV 1 / INTAKE STRUCTURE

511097 APR 22 92
☒ VT-3 PROCEDURE: NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT <input checked="" type="checkbox"/> REMOTE <input checked="" type="checkbox"/>	VIDEO RECORDING NO: <input checked="" type="checkbox"/> N/A
---	---

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☒ OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:

<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION	✓			
STRUCTURAL INTEGRITY		✓		N/A
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>
COMMENTS: <u>RECORDABLE INDICATIONS</u>				

EXAMINER: <u>Art Pinner</u>	LEVEL: <u>II</u>	DATE: <u>4-23-92</u>
REVIEWER: <u>Edward R. Dorman</u>	LEVEL: <u>II</u>	DATE: <u>4-25-92</u>

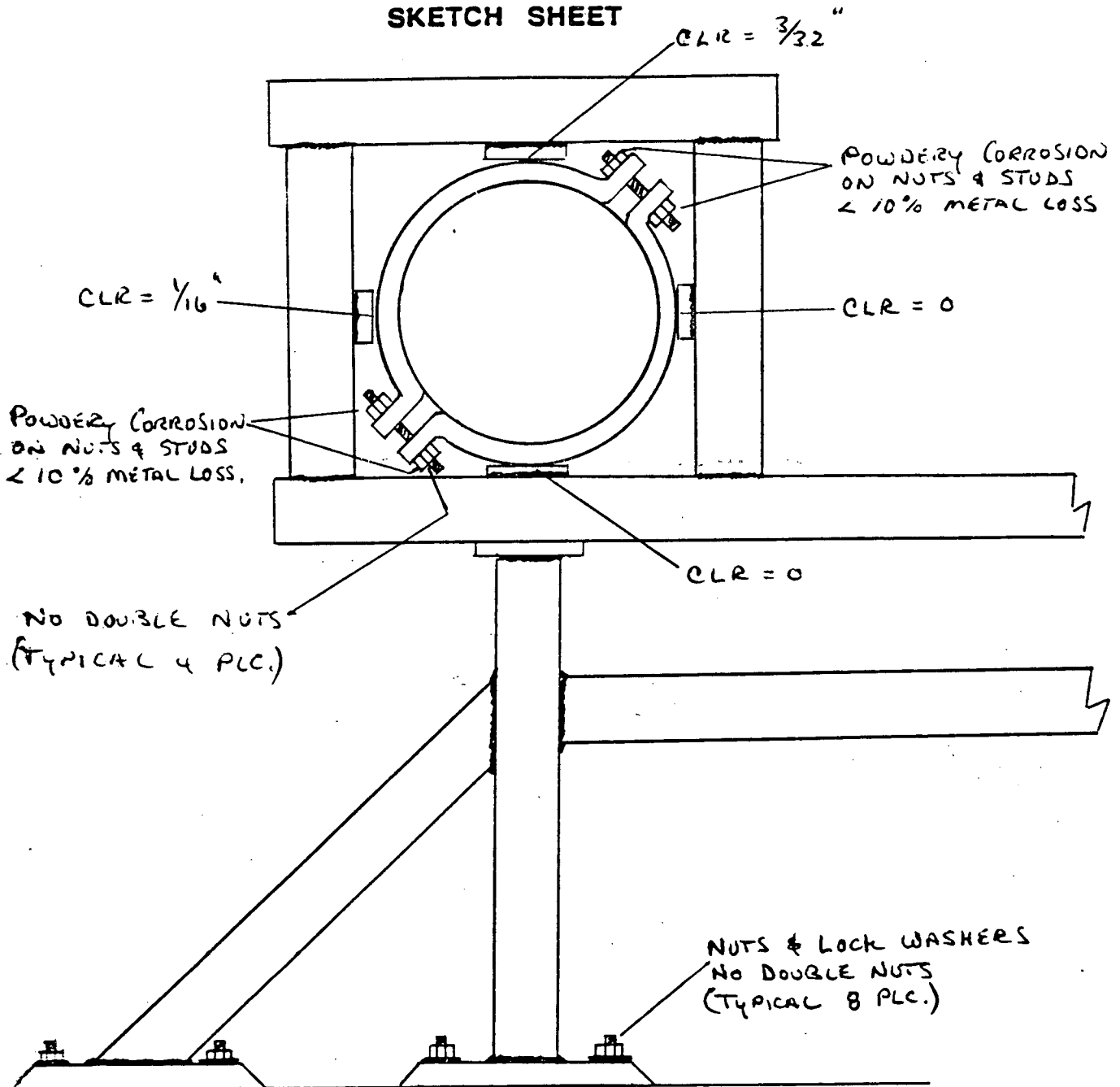
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS: FOR INFORMATION ONLY

ANII REVIEW: DATE:

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Art Pancer
 EXAMINER N/A
 REVIEWER Edward R. Dawson
 REVIEWER _____
 REVIEWER _____

LEVEL II
 LEVEL N/A
 LEVEL II
 DATE _____
 DATE _____

DATE 4-23-92
 DATE N/A
 DATE 4-25-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-313-A

Visual Exam Report No. 1097-211

- [X] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THE CORROSION ON CLAMP PARTS ACCEPTABLE BECAUSE THE
CLAMP SERVES ONLY AS A SPACER. FOR THE SAME REASON MISSING
LOCK NUTS ACCEPTABLE ON CLAMP. CLEARANCES ARE WITHIN
TOLERANCES OF SPE. CPL-HBR2-C-011. WEDGE ANCHORS NOT
PROVIDED WITH LOCKNUTS BY VENDOR DUE TO PRELOAD.

Clement Rajendra / 5-12-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-67

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>CW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 313 - D</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 313 REV 1 / INTAKE STRUCTURE

[x] VT-3 PROCEDURE: ^{SP 1097 AP 4-1642} ~~NOEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x] VIDEO RECORDING NO: [x] N/A

EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION	✓			SEE ATTACHMENT
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-16-92

REVIEWER: Cliff Moss LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

ANII REVIEW: RP Valladares

DATE: 4.23.92

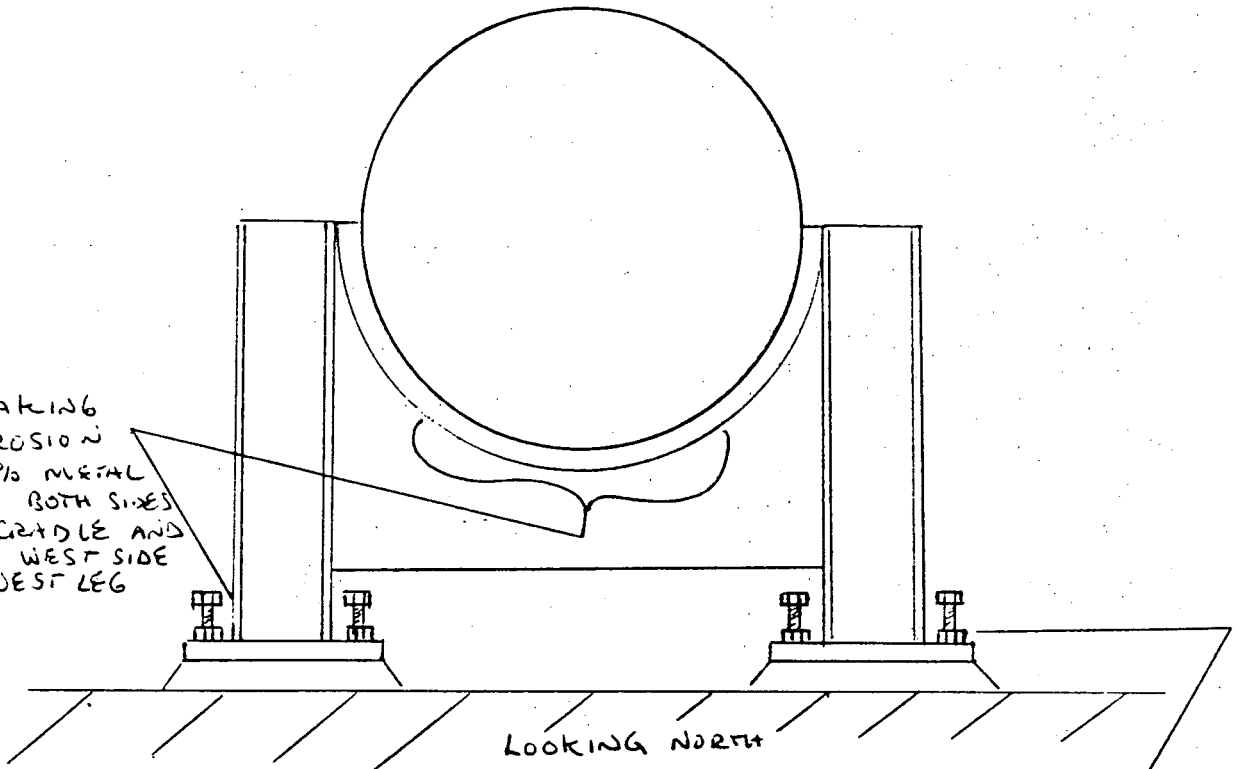
1125

PAGE 2 OF 2
DATA SHEET NO. 1097-167
EXAM ITEM CPL 313 - D
ISO DWG. NO. CPL 313 REV. 01

SKETCH SHEET

AP-1042

FLAKING
CORROSION
LESS THAN 10% METAL
LOSS BOTH SIDES
OF CRADLE AND
AND WEST SIDE
OF WEST LEG



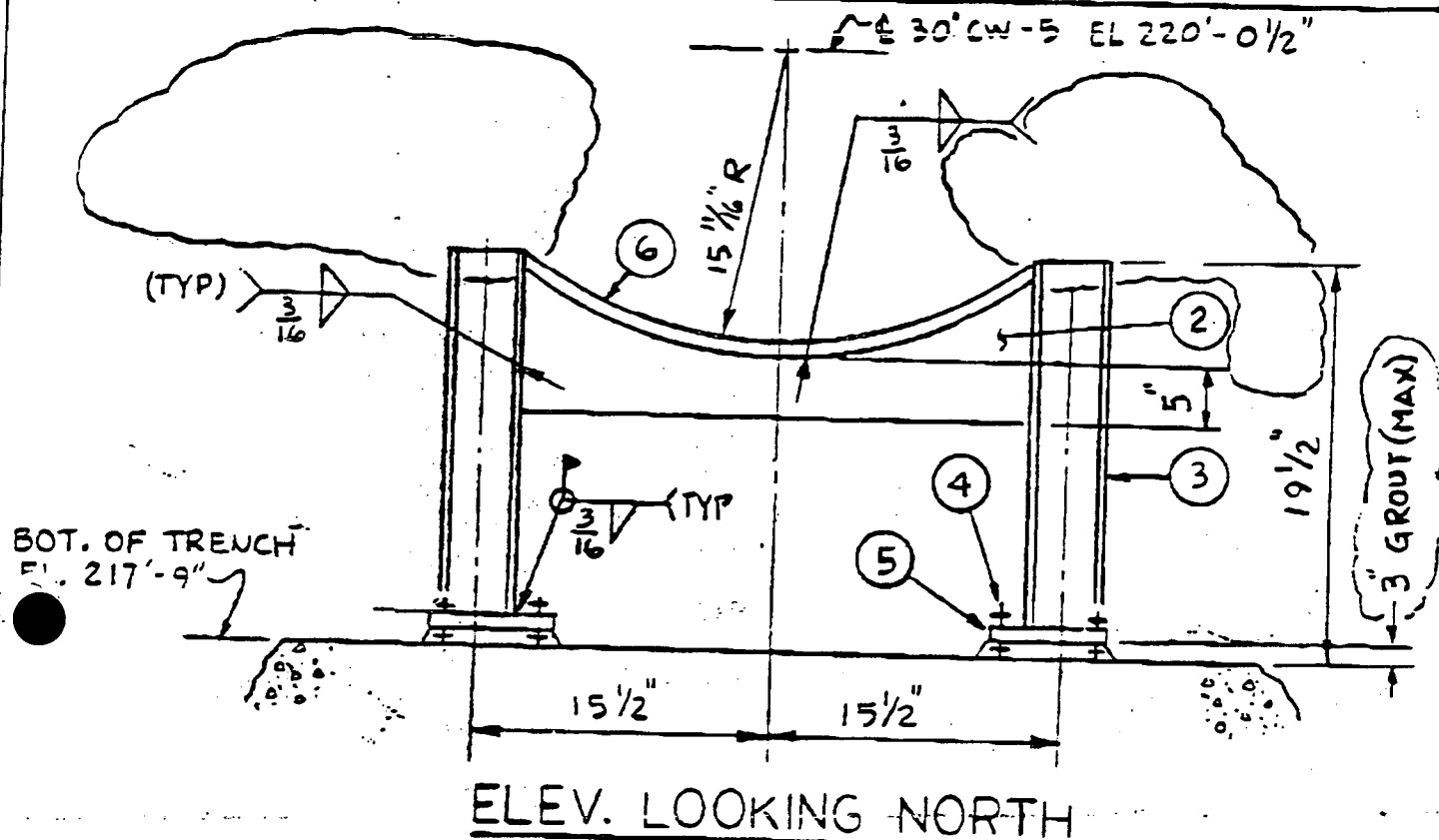
NO JAM NUTS
THERE ARE NUTS
WELDED TO THE TOPS
OF THE STUDS FOR
LEVELING.
(TYP 8 PLACES)

EXAMINER Art Pinner
EXAMINER N/A
REVIEWER Cliff Moss
REVIEWER Richard B. Weber
REVIEWER [Signature]

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/21/92
DATE _____

DATE 4-16-92
DATE N/A
DATE 4-18-92

ITEM NO.	NO. REQ'D	MAT'L	DESCRIPTION
1			DELETED
2	1	A-36	PL 1/2" x 2'-3" x 10'-11 1/2" (CUT TO SUIT)
3	2	A-36	W 4 x 13 x (1'-4 1/8" (CUT TO SUIT)
4	8	(NOTE 4)	1/8" Ø CONT. THREAD ROD OR BOLT W/ NUTS (SEE NOTE 4)
5	2	A-36	PL 5/8" x 7 1/4" x 10" W/ (4) 7/8" Ø HOLES (SEE PL DET)
6	1	A-36	PL 1/2" x 4" x (2'-8")



ELEV. LOOKING NORTH

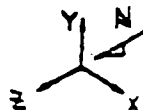
SUPPORT LOCATION: INTAKE STRUCTURE
SEE ISO SW-13

LOADS (UPSET/EMERGENCY)

F_x = 0/0

F_y = -12312/-16740

0/0



REFERENCE DOCUMENTS

PIPE DWG. NONE - SEE ISO SW-13

CIVIL DWG. G190800

STRESS CALC. SW-13/71135

SUPPORT CALC. SW-13-1002

REV. -

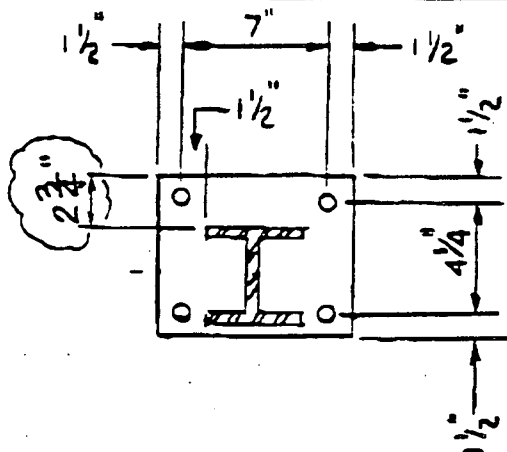
REV. 6

REV. 3

REV. A

0	7-15	INC. PMR 1, 2, 3, & 4 - AS-BUILT	MUL	SKETCH	FILE	-
A	4/17	RELEASED FOR CONST.	FILE	FILE	FILE	FILE
REVISION			FILE	FILE	FILE	FILE
DESCRIPTION			FILE	FILE	FILE	FILE
PROFESSIONAL ENGINEER			FILE	FILE	FILE	FILE
REQ. NO.			FILE	FILE	FILE	FILE
NUCLEAR SAFETY RELATED						
CAROLINA POWER & LIGHT COMPANY						
NUCLEAR ENGINEERING & LICENSING DEPARTMENT - RALEIGH, N.C.						
PLANT: H.B. ROBINSON-UNIT 2-HARTSVILLE, SC						
TITLE: PIPE SUPPORT SERVICE WATER SUPPLY ISO SW-13/NODE						
DWG. NO. SW-13-1002			SCALE: -		REV. 0	

ITEM NO.	NO. REQ'D	MAT'L	DESCRIPTION



BASE PLATE DETAIL

NOTES

1. THE $\frac{7}{8}$ " THREADED ROD PIECES (ITEM 4) ARE USED TO LEVEL THIS RESTRAINT AND TO HOLD IT TIGHT AGAINST THE PIPE WHILE THE GROUT IS PLACED.
2. THIS RESTRAINT SHALL BE COATED WITH GALVANOX COLD GALVANIZATION (OR EQUAL) FOR CORROSION PROTECTION.
3. EXISTING CONCRETE SHALL BE ROUGHENED UP TO CLEAN CONCRETE PRIOR TO PLACING NEW GROUT.
4. ITEM 4 ($\frac{7}{8}$ " THREADED ROD AND NUTS) ARE FOR INSTALLATION ONLY. MATERIAL MAY BE NON-Q. MATERIAL TO BE GALVANIZED OR STAINLESS STEEL. LENGTH AS REQUIRED.

SUPPORT LOCATION SEE SHT. 1

LOADS SEE SHT. 1

$F_x =$
 $F_y =$

REFERENCE DOCUMENTS SEE SHT. 1

PIPE DWG.	REV.
CIVIL DWG.	REV.
STRESS CALC.	REV.
SUPPORT CALC.	REV.

07-15 BT	INC. PMR 1 As-Built	MADE SKETCH CHECKED DATE
A	RELEASED FOR CONST.	DATE BY RE DATE BY DATE BY DATE BY
PROFESSIONAL ENGINEER		REG. NO.
NUCLEAR SAFETY RELATED		
CAROLINA POWER & LIGHT COMPANY		
NUCLEAR ENGINEERING & LICENSING DEPARTMENT - RALEIGH, N.C.		
PLANT:	H.B. ROBINSON-UNIT 2-HARTSVILLE, SC	
TITLE:	PIPE SUPPORT SERVICE WATER SUPPLY 150 SW-13/NODE	
DWG. SW-12-1002	SCALE: NONE	REV. 0

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-313-D

Visual Exam Report No. 1097-167

- [X] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

PER ATTACHED DESIGN DRAWING THE THREADED ^{RODS} NUTS WERE
USED FOR INSTALLATION ONLY AND INDICATIONS ON THEM ARE
IRRELEVANT. ALL THE SUPPORTS ^{+PIPING} IN THE INTAKE STRUCTURE
ARE SCHEDULED TO BE PAINTED AS PART OF AN OVERALL
CORROSION CONCERN IN THE AREA. REF. WR 92-AFFJ1 + 92-AFFK1.

Clement Rajendra / 5-12-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-166

WR&A # N/A

PAGE 1 OF 2

PLANT: H.B. ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>CW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 313 - C</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 313 REV. 1 / INTAKE STRUCTURE

[X] VT-3 PROCEDURE: ^{SP 1097 AP 4-16-92} ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION	✓			SEE ATTACHMENT
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-16-92

REVIEWER: Cliff Moss FM LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/21/92

REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4 23 92

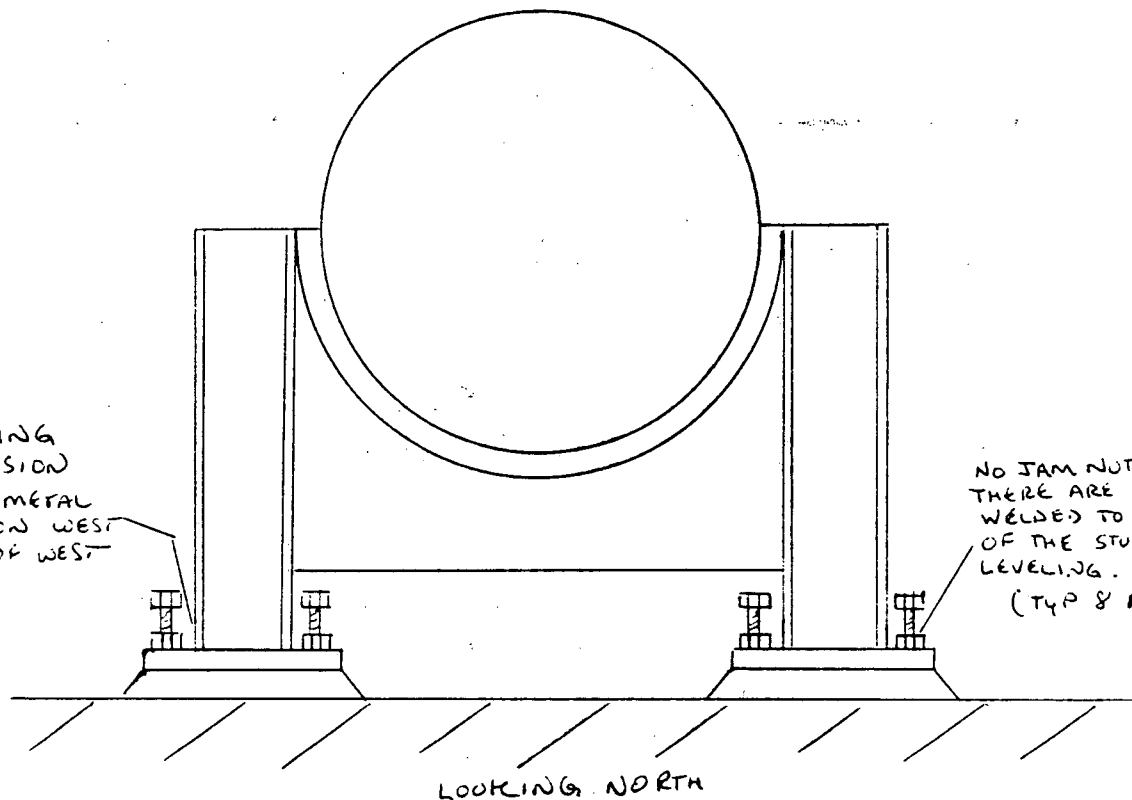
1125

PAGE 2 OF 2DATA SHEET NO. 1077-66EXAM ITEM CPL 313 - CISO DWG. NO. CPL 313 REV. 5/1AP
4-18-92

SKETCH SHEET

FLAKING
CORROSION
~10% METAL
LOSS ON WEST
SIDE OF WEST
LEG

NO JAM NUTS
THERE ARE NUTS
WELDED TO THE TOPS
OF THE STUDS FOR
LEVELING.
(TYP 8 PLACES)



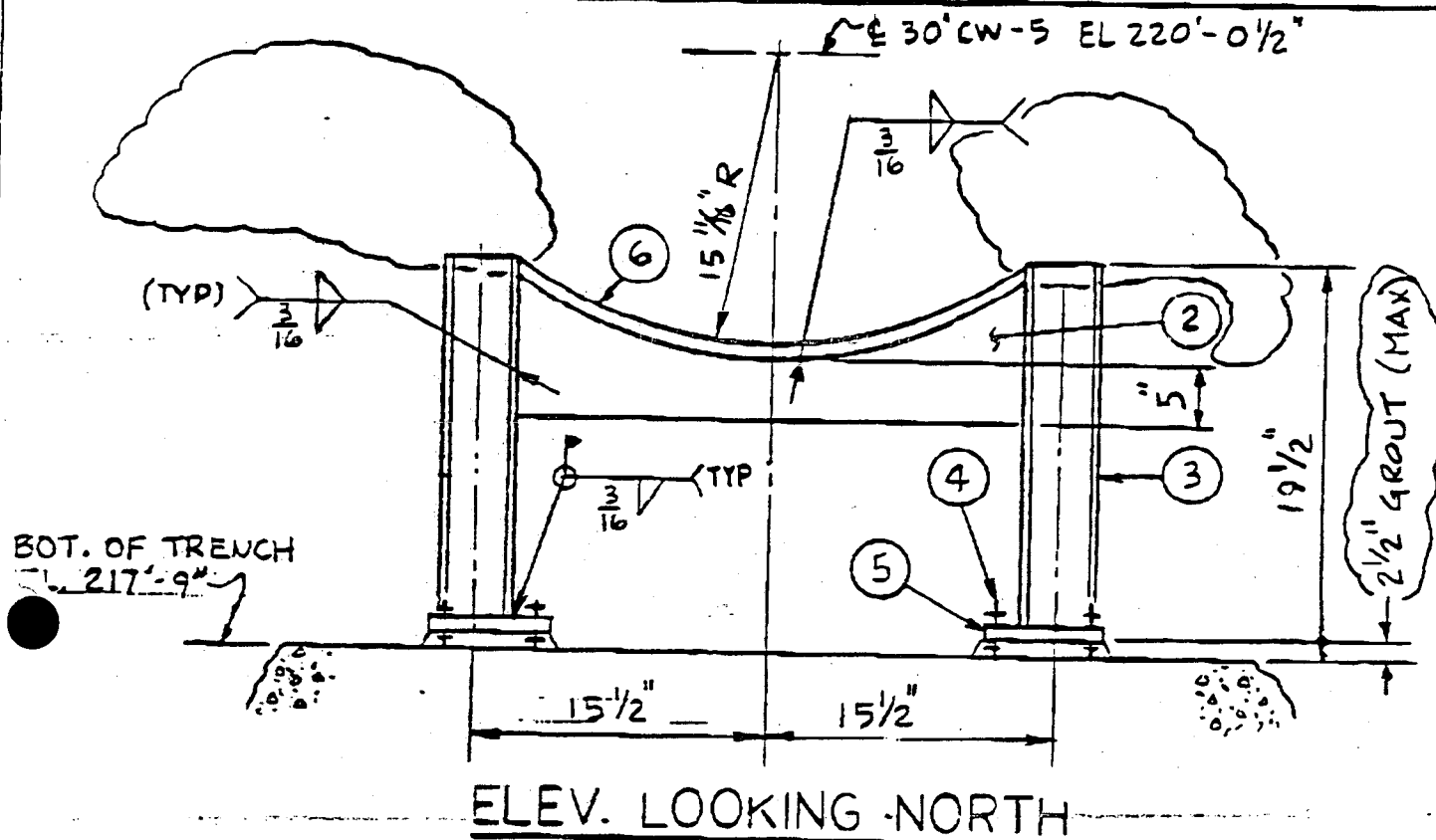
EXAMINER Art Purnell
EXAMINER N/A
REVIEWER Cliff Mass
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/21/92
DATE _____

DATE 4-16-92
DATE N/A
DATE 4-18-92

AW

ITEM NO.	NO. REQ'D	MAT'L	DESCRIPTION
1			DELETED
2	1	A-36	PL 1/2" x 2'-3" x 0'-11 1/2"
3	2	A-36	W 4 x 13 x (1'-4 3/4" LG.
4	8	NOTE 4	7/8" ϕ CONT. THREAD ROD OR BOLT W/ NUTS (SEE NOTE 4)
5	2	A-36	PL 5/8" x 7 1/4" x 10" W/(4) 7/8" ϕ HOLES (SEE PL DET)
6	1	A-36	PL 1/2" x 4" x (2'-8" LG.)



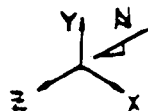
SUPPORT LOCATION: INTAKE STRUCTURE
SEE ISO SW-13

LOADS (UPSET/EMERGENCY)

$F_x = 0/0$

$F_y = -16485/-21382$

$0/0$

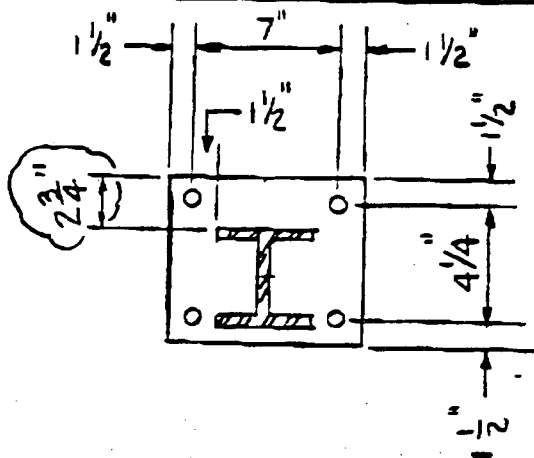


REFERENCE DOCUMENTS

PIPE DWG. NONE - SEE ISO SW-13	REV. -
CIVIL DWG. G190800	REV. 6
STRESS CALC. SW-13/7113B	REV. 3
SUPPORT CALC. SW-13-6005	REV. A

0	7-15	INC. PMR 1, 2, & 3	APPROVED	DATE
A	7/17	RELEASED FOR CONST.	APPROVED	DATE
REV. DATE		DESCRIPTION	CHK	RE
DPE		CK	DPE	LE
PROFESSIONAL ENGINEER			REG. NO.	
NUCLEAR SAFETY RELATED				
CAROLINA POWER & LIGHT COMPANY				
NUCLEAR ENGINEERING & LICENSING DEPARTMENT - RALEIGH, N.C.				
PLANT:	H.B. ROBINSON-UNIT 2-HARTSVILLE, SC			
TITLE:	PIPE SUPPORT SERVICE WATER SUPPLY ISO SW-13/NODE			
DWG. NO.:	SW-13-6005			
SCALE:	REV. 0			

ITEM NO.	NO. REQ'D	MAT'L	DESCRIPTION

BASE PLATE DETAILNOTES

1. THE $\frac{7}{8}$ " THREADED ROD PIECES (ITEM 4) ARE USED TO LEVEL THIS RESTRAINT AND TO HOLD IT TIGHT AGAINST THE PIPE WHILE THE GROUT IS PLACED.
2. THIS RESTRAINT SHALL BE COATED WITH GALVANOX COLD GALVANIZATION (OR EQUAL) FOR CORROSION PROTECTION.
3. EXISTING CONCRETE SHALL BE ROUGHENED UP TO CLEAN CONCRETE PRIOR TO PLACING NEW GROUT.
4. ITEM 4 ($\frac{7}{8}$ " THREADED ROD AND NUTS) ARE FOR INSTALLATION-ONLY. MATERIAL MAY BE NON-Q. MATERIAL SHALL BE GALVANIZED OR STAINLESS STEEL. LENGTH AS REQ'D.

SUPPORT LOCATION SEE SHT. 1

LOADS SEE SHT. 1

F_x =

REFERENCE DOCUMENTS SEE SHT. 1

PIPE DWG. _____ REV. _____
 CIVIL DWG. _____ REV. _____
 STRESS CALC. _____ REV. _____
 SUPPORT CALC. _____

0	7-15-87	INC. PMR 1	MUL	CRE	DES	APP	CHK	REV
A	7-15-87	RELEASED FOR CONST.	DES	APP	CHK	REV	LE	
REV DATE		DESCRIPTION	DES	APP	CHK	REV	LE	
DPE			DES	APP	CHK	REV	LE	
PROFESSIONAL ENGINEER			REG. NO.					
NUCLEAR SAFETY RELATED								
CAROLINA POWER & LIGHT COMPANY								
NUCLEAR ENGINEERING & LICENSING DEPARTMENT - RALEIGH, N.C.								
PLANT	H.B. ROBINSON-UNIT 2-HARTSVILLE, SC							
TITLE	PIPE SUPPORT SERVICE WATER SUPPLY ISO SW-13/NODE							

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL- 313-C

Visual Exam Report No. 1097-167

166
CPL 5/13/92

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

PER ATTACHED DESIGN DRAWING, THE THREADED RODS & NUTS WERE USED FOR INSTALLATION ONLY AND INDICATIONS ON THEM ARE IRRELEVANT. ALL THE SUPPORTS AND PIPING IN THE INTAKE STRUCTURE ARE SCHEDULED TO BE PAINTED AS PART OF AN OVERALL CORROSION CONCERN IN THE AREA. REF. WR 92-AFFJ AND 92-AFFK1

Clement Rajendran 15-12-91
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-213

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT 1 1 2 1 PSI ISI

SYSTEM: CW COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 313 - C1

DWG./LOC.: CPL 313 REV 1 INTAKE STRUCTURE

[X] VT-3 PROCEDURE: SP1097 REV. 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [] OTHER
TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		N/A
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	N/A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: G. P. P. LEVEL: II DATE: 4-23-92

REVIEWER: Edmund R. Donovan LEVEL: II DATE: 4-25-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW: DATE:

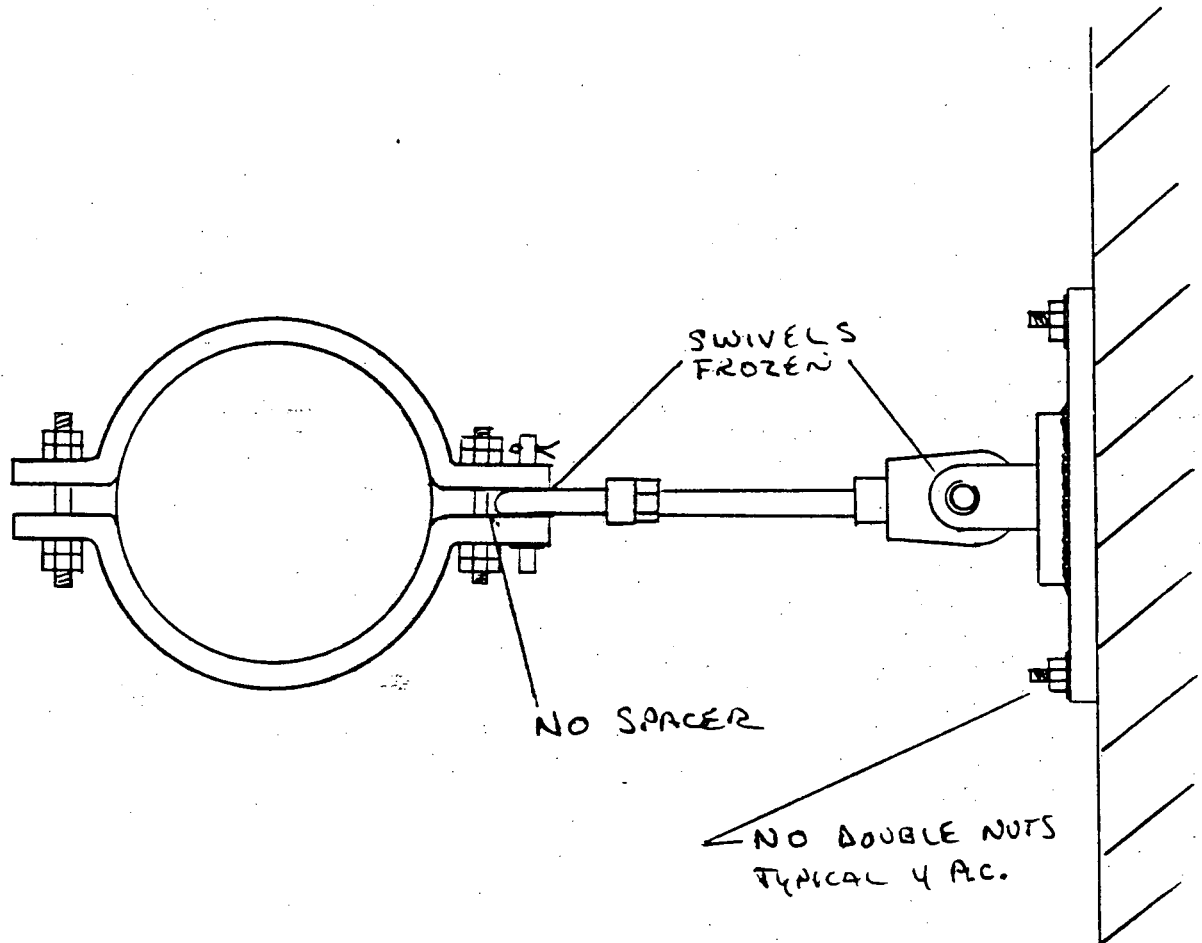
1125

PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CPL 313 - C1ISO DWG. NO. CPL 313 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Cat R...
EXAMINER N/A
REVIEWER Chad R. Dawson
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL I
DATE _____
DATE _____

DATE 4-23-92
DATE N/A
DATE 4-25-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-313-C1

Visual Exam Report No. 1097-213

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

LUBRICATE SWIVEL BEARINGS.

Basis:

CLAMP SPACER DOES NOT CONTRIBUTE TO STRUCTURAL INTEGRITY, ITS FUNCTION IS TO PREVENT OVERTIGHTENING OF CLAMP BOLTS AND THEREFORE MAY BE OMITTED. WEDGE ANCHOR BOLTS ARE NOT PROVIDED WITH LOCKNUTS DUE TO SUBSTANTIAL PRELOAD. FROZEN SWIVELS NOT A MAJOR CONCERN SINCE THIS IS A COLD LINE AND IS NOT SUBJECT TO LARGE MOVEMENTS THAT CAN IMPOSE A BENDING LOAD ON STRUT.

Clement Rajendra 15-12-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097731

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:	COMPONENT	COMPONENT
CC	NAME: SUPPORT	ID NO.: CAL 326-0

DWG./LOC.: CPL 326 REV 1 / RHR HEAT EXCHANGER RM

<input checked="" type="checkbox"/> VT-3 PROCEDURE:	SP1097 RP442-92 NDP-613 REV.: 0	<input type="checkbox"/> VT-4 PROCEDURE: 614 REV.:
---	---	--

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input checked="" type="checkbox"/> OTHER	<u>6" SCALE</u>	<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		SEE ATTACHMENT
STRUCTURAL INTEGRITY	✓			
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	N/A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: THE OTHER HALF OF THIS SUPPORT IS IN THE WHUT ROOM.
RECORDABLE INDICATIONS

EXAMINER: *[Signature]* LEVEL: II DATE: 4-11-92

REVIEWER: *Chase* *Dr.* LEVEL: *II* DATE: *4-14-92*

COMPONENT CONDITION: ☒ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: *Richard B. Weber* 4/14/92

REVIEWERS COMMENTS: [illegible]

ANAL REVIEW:

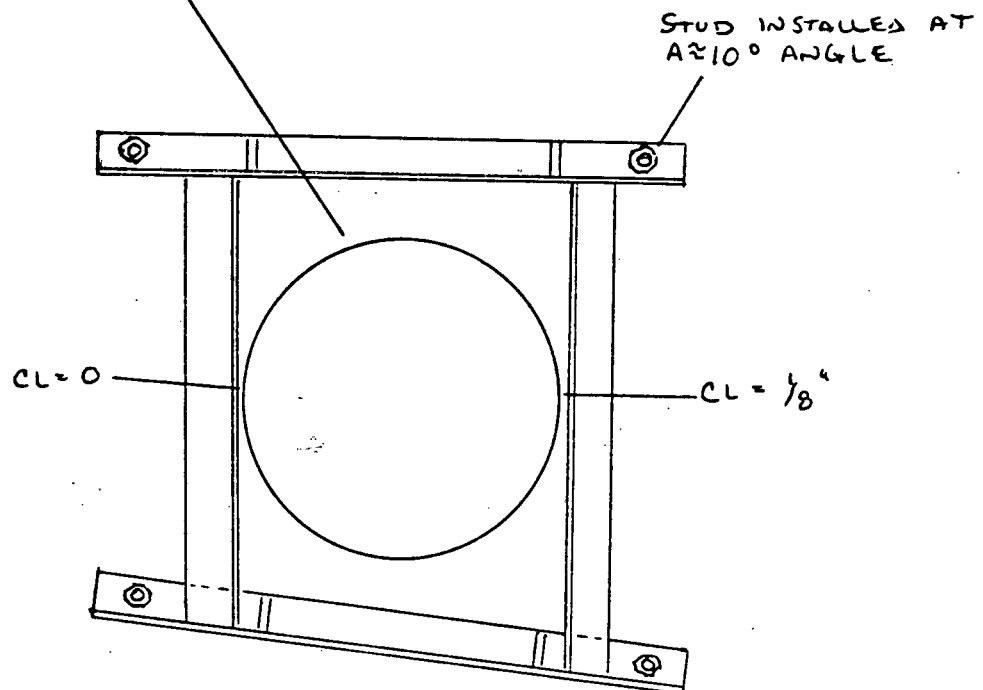
DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-131
EXAM ITEM CPL 326 - 0
ISO DWG. NO. CPL 326 REV. 1

SKETCH SHEET

A LOOSE PIPE CLAMP IS AROUND PIPE
NEXT TO SUPPORT. IT IS CONNECTED AT
THE TOP BUT OPEN AT THE BOTTOM.



NOTE: THIS SUPPORT IS CONTINUED IN THE WHOT ROOM.

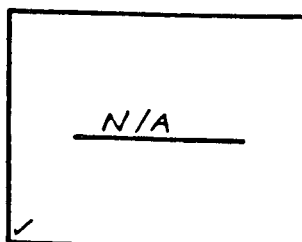
FOR INFORMATION ONLY :

EXAMINER Cert Pinner
EXAMINER N/A
REVIEWER Cliff Moss
REVIEWER Richard G. Weber
REVIEWER AM

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE

DATE 4-11-92
DATE N/A
DATE 4-14-92

CPL-
526
PT. "O"



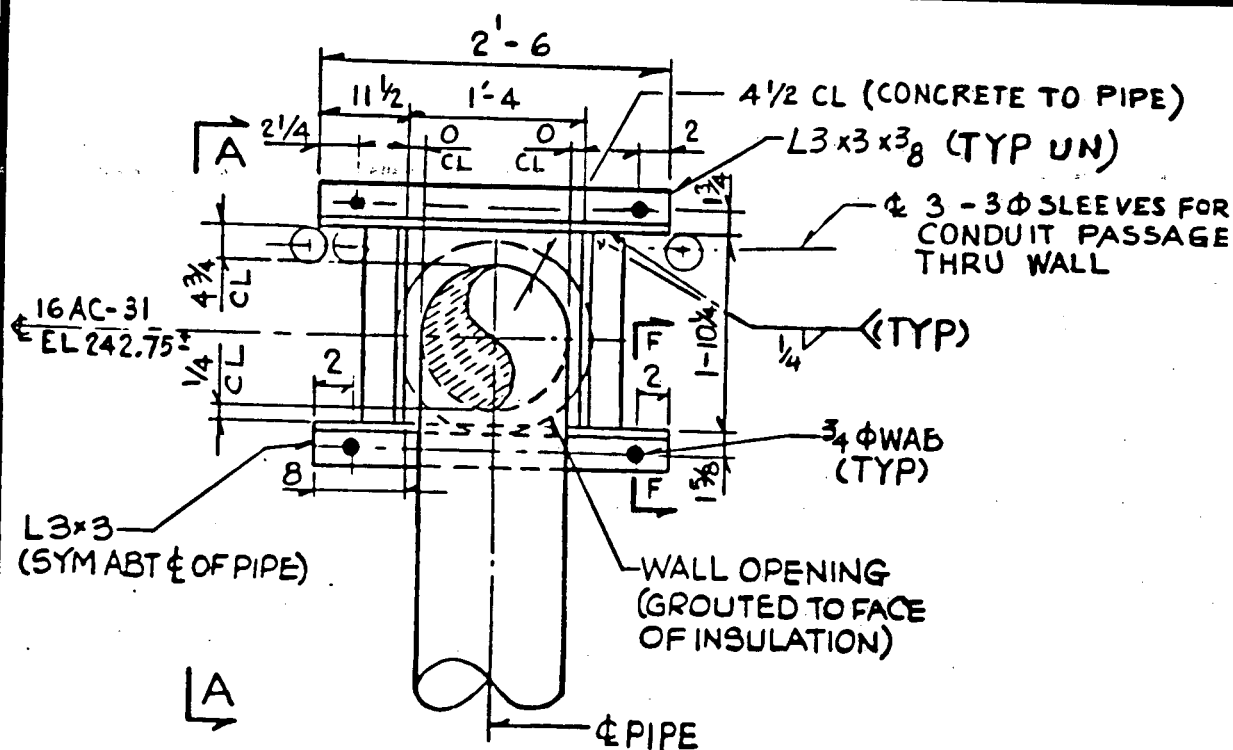
BASE PLATE
IDENTIFICATION

$F_x = 3862 \text{ lbs}$
 (5296)
 $F_y = (-) \text{ lbs}$
 $F_z = (-) \text{ lbs}$

LOAD CASE THRM+DBE
(THRM+DBE)
EBASCO CMPTR RUN
 DATE: 9-13-84 TIME: 9:53AM
RESTRAINT LOADS

RESTRAINT LOCATION:
 SEE ISO NO. AC-3
 PT NO. 31/1(311)
 REACTOR AUXILIARY BLDG.
 NORTH SIDE OF WASTE
 HOLDUP TANK

RESTRAINT CALC NO. AC-3-31/1
 MOD NO. M-492 REV 3
 PMR NO. 0



ELEV LKG NORTH
 SEE MODIFICATION NOTE SH 2

NUCLEAR SAFETY RELATED

REV 1 INCORPORATES "AS-BUILT" CONDITION

1	4/15/85	B	Hsw	DD
REV	DATE	BY	CHK	APP'D

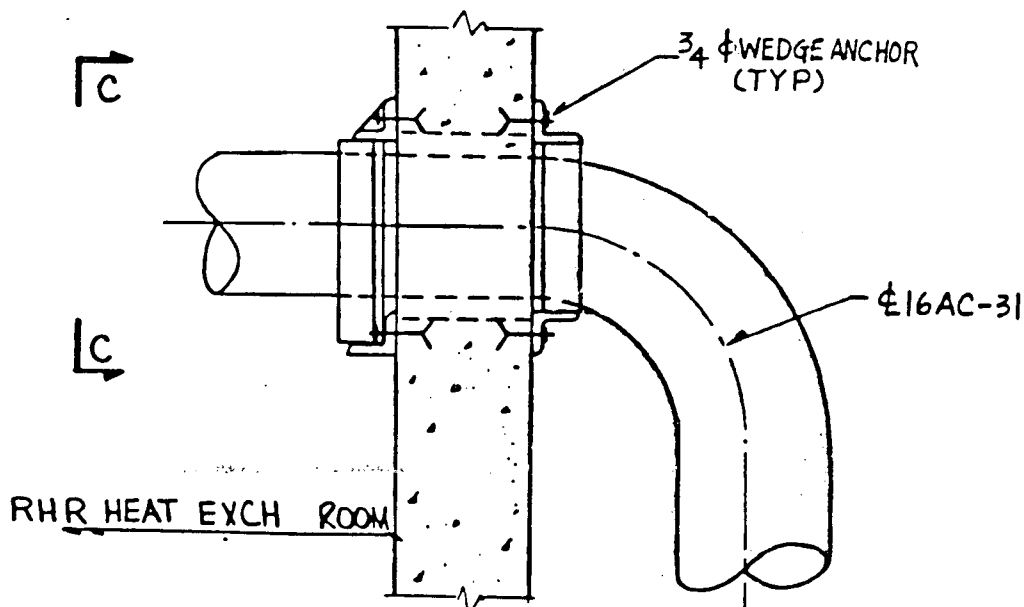
EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. LB
 DATE 8-8-84 CHSKL
 SCALE NT8

APPROVED
 [Signature]
 LHM: [Signature]

H.B. ROBINSON - UNIT 2
 AS-BUILT RESTRAINT SKETCH
 SYSTEM: AUXILIARY COOLANT
 ISO NO./POINT NO. AC-3/31/1

AB-CAR-
 AC-3-31/1
 SH. 1 OF 3



SECT A

FOR INFORMATION ONLY

NUCLEAR SAFETY RELATED

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. JH

DATE 8-8-84 CHK SK

SCALE NTS

APPROVED

UH

WREN

H.B. ROBINSON - UNIT 2

AS-BUILT RESTRAINT SKETCH

SYSTEM: AUXILIARY COOLANT

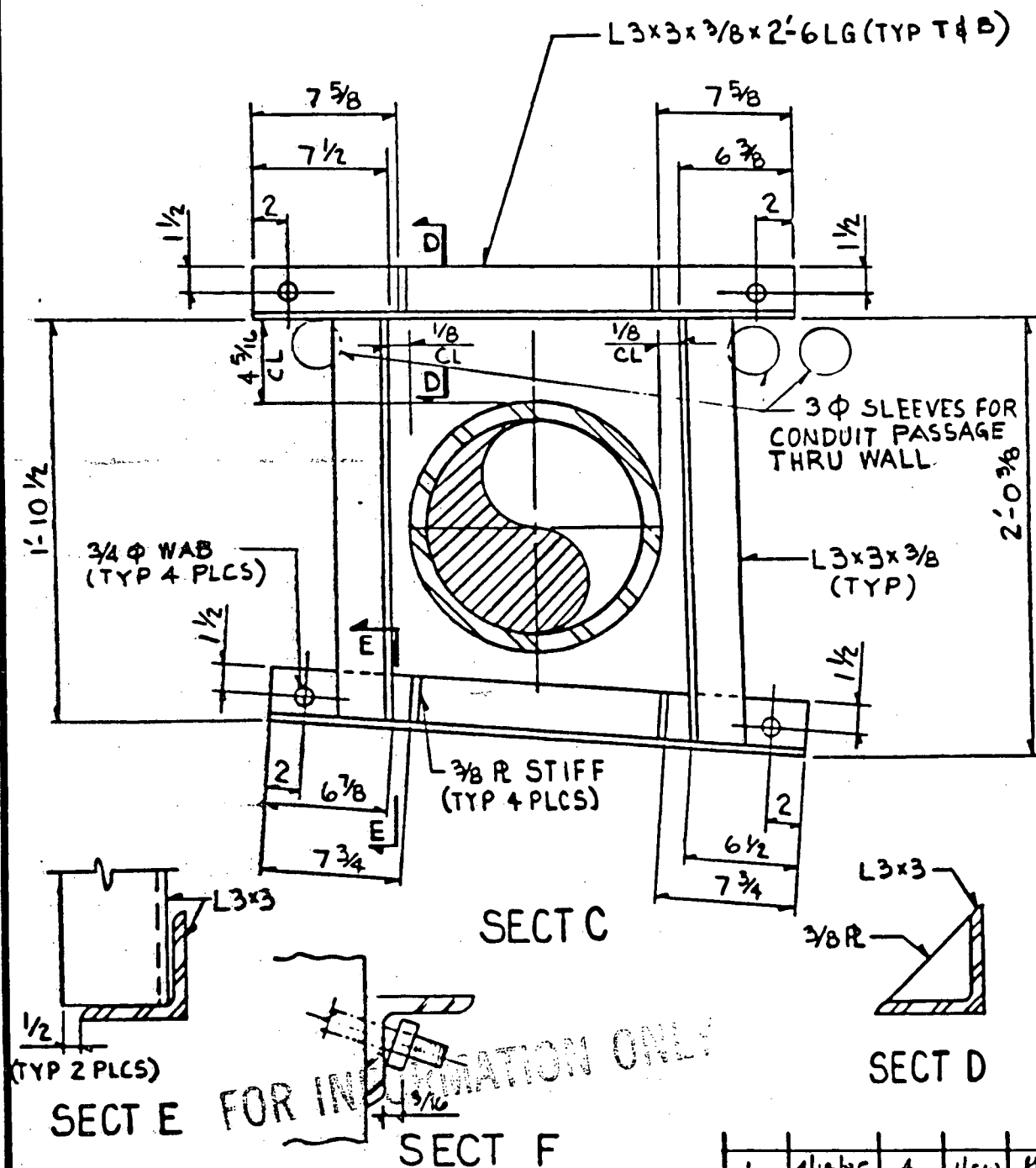
ISO NO./POINT NO. AC-3/31/1

1	4/15/85	B	Hsw	BD
REV	DATE	BY	CHK	APPD

AB-CAR-

AC-3-31/1

SH. 2 OF 3



1	4/15/85	2	Hsw	YB
REV	DATE	BY	CHK	APPD

NUCLEAR SAFETY RELATED

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. I R
DATE 2-6-94 CH. 7/2
SCALE NTS

APPROVED
A. E. H. J. 11.22.
LH WOH

H.B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: AUXILIARY COOLANT
ISO NO./POINT NO. AC-3/31/1

AB-CAR-
AC-3-31/1
SH. 3 OF 3

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-326-0

Visual Exam Report No. 1097-131

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE LOOSE PIPE CLAMP ON PIPE.

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH ONE-WAY
HORIZONTAL RESTRAINT. REF. ISO AC-3, DP 1311. THE CLEARANCES
MEET TOLERANCES OF SPEC. CPL-HBR2-C-011. LOOSE PIPE CLAMP
IS NOT PART OF THE SUPPORT AND SHOULD BE REMOVED.

Clement S. Rajendra / 5-12-92
NED Engineer Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-203

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>CW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 323 - A1</u>
-------------------	--------------------------------	---------------------------------------

DWG./LOC.: CPL 323 REV 1 / B - DIESEL GENERATOR ROOM

[x] VT-3 PROCEDURE: ^{SP 1697 AP 4-21-92} ~~NDEP-613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x] VIDEO RECORDING NO: [x] N/A

EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		N/A
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS
COMPONENT IS INSULATED

EXPANDED SCOPE

EXAMINER: [Signature] LEVEL: II DATE: 4-20-92

REVIEWER: Edmund R. Donovan LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

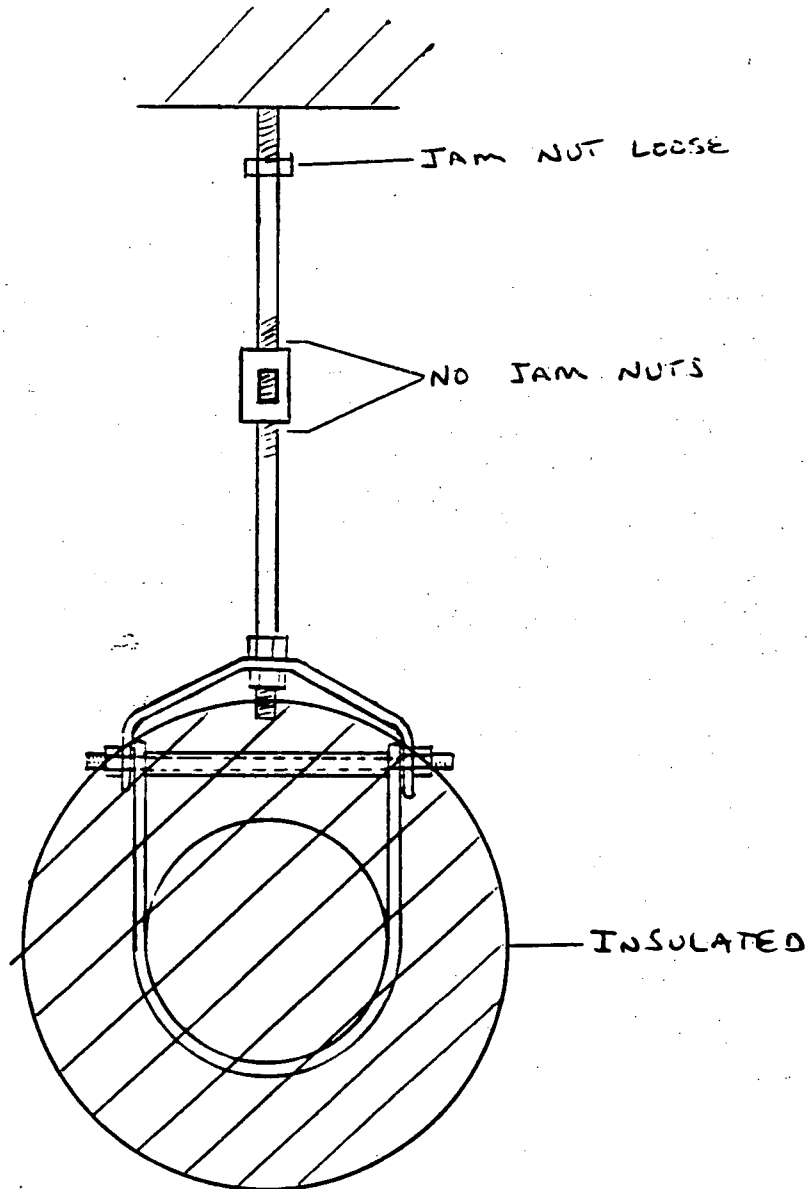
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

1124

PAGE 2 OF 2
DATA SHEET NO. 1097-203
EXAM ITEM CPL 323 - A1
ISO DWG. NO. CPL 323 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Art Purnican
EXAMINER N/A
REVIEWER Edmund R. Anderson
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/25/92
DATE _____

DATE 4-20-92
DATE N/A
DATE 4-22-92

SYM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-323-A1

Visual Exam Report No. 1097-203

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

TIGHTEN LOOSE JAM NUT AGAINST CEILING.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC,"
DEAD WEIGHT SUPPORT. SINCE THE THREADED RODS ON EITHER SIDE
OF TURNBUCKLE HAVE A JAM NUT AT THE FAR END, THE SUPPORT
WILL NOT GET LOOSE DUE TO VIBRATION.

Clement Rajendra 15-13-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-202

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: CW COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 314-D

DWG./LOC.: CPL 314 REVO / CCW HEAT EXCHANGER ROOM

☒ VT-3 PROCEDURE: SP 1057 M 4-21-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT ☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT ☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHMENT
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHMENT
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A			STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATIONS
COMPONENT INSULATED
EXPANDED SCOPE

FOR INFORMATION ONLY

EXAMINER: Art Runcie LEVEL: II DATE: 4-21-92

REVIEWER: Edmund R. Donovan RDW LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B Weber 4/25/92

REVIEWERS COMMENTS:

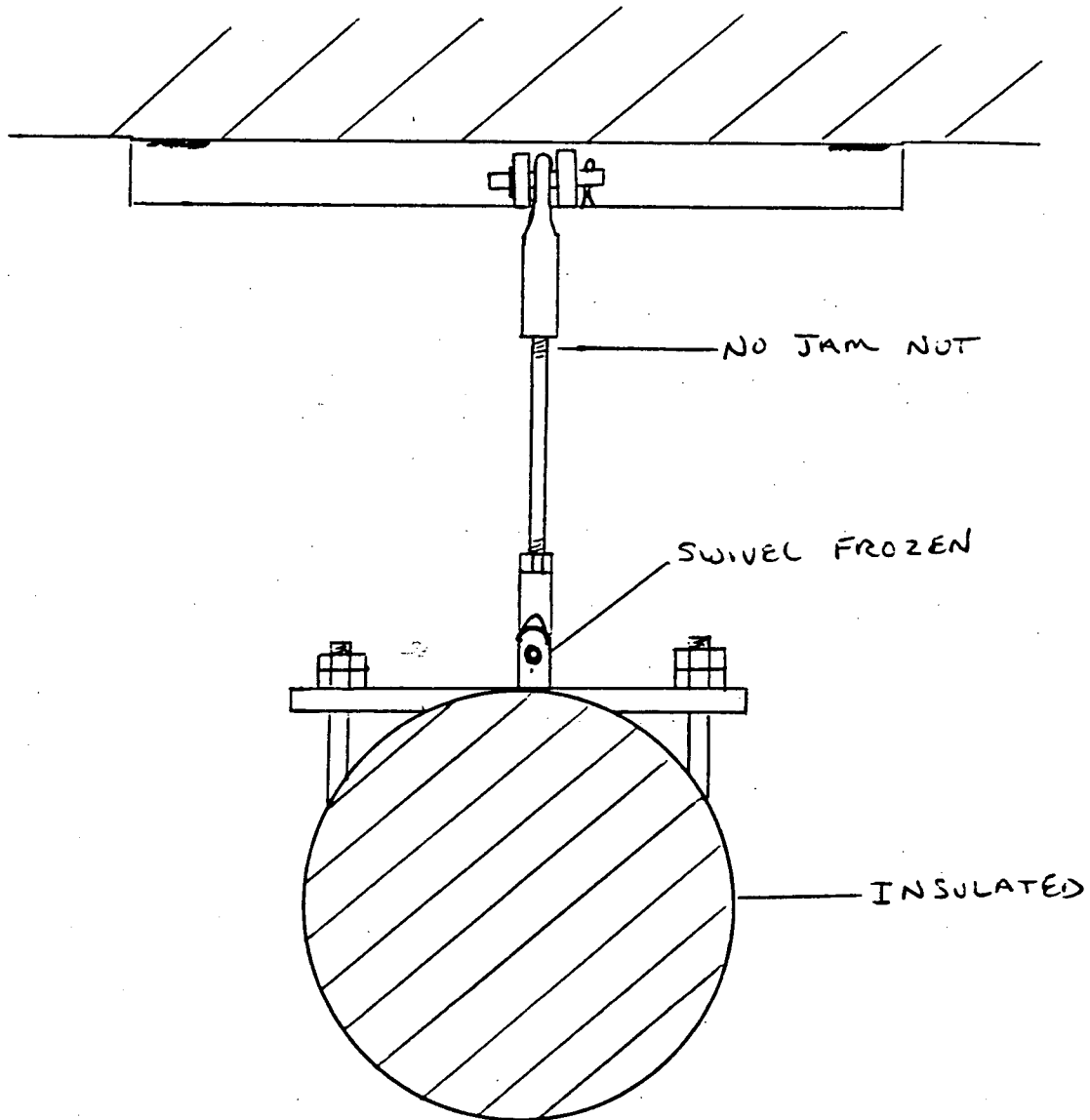
ANII REVIEW:

DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097-262EXAM ITEM CPL 314-DISO IDWG. NO. CPL 314 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Art Pomeroy
EXAMINER N/A
REVIEWER Charles R. Darrow
REVIEWER Richard B. Weber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/25/92
DATE _____

DATE 4-21-92
DATE N/A
DATE 4-22-92

(AVN)

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-314-D

Visual Exam Report No. 1097-202

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY, RELATED NON-SEISMIC"
DEAD WEIGHT SUPPORT. THE THREADED ROD HAS JAM'NUT ON ONE
END AND THEREFORE WILL NOT LOOSEN UNDER VIBRATION. THIS IS
TYPE OF SUPPORT DOES NOT REQUIRE SWIVELS TO MOVE FREELY. *cm 5/13/92*

Clement Rajendra / 5-13-92
NED Engineer - Date



VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-238

WRLA # N/A

PAGE 1 OF 1

PLANT: H. B. ROBINSON UNIT 11 X2 1 PSI X ISI

SYSTEM: RHR COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 230 - B

DWG./LOC.: CPL 230 REV 0 / RHR PUMA ROOM (RHR PIT)

X VT-3 PROCEDURE: SP 1097 APR 5-1-92 NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.:

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: X FLASHLIGHT X MIRROR
X OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:
1 HYDRAULIC SNUBBER 1 CONSTANT SUPPORT
1 MECHANICAL SNUBBER X VARIABLE SUPPORT
1 SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<u>✓</u>	<u>N/A</u>
MISALIGNMENT			<u>✓</u>	
DEBRIS			<u>✓</u>	
CORROSION/EROSION			<u>✓</u>	
STRUCTURAL INTEGRITY			<u>✓</u>	
RESISTANCE TO MOVEMENT			<u>✓</u>	
CLEARANCES OF MOVING PARTS			<u>✓</u>	
ARC STRIKES/GOUGES			<u>✓</u>	

VARIABLE/CONSTANT SUPPORT ACTUAL: NORTH SPRING CAN - 1 1/8" DEF, 1915#, 1/16" BELOW OLD SETTING
SOOTH SPRING CAN - 1 1/8" DEF, 1955#, 1/4" BELOW OLD SETTING

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: SEE PREVIOUS DATA SHEET FOR RECORDED CONDITIONS.

EXAMINER: Art P... LEVEL: II DATE: 5-1-92

REVIEWER: Edward R. D... LEVEL: II DATE: 5-1-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW: DATE:

VISUAL EXAMINATION DATA SHEET

REPORT NO. 109747

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 230 - B</u>
-------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 230 REV 0 / RHR Pump Rm.

X VT-3 PROCEDURE: SP 1097 No 4-8-82 WDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.: 0

DIRECT <u>X</u> REMOTE <u>X</u> EQUIPMENT USED: <u>X</u> FLASHLIGHT <u>X</u> MIRROR <u>X</u> OTHER <u>6" SCALE</u>	VIDEO RECORDING NO: <u>X</u> N/A TYPE OF COMPONENT SUPPORT: <u>1</u> HYDRAULIC SNUBBER <u>1</u> CONSTANT SUPPORT <u>1</u> MECHANICAL SNUBBER <u>X</u> VARIABLE SUPPORT <u>1</u> SUPPORT/HANGER
---	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	N/A
CLEARANCES OF MOVING PARTS		✓		
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: ON COLD SET MARK, 1270#, 1" DEFLECTION			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: DOUBLE SPRING CAN HANGER RECORDABLE INDICATIONS.
THERE IS A HOLE IN THE CONCRETE LOCATED WITHIN 5 DIAMETERS OF AN ANCHOR BOLT. (SEE ATTACHMENT)

EXAMINER: [Signature] LEVEL: II DATE: 4-7-92

REVIEWER: [Signature] LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

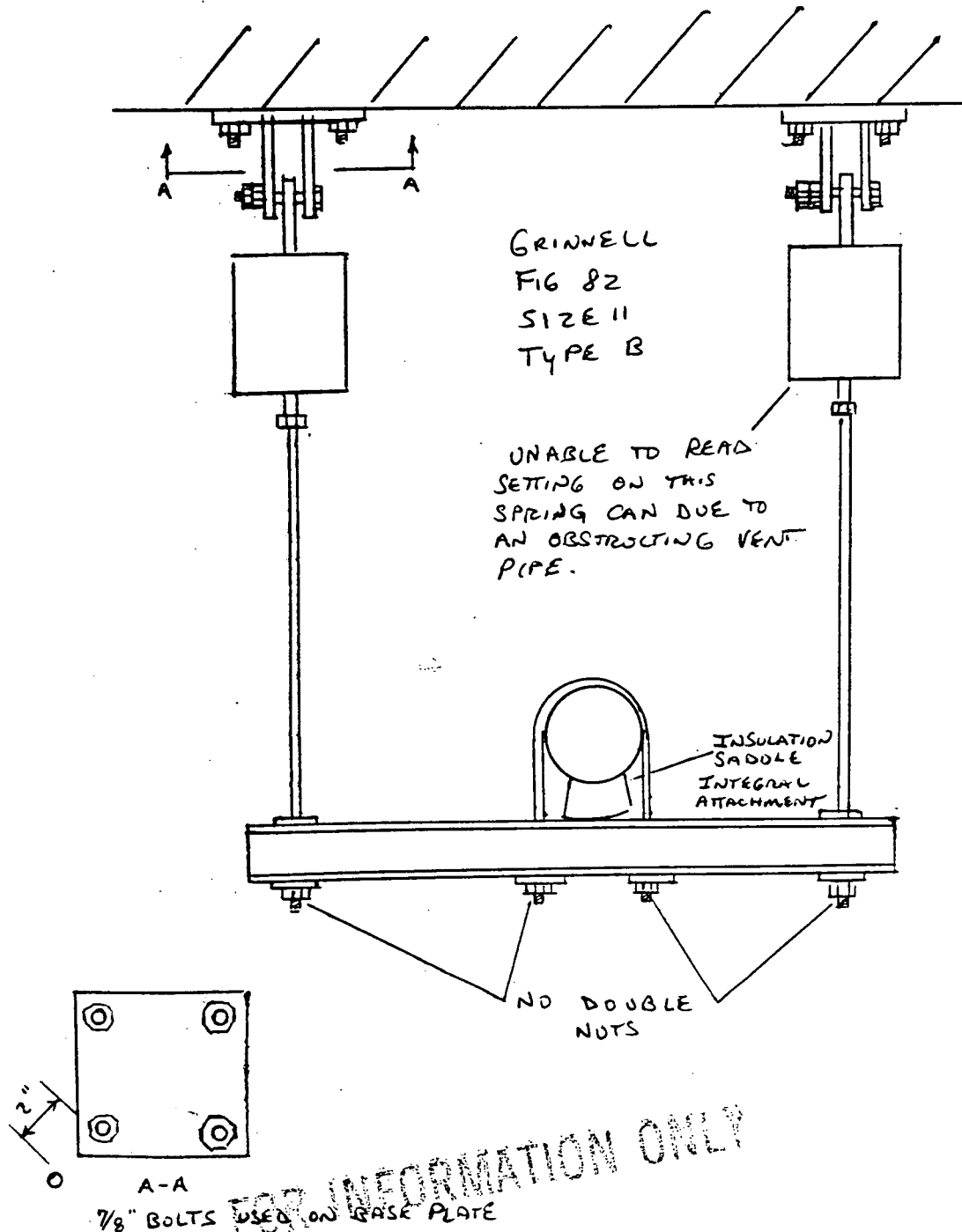
ANII REVIEW:

DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097-Y7EXAM ITEM CPL 230 - BISO DWG. NO. CPL-230 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Get Pinner
EXAMINER N/A
REVIEWER Edmund R. Brown
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-7-92
DATE N/A
DATE 4-8-92

dw

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-230-B

Visual Exam Report No. 1097-47
1097-238

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE MISSING LOCKNUTS.

Basis:

SPRING CAN SETTINGS ARE WITHIN ACCEPTABLE TOLERANCES ($\pm 10\%$)
ANCHOR BOLTS HAVE ADEQUATE CAPACITY TO CARRY THE LOAD,
UNCONTAINED HOLE WITHIN SP HAS NO IMPACT. LOCK NUTS ARE
NOT REQUIRED FOR STRUCTURAL INTEGRITY BUT NEEDED TO PREVENT
SUPPORT FROM GETTING DISCONNECTED DUE TO VIBRATION LOOSENING.

Clement Rajendra / 5-13-92
NED Engineer Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-118

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>RHR</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 221A - A</u>
--------------------	--------------------------------	---------------------------------------

DWG./LOC.: CPL 221A REV D / RHR HEAT EXCHANGER ROOM

[X] VT-3 PROCEDURE: ^{SP 1097 Rev 4} ~~NDEP 613~~ REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> VARIABLE SUPPORT <input type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			SEE ATTACHMENT
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: HALF WAY BETWEEN HOT & COLD SET POINT, 3150 #, 7/8" DEFLECTION			
SNUBBER	ACTUAL: <u>N/A</u>	STROKE: <u>N/A</u>	S/N <u>N/A</u>	

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Atkinson LEVEL: II DATE: 4-11-92

REVIEWER: Chf Moss LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

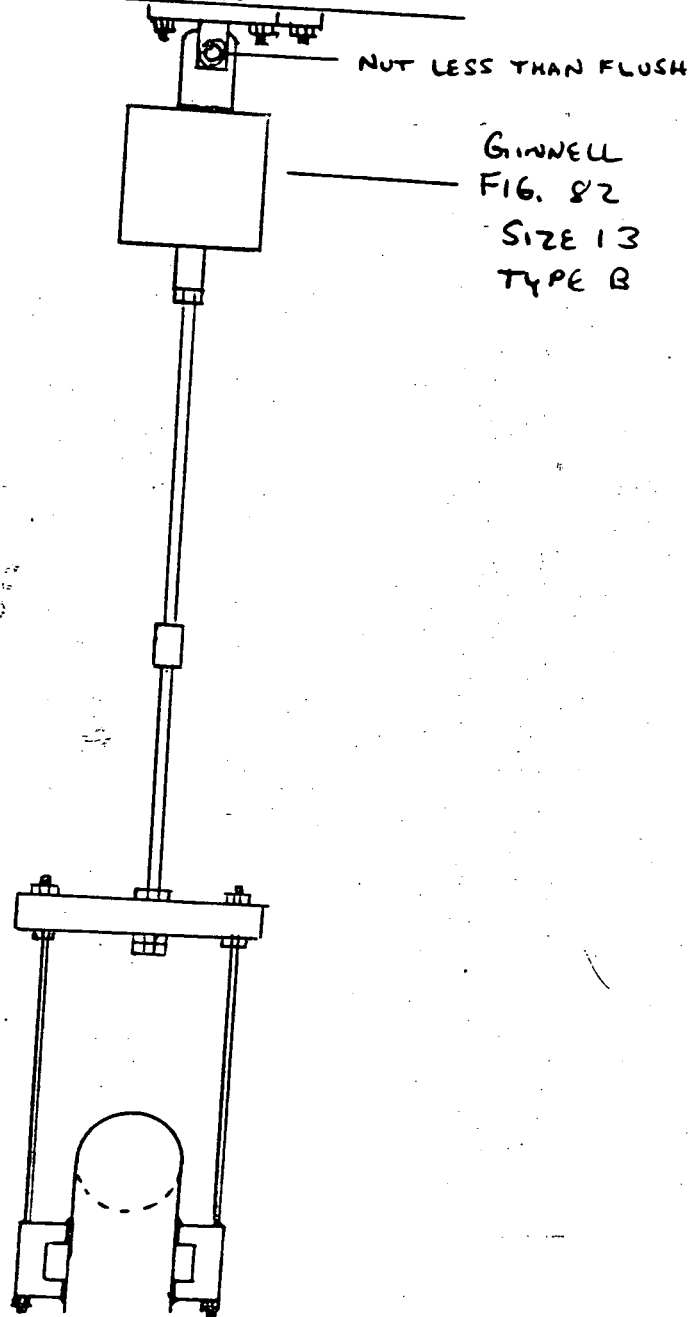
ANII REVIEW: AP Valladares

DATE: 4-17-92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-48
EXAM ITEM CPL 221A - A
ISO DWG. NO. CPL 221A REV. 0

SKETCH SHEET



FOR INFORMATION OF

EXAMINER Ge P. P. P.
EXAMINER N/A
REVIEWER Chapman
REVIEWER Richard D. Weber
REVIEWER RM

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE _____

DATE 4-11-92
DATE N/A
DATE 4-14-92

OWNER B. F. SHAW
 OR CONT. No. P. O. D-5930; D-5931
 H. B. ROBINSON STATION UNIT #2

PIPE HANGER DEPARTMENT

DRAWN BY RJR DATE 10-21-68

REVISED BY _____ DATE _____

CPL-221A-Line No. 10-AL-1

Loc. A, A-WS

CONCRETE
EXISTS

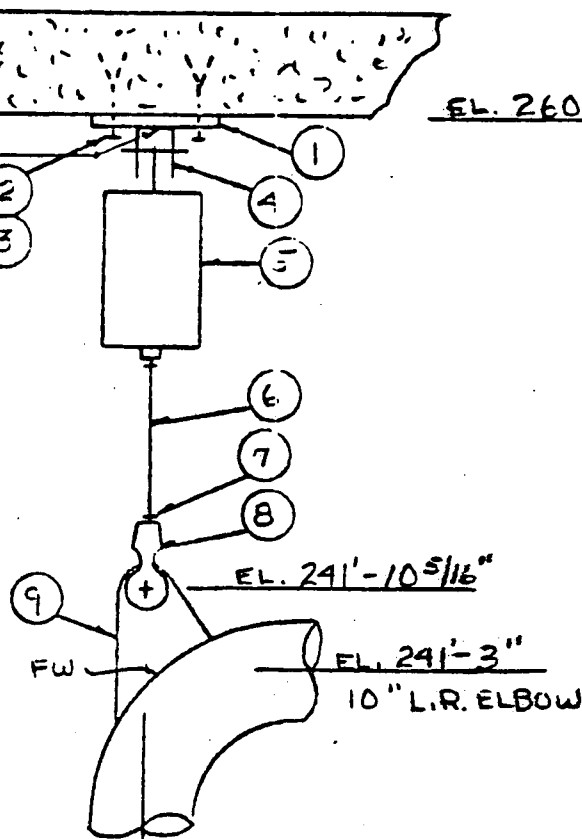
EL. 260'-3"

RESIDUAL HEAT
EXCHANGER "B"
 RESIDUAL HEAT
EXCHANGER "B"

3'-9"

2'-6"

LOCATION PLAN



MATERIALS AND OPERATIONS

QUAN. SHIP.

HANGER ASSEMBLY CONSISTING OF:

Plate/Sk. 1902A, TW-21#	ONE	
7/8" Fig. S-78 Phillips snap off fast.	1	
7/8"x2" Tap bolts	4	
1 1/8" Fig. 66 w/P & C	4	
#13 B Fig. 82 HL-2875#, CL-3175#	1	
Rod Assembly consisting of:	1	
1 1/8"x10'-0" Fig. 140 w/12" T.B.E.	one	
1 1/8"x6'-9" Fig. 140 w/12" T.B.E.	1	
1 1/8" H.S. 79	1	
1 1/8" Jam Nuts	1	
3 1 1/8" Tap fig. 299 w/pin	2	
S. 53, 10" L.R. Ell, 1 1/8" Rod, S.S. F-H-350-2, TW-12#	1	
Hanger Assembly Sketch & Eng.	1	
Apply coat of iron oxide to above mat'l except th'ds which shall be greased.		

MK: S1-H56

PIPE G-190 267-5

DRW'G. Nos.

STEEL C-190401-10

MARK No. S1-H47

SKETCH No. 1946

REV.

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-221A-A

Visual Exam Report No. 1097-118

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THE CALCULATED THERMAL MOVEMENT IS APPROX. 0.3-0.35 INS.
THEREFORE VARIANCE FROM PROPER SETTING IS MAX. 0.175 INS
→ $0.175 \times 1200 \text{ LB} = 210^{\#}$ WHICH IS WITHIN ACCEPTABLE LEVEL
OF TOLERANCE ($\pm 10\%$) FOR THE SETTING OF THIS SPRING CAN.

Clement Rajendra 15-13-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-152

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>RH2</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 220-U</u>
--------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 220 REV 0 / RH2 PUMP ROOM (RH2 PIT)

☒ VT-3 PROCEDURE: ^{SP 1097 AP 4-2-92} ~~NOEP 613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:	TYPE OF COMPONENT SUPPORT:
<input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT
<input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>	<input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT
	<input checked="" type="checkbox"/> SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		/
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		/
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	SEE ATTACHMENT
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		N/A
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: REASONABLE INDICATION

EXAMINER: Go P... LEVEL: II DATE: 4-17-92

REVIEWER: Chff Moss LEVEL: II DATE: 4-18-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

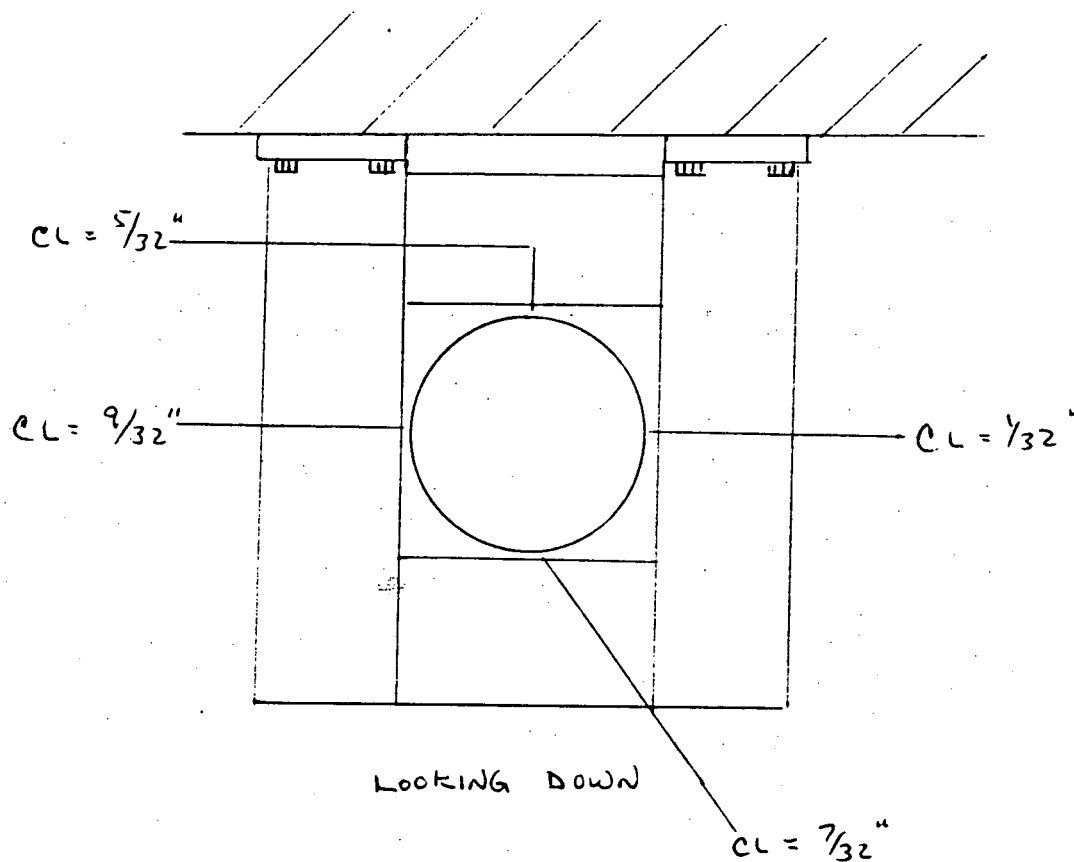
REVIEWERS COMMENTS:

ANII REVIEW: RP Valladare DATE: 4.23.92

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-152
EXAM ITEM CPL 220 - U
ISO DWG. NO. CPL 220 REV. 0

SKETCH SHEET

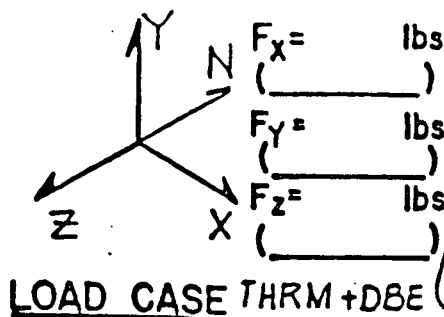


EXAMINER Curt Pinner
EXAMINER N/A
REVIEWER Chris Moss
REVIEWER Richard B. Kleber
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/22/92
DATE _____

DATE 4-17-92
DATE N/A
DATE 4-18-92

BASE PLATE IDENTIFICATION



(EBASCO CMPTR RUN)

DESIGN LOADS

RESTRAINT LOCATION:
SEE ISO NO. SI-20

PT NO. 269 ...

64 OF 166 - BLDG

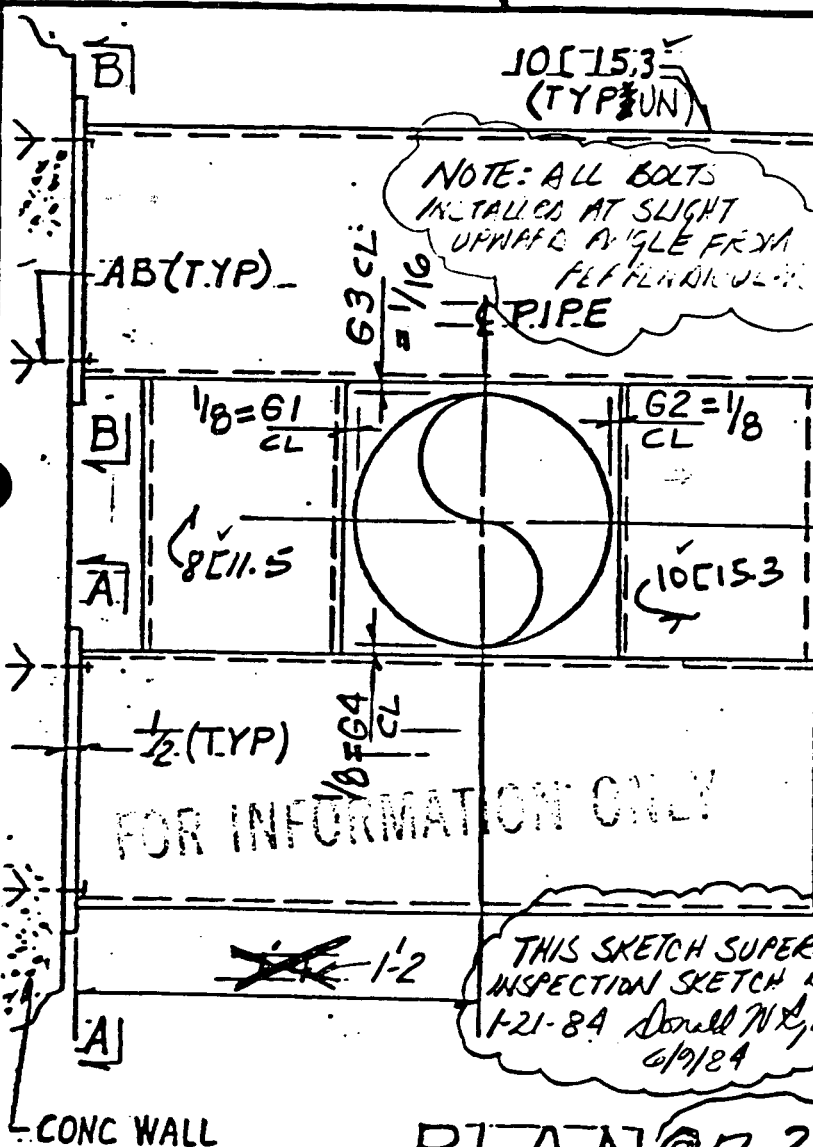
REACTOR AUX BUILDG

RHR PUMP ROOM,
(NEAR PUMP 'B')

REST CALC NO: RS-29

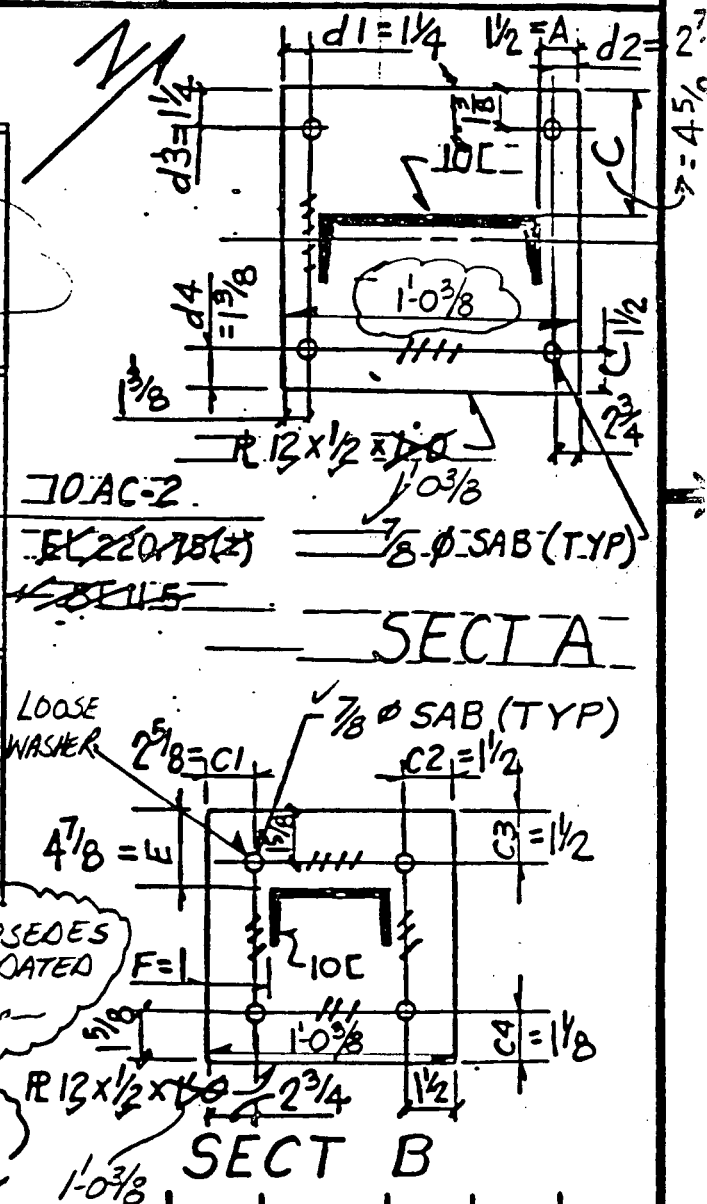
MOD. NO N/A ...

PMR NO _____ N/A _____



PLAIN? @

G.M. Waller 1-21-84



GENERAL NOTES: SEE SK-AB-CAR-AB-1

REV	DATE	BY	CHK	APP'D
-----	------	----	-----	-------

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. AG
DATE CH. UH
SCALE NTS

APPROVED

H. B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: SAFETY INJECTION
ISO NO./POINT NO. SI-20/269

AB-CAR-
SI-20-269

SH. 1 OF 1

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-220-U

Visual Exam Report No. 1097-152

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS A SAFETY-RELATED, SEISMIC SUPPORT WITH
TWO-WAY HORIZONTAL RESTRAINT. REF. ISO SI-20, Sh. 10 DP 269.
THE CLEARANCES ARE ACCEPTABLE GIVEN THE TOLERANCE
AND METHODOLOGY USED TO VERIFY THESE CLEARANCES.

Clement Rajendra 15-23-92
NED Engineer Date

CP&L

Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-156

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: SAFETY INJECTION COMPONENT NAME: ROD HANGER SUPPORT COMPONENT ID NO.: CPL-222-C

DWG./LOC.: CPL-222/Rev 0 / PIPE ALLEY - CENTER

☒ VT-3 PROCEDURE: SP-1097 @ 4-18-92 NDEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☒ OTHER 6" Scale

TYPE OF COMPONENT SUPPORT:

<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			No double nuts or jamb nuts
MISALIGNMENT	<input checked="" type="checkbox"/>			Skewed rod, bent clamp ear } See page # 2
DEBRIS		<input checked="" type="checkbox"/>		N/A
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			Support lug bent - see pg # 2
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL:			
SNUBBER	ACTUAL:		STROKE:	S/N

COMMENTS: RECORDABLE INDICATIONS - see page # 2 for details

* EXPANDED SCOPE

EXAMINER: Chf Moss @ LEVEL: II DATE: 4-18-92

REVIEWER: Art P... LEVEL: II DATE: 4-20-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

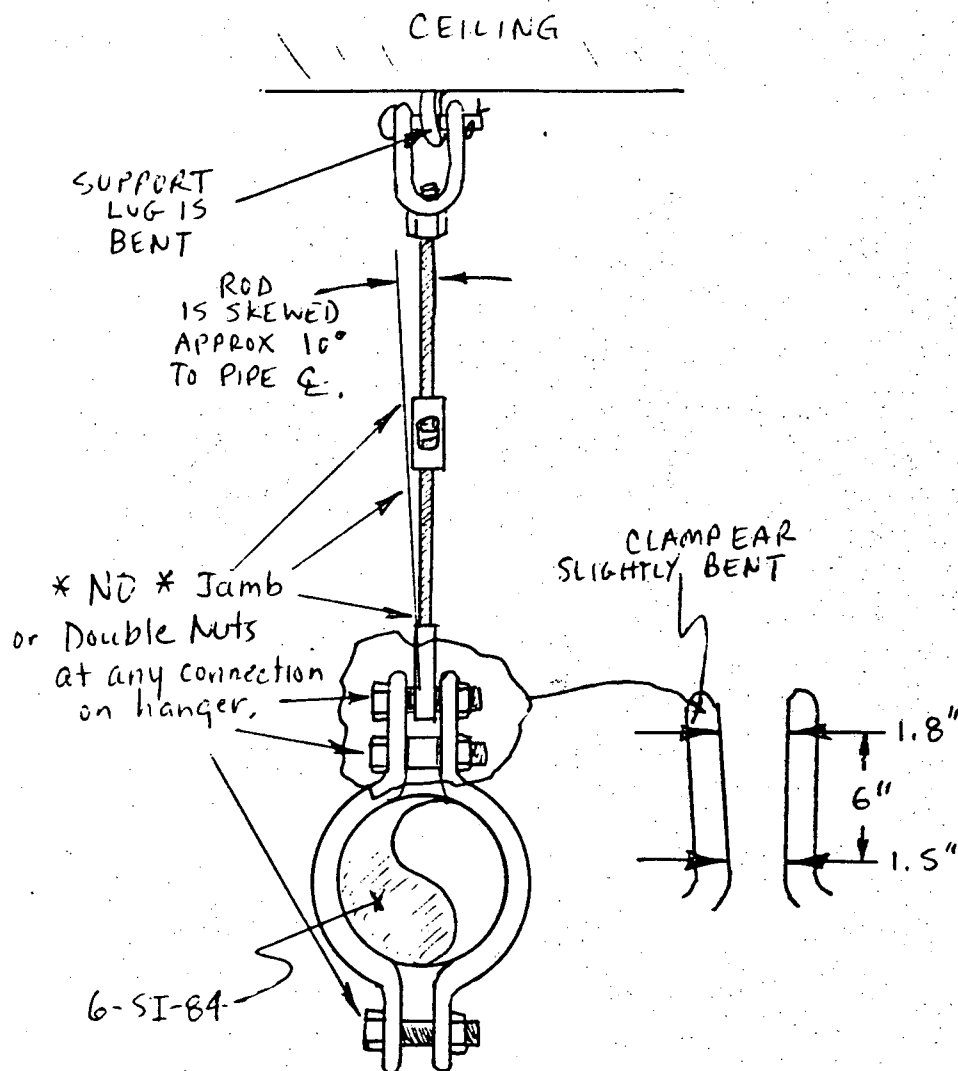
REVIEWERS COMMENTS:

ANII REVIEW: R. Valladares DATE: 4.23-92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-156EXAM ITEM CPL - 222 - CISO DWG. NO. CPL - 222 REV. 0

SKETCH SHEET



EXAMINER Cliff Moss

EXAMINER N/A

REVIEWER Carl Fymer

REVIEWER Richard B. Weber

REVIEWER ON

LEVEL II

LEVEL N/A

LEVEL II

DATE 4/22/92

DATE

DATE 4-18-92-

DATE N/A

DATE 4-20-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222-C

Visual Exam Report No. 1097-156

N/A

- ☐ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SUPPORT HAS BEEN REMOVED BY MOD M-1087.
SUPPORT WOULD HAVE BEEN CONSIDERED FUNCTIONAL WITH THE
INDICATIONS, SINCE IT IS A DEAD WEIGHT SUPPORT AND WAS FOUND
SUPPORTING THE PIPE WITHOUT FAILURE.

Clement Rajendra / 5-13-92
NED Engineer Date



VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-157

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: SAFETY INJECTION COMPONENT NAME: RCD HANGER SUPPORT COMPONENT ID NO.: CPL-222A-J

DWG./LOC.: CPL-222A, Rev C / PIPE ALLEY - MIDDLE

☒ VT-3 PROCEDURE: SP-1097 CND 4-18-92 NOEP-613 REV.: C ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT ☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT ☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	} See page #2 for details
MISALIGNMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See page #2
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATIONS - see page #2 for details.

EXAMINER: Cliff Mott CND LEVEL: II DATE: 4-18-92

REVIEWER: Carl Purnan LEVEL: II CND DATE: 4-20-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/22/92

REVIEWERS COMMENTS:

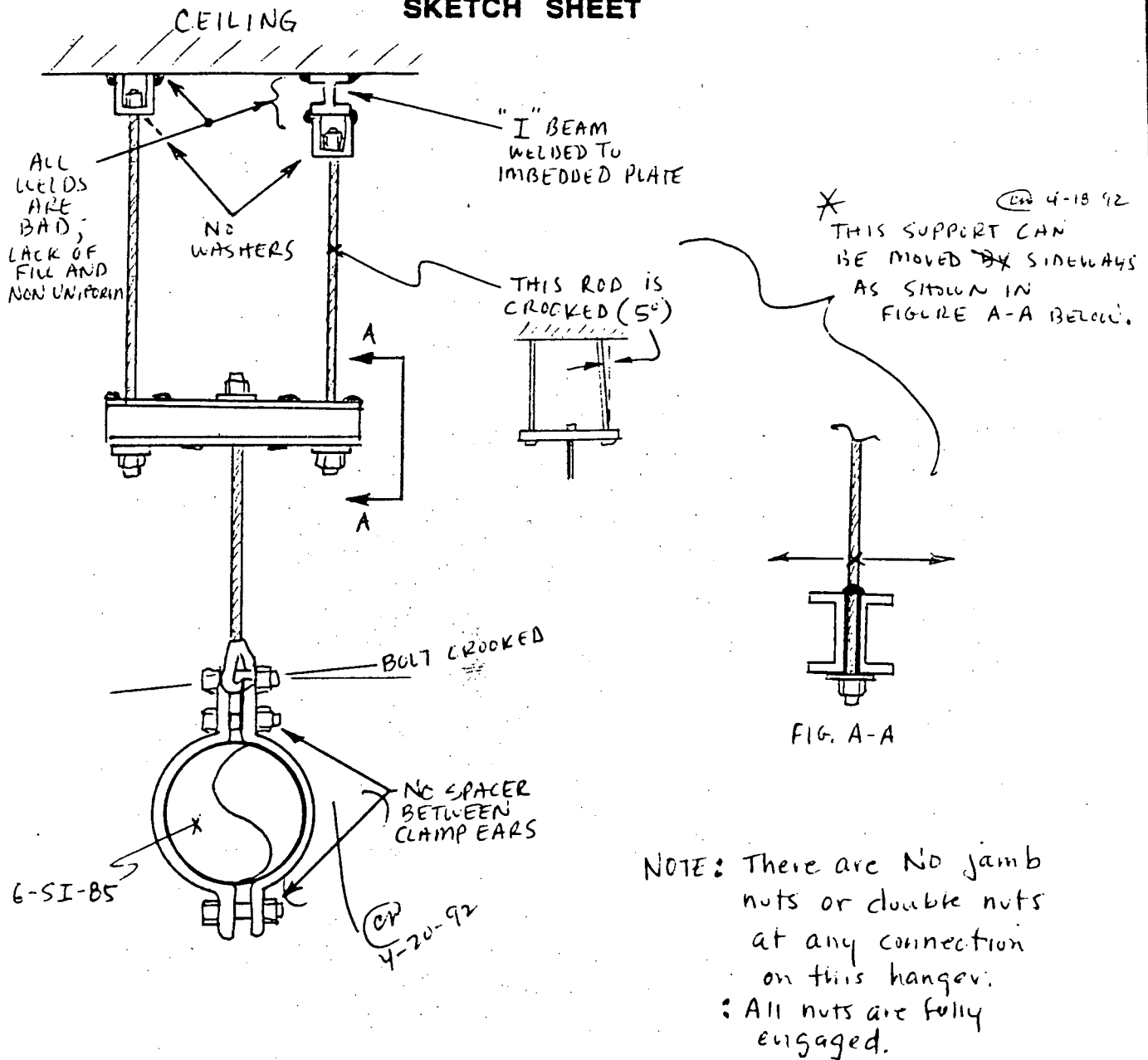
ANII REVIEW: R. Valladares

DATE: 4.23.92

1125

PAGE 2 OF 2DATA SHEET NO. 1097-157EXAM ITEM CPL-222A-JISO DWG. NO. CPL-222A REV. C

SKETCH SHEET

EXAMINER Clyde Moss ^{CP}EXAMINER N/AREVIEWER Rich P...REVIEWER Richard B. WeberREVIEWER AMLEVEL IILEVEL N/ALEVEL IIDATE 4/22/92DATE DATE 4-18-92DATE N/ADATE 4-20-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222A-J

Visual Exam Report No. 1097-157

N/A

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

SUPPORT HAS BEEN REMOVED BY MOD M-1087. SUPPORT WOULD HAVE BEEN CONSIDERED FUNCTIONAL WITH THE INDICATIONS, SINCE IT IS A DEAD WEIGHT SUPPORT AND WAS FOUND SUPPORTING THE PIPE WITHOUT FAILURE.

Clement Rajendra / 5-13-92.
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-51

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT 1 1 X 2 1 PSI X ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 241-B</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 241 REV 0 / SI PUMP ROOM

X VT-3 PROCEDURE: SP 1097 AP 4-7-72 NDEP-613 REV.: 0 1 VT-4 PROCEDURE: 614 REV.: 0

DIRECT X REMOTE X VIDEO RECORDING NO: X N/A

EQUIPMENT USED: <u>X</u> FLASHLIGHT <u>X</u> MIRROR <u>X</u> OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: <u>1</u> HYDRAULIC SNUBBER <u>1</u> CONSTANT SUPPORT <u>1</u> MECHANICAL SNUBBER <u>1</u> VARIABLE SUPPORT <u>X</u> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>✓</u>		/
MISALIGNMENT		<u>✓</u>		
DEBRIS	<u>✓</u>			
CORROSION/EROSION		<u>✓</u>		
STRUCTURAL INTEGRITY		<u>✓</u>		/
RESISTANCE TO MOVEMENT	<u>✓</u>			
CLEARANCES OF MOVING PARTS			<u>✓</u>	
ARC STRIKES/GOUGES		<u>✓</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: N/A RECORDABLE INDICATIONS 4-8-82

EXAMINER: Art Krumm LEVEL: II DATE: 4-6-82

REVIEWER: Edmund R. Donovan (M) LEVEL: II DATE: 4-7-92

COMPONENT CONDITION: 1 SATISFACTORY 1 UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW:

DATE:

1125

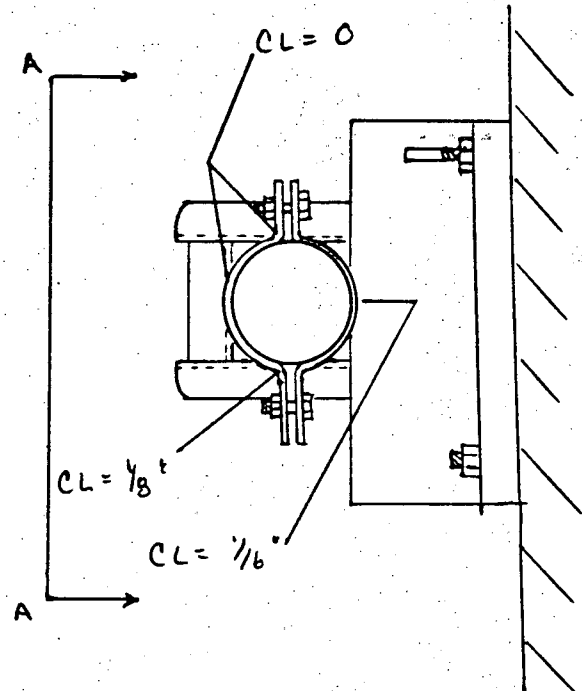
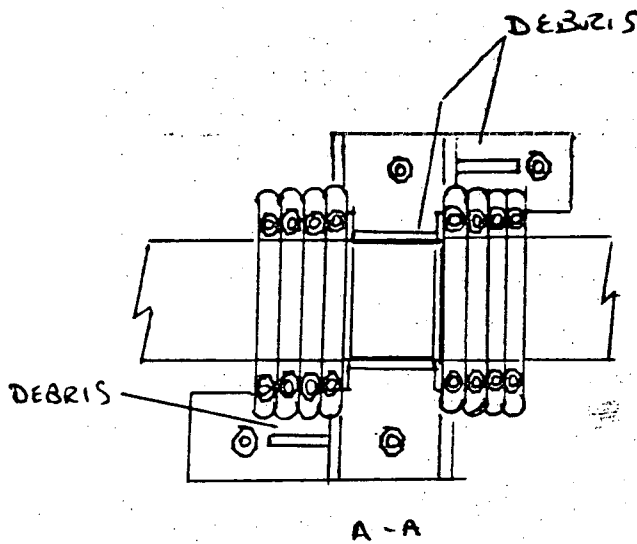
PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CPL 241-B

ISO DWG. NO. CPL 241 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Cut P...

LEVEL II

DATE 4-6-92

EXAMINER N/A

LEVEL N/A

DATE N/A

REVIEWER Edmund L. Dawson

LEVEL II

DATE 4-7-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

gm



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-246

WR&A # 4/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 ☒ 12 ☐ 1 PSI ☒ ISI

SYSTEM: HPSIS COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-241-B

DWG./LOC.: CPL-241 REV-0 / SI PUMP ROOM

☒ VT-3 PROCEDURE: SP1097 ERO 5-1-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER 6" SCALE TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT ☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT ☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS			<input checked="" type="checkbox"/>	
CORROSION/EROSION			<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY			<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

RE-EXAM TO CHECK GAPS FOR PIPE CLAMPS

EXAMINER: Edmund R. Darnon LEVEL: II DATE: 5-1-92

REVIEWER: Edmund R. Darnon LEVEL: II DATE: 5-2-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

INFO ONLY

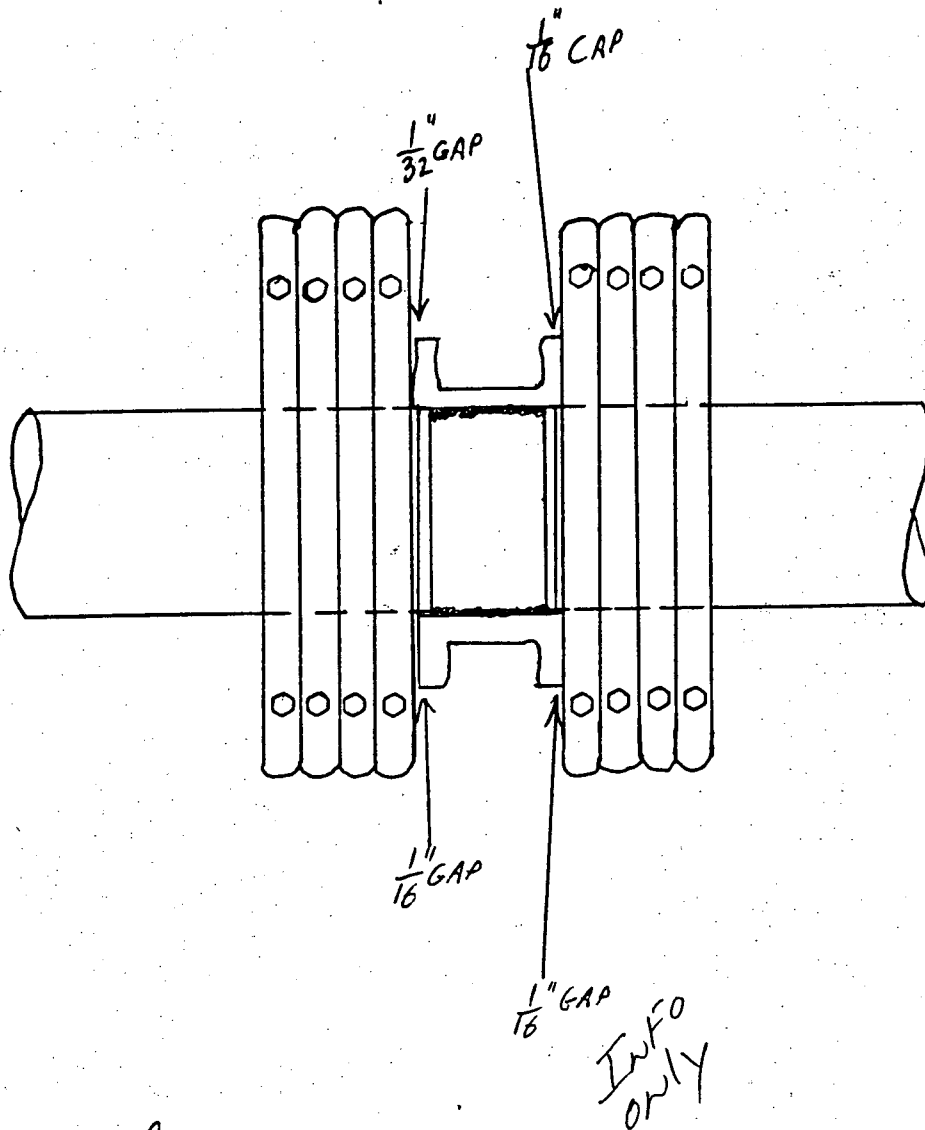
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-246
EXAM ITEM CPL-241-B
ISO DWG. NO. CPL-241 REV. 0

SKETCH SHEET



EXAMINER E. J. Danna
EXAMINER A
REVIEWER A. P. Pinner
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL A
LEVEL II
DATE _____
DATE _____

DATE 5-1-92
DATE 5A
DATE 5-2-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-241-B

Visual Exam Report No. 1097-51
& 1097-246

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS A SAFETY-RELATED SEISMIC SUPPORT WITH 3-WAY
RESTRAINTS. REF. STRESS ISO SI-4, SH.3 DP 89. THE CLEARANCES
MEET TOLERANCES OF SPEC. CPL-HBR2-C-011. DEBRIS DOES NOT
AFFECT STRUCTURAL INTEGRITY OF SUPPORT.

Clement Rajendra 15-13-92
NED Engineer Date



Carolina Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-108

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AUX FEEDWATER</u>	COMPONENT NAME: <u>BOX RESTRAINT</u>	COMPONENT ID NO.: <u>CPL-334B-G</u>
---------------------------------	---	--

DWG./LOC.: CPL 334B REV-0 / AUX FEED PUMP ROOM

[X] VT-3 PROCEDURE: <u>SP 1097 ERO 4-992</u> <u>NOEP 613 REV.: 0</u>	[] VT-4 PROCEDURE: <u>614 REV.:</u>
---	--------------------------------------

DIRECT [X] REMOTE [X]	VIDEO RECORDING NO: <u>[X] N/A</u>
-----------------------	------------------------------------

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER <u>6" SCALE</u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		X		
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		
STRUCTURAL INTEGRITY		X		
RESISTANCE TO MOVEMENT	X			SEE ATTACHED SKETCH FOR GAPS
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: <u>Edward J. Donovan</u>	LEVEL: <u>II</u>	DATE: <u>4-9-92</u>
------------------------------------	------------------	---------------------

REVIEWER: <u>Art P...</u> <u>AD</u>	LEVEL: <u>II</u>	DATE: <u>4-11-92</u>
-------------------------------------	------------------	----------------------

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS: No Dng

ANII REVIEW: DATE:

1125

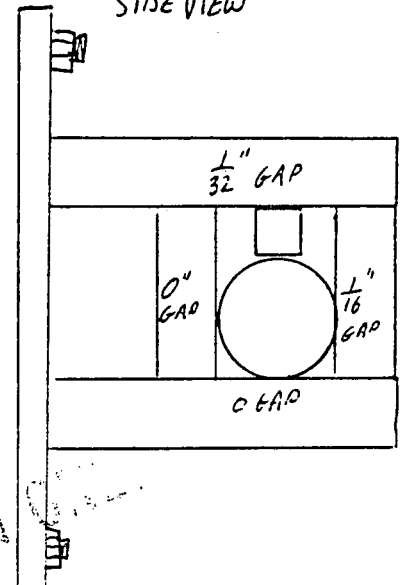
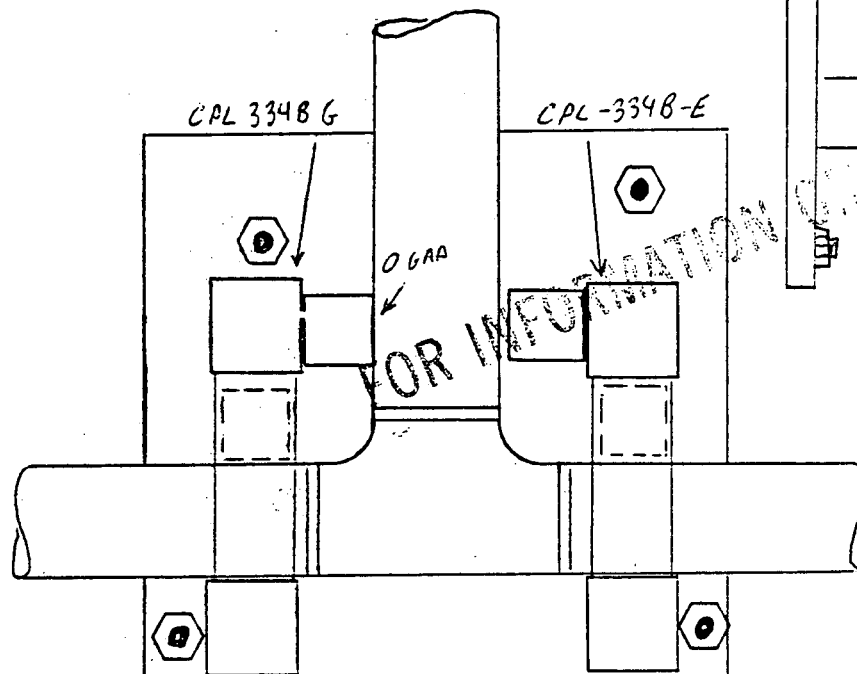
PAGE 2 OF 2DATA SHEET NO. 1097-108EXAM ITEM CPL-338B-GISO DWG. NO. CPL 338B REV. 0

SKETCH SHEET

ALL TUBE STEEL

LOOKING SOUTH
SIDE VIEW

LOOKING EAST



EXAMINER Edward R. Donovan
EXAMINER N/A
REVIEWER W. P. ...
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-9-92
DATE N/A
DATE 4-11-92

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: <u>AUX FEEDWATER</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-3348-E</u>
---------------------------------	-----------------------------------	--

DWG./LOC.: CPL-3348 REV-0 / AUX FEED PUMP ROOM

SP 1097 ERO 5-4-92
☒ VT-3 PROCEDURE: NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS CHECK EAPS FOR N.E.D.

SUPPORT SHARES BASE PLATE WITH CPL-3348-G

EXAMINER: Elmer R. Dawson LEVEL: II DATE: 5-4-92

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

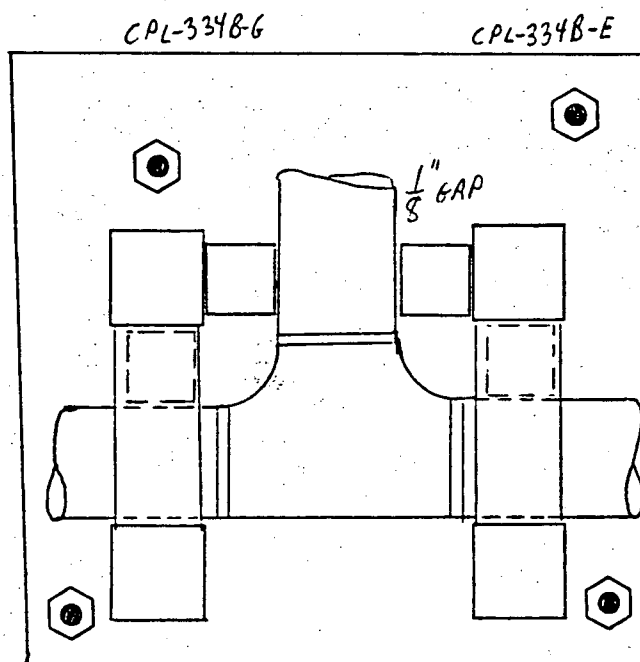
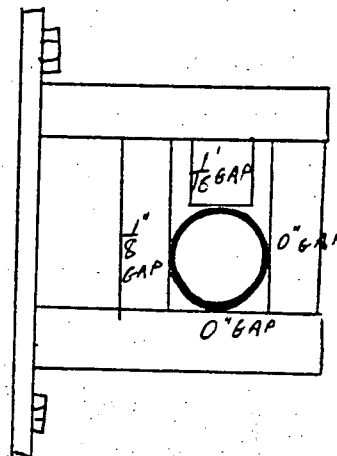
1125

PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CPL-334B-EISO DWG. NO. CPL-334B REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edward R. Danner
EXAMINER N/A
REVIEWER _____
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL _____
DATE _____
DATE _____

DATE 5-4-92
DATE N/A
DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-334B-G
(CPL-334B-E)

Visual Exam Report No. 1097-108
1097--7

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

THIS SUPPORT IS A SAFETY-RELATED, SEISMIC SUPPORT WITH
3-WAY RESTRAINTS. REF. STRESS 180 FW-2, DP 145. THE
CLEARANCES MEET TOLERANCES OF SPEC. CPL-HBR2-C-011.

Clement Rajendra 15-13-92
NED Engineer Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-80

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: SI	COMPONENT NAME: SUPPORT	COMPONENT ID NO.: CPL-234-A
------------	-------------------------	-----------------------------

DWG./LOC.: CPL 234 REV 1 / SI PUMP RM

[X] VT-3 PROCEDURE: SP 1097 AP 4-9-92 REV 0 NDP-613 REV.: 0	[] VT-4 PROCEDURE: 614 REV.:
--	-------------------------------

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR [X] OTHER 6" SCALE	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		✓		
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT	✓			SEE ATTACHMENT
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER: *Art Purnan* LEVEL: II DATE: 4-9-92REVIEWER: *Edmund R. Danner* LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

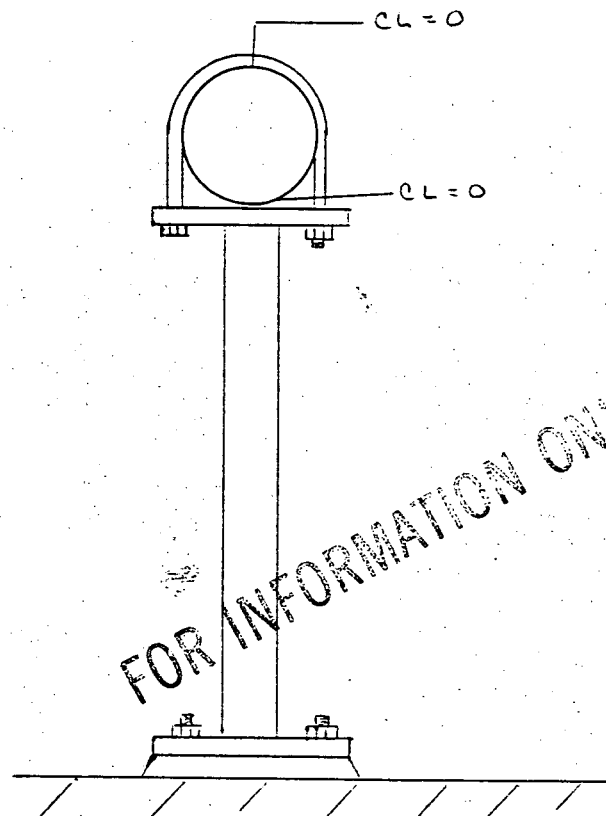
ANII REVIEW:

DATE:

1105

PAGE 2 OF 2DATA SHEET NO. 1097-90EXAM ITEM CPL - 234 - AISO DWG. NO. CPL - 234 REV. 1

SKETCH SHEET

EXAMINER Art PinnerLEVEL IIDATE 4-9-92EXAMINER N/ALEVEL N/ADATE N/AREVIEWER Edmund R. DawsonLEVEL IIDATE 4-10-92

REVIEWER _____

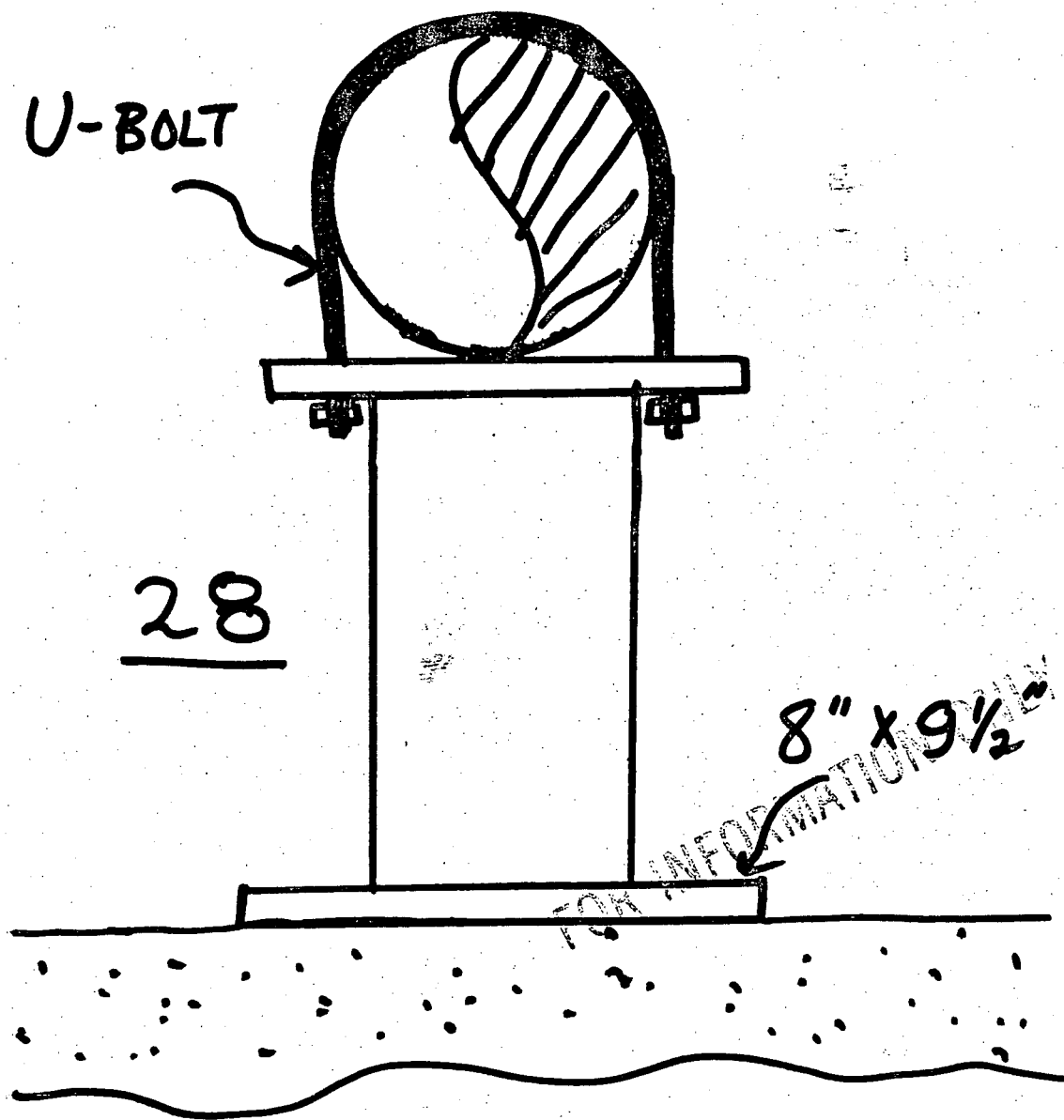
DATE _____

REVIEWER _____

DATE _____

DR

SUPPORT "A" PT #66



SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-234-A

Visual Exam Report No. 1097-90

☐ Support is acceptable "as is". No corrective action required.

☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.

☒ Support is functional short term. The following corrective actions must be performed prior to return to service.

☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

REMOVE U-BOLT

Basis:

THIS SUPPORT IS CLASSIFIED AS A 'NON-SAFETY RELATED, NON-SEISMIC' DEAD WEIGHT SUPPORT. 11-BOLT WOULD CREATE AN UN-ANALYZED CONDITION DURING A SEISMIC EVENT. SINCE THERMAL MOVEMENT IS VERY SMALL AT THIS LOCATION, EFFECT OF THIS RESTRAINT ON THE PIPING SYSTEM IS INSIGNIFICANT.
REF. IRR-RS-92-HL.

Clement Rajendra / 5-13-92
NED Engineer Date

ATTACHMENT 1
PAGE 1 OF 2

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: WARREN FARMER UNIT: TECH SUPPORT SITE MEMO #
ATTN: ETS-92 - AQ
SUBJECT: RESOLUTION OF ISI INDICATIONS SHEET 1 OF 1
MOD M- PCN
RET-R-G-Bx

THE ATTACHED VISUAL EXAMINATION REPORTS BY
TSE-92-CG, TSE-92-CE, TSE-92-CW, TSE-92-CR
& TSE-92-CF, FOR EACH COMPONENT EXAMINED, A CORRECTIVE ACTION/
EVALUATION SHEET IS ATTACHED. LIST OF COMPONENTS:

CPL-222B-C, CPL-^{222B}222B-B, CPL-222B-B1, CPL-326-WS-D/CPL-326-D
CPL-326-WS-B/CPL-326-B, CPL-326-C-WS/CPL-326-C, CPL-326-WS-T/CPL-326-T,
CPL-331B-A.

PLEASE NOTE THAT COMPONENT CPL-326-T DOES NOT
EXIST IN THE FIELD NOR IS FOUND IN RUN OF RECORD
FILES. ISI DRAWING & DATA BASE SHOULD BE REVISED TO
REFLECT THIS.

DISTRIBUTION

SIGNED: Clement Rajendra

RESPOND BY:
ACKNOWLEDGE
RECEIPT ONLY

*RELEASING AUTHORITY: L. M. Jones

DATE: 5/1/92

RESPONSE:

DISTRIBUTION

SIGNED:

*RELEASING AUTHORITY: DATE: / /

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-33

WR&A # N/A

PAGE 1 OF 1

PLANT: HB ROBINSON UNIT 11 ☒ 12 ☐ PSI ☒ ISI

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 222B-C</u>
-------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL 222B REV 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP 1197 m 4-5-92 NDP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			<u>TOP RIGHT BOLT LOOSE</u>
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION

EXAMINER: Art R... LEVEL: II DATE: 4-4-92

REVIEWER: Edmund R. D... LEVEL: II DATE: 4-8-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard A. Weber 4/9/92

REVIEWERS COMMENTS:

ANII REVIEW: AP Valladares DATE: 4-9-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID 222B
CPL-22B-C

Visual Exam Report No. 1097-33

- CSF*
5/1/92
- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

TOP RIGHT BOLT IS A SELF-DRILLING ANCHOR BOLT AND ITS
TIGHTNESS IS NOT CRITICAL TO ITS ULTIMATE STRENGTH
AND THEREFORE THE SUPPORT IS FUNCTIONAL SHORT TERM.
THIS SUPPORT IS SCHEDULED TO BE MODIFIED BY MOD M-1087
THIS OUTAGE AND NO CORRECTIVE ACTIONS ARE REQUIRED.

Clement Rajendra 14-29-92
NED Engineer Date

CP&L

Cable Power & Light Company

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-35

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT 1 1 X 2 1 PSI X 1 1 1

SYSTEM: <u>SI</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 222B-B</u>
-------------------	--------------------------------	-------------------------------------

DWG./LOC.: CPL 222B REV 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP 1097 no more NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER <u></u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		N/A
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	N/A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A S/N N/A	

COMMENTS: NO CLAMP SPACER
RECORDABLE INDICATIONS

EXAMINER: Art Pinner LEVEL: II DATE: 4-4-92

REVIEWER: Edmund R. Dorian LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS: no prob.

ANII REVIEW: DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097-35EXAM ITEM CPL 222B-BISO DWG. NO. CPL-222B REV. 0

SKETCH SHEET

1 1/4" x 1 1/4" FLAME CUT
BURNT THROUGH
I-BEAM FLANGE

NO JAM NUT

JAM NUT LOOSE

NO CLAMP SPACER

NO DOUBLE NUTS

FOR INFORMATION ONLY

EXAMINER

Art Pinner

LEVEL

II

DATE

4-4-92

EXAMINER

NA

LEVEL

NA

DATE

NA

REVIEWER

Edward R. Douvan

LEVEL

II

DATE

4-6-92

REVIEWER

DATE

REVIEWER

DATE

177

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222B-B

Visual Exam Report No. 1097-35

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS CLASSIFIED AS A ^{NON-}"SAFETY RELATED, NON-SEISMIC", DEAD WEIGHT SUPPORT. SINCE THIS SUPPORT IS CARRYING DEAD LOAD WITHOUT DISTRESS, IT IS FUNCTIONAL. THIS SUPPORT IS SCHEDULED TO BE REMOVED UNDER MOD M-1087 AND NO CORRECTIVE ACTION IS REQUIRED.

Clement Rajendra 14-29-92
NED Engineer Date



VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-34

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: SI COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL 222 B - B1

DWG./LOC.: CPL 222 B REV 0 / PIPE ALLEY

[X] VT-3 PROCEDURE: ^{SP 1097 APG-1042} HBEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT
MISALIGNMENT		✓		
DEBRIS		✓		N/A
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY	✓			SEE ATTACHMENT
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	N/A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: CABLE TRAY RESTING ON END OF PIPE EXHAUST ROD, TRAPEZE SUPPORTED BY ANGLE WELDED TO THE WALL AND RODS DO NOT SUPPORT THE LOAD OF THE PIPE

EXAMINER: *Art P...* LEVEL: II DATE: 4-4-92
REVIEWER: *Edmund L. Dawson* LEVEL: II DATE: 4-10-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

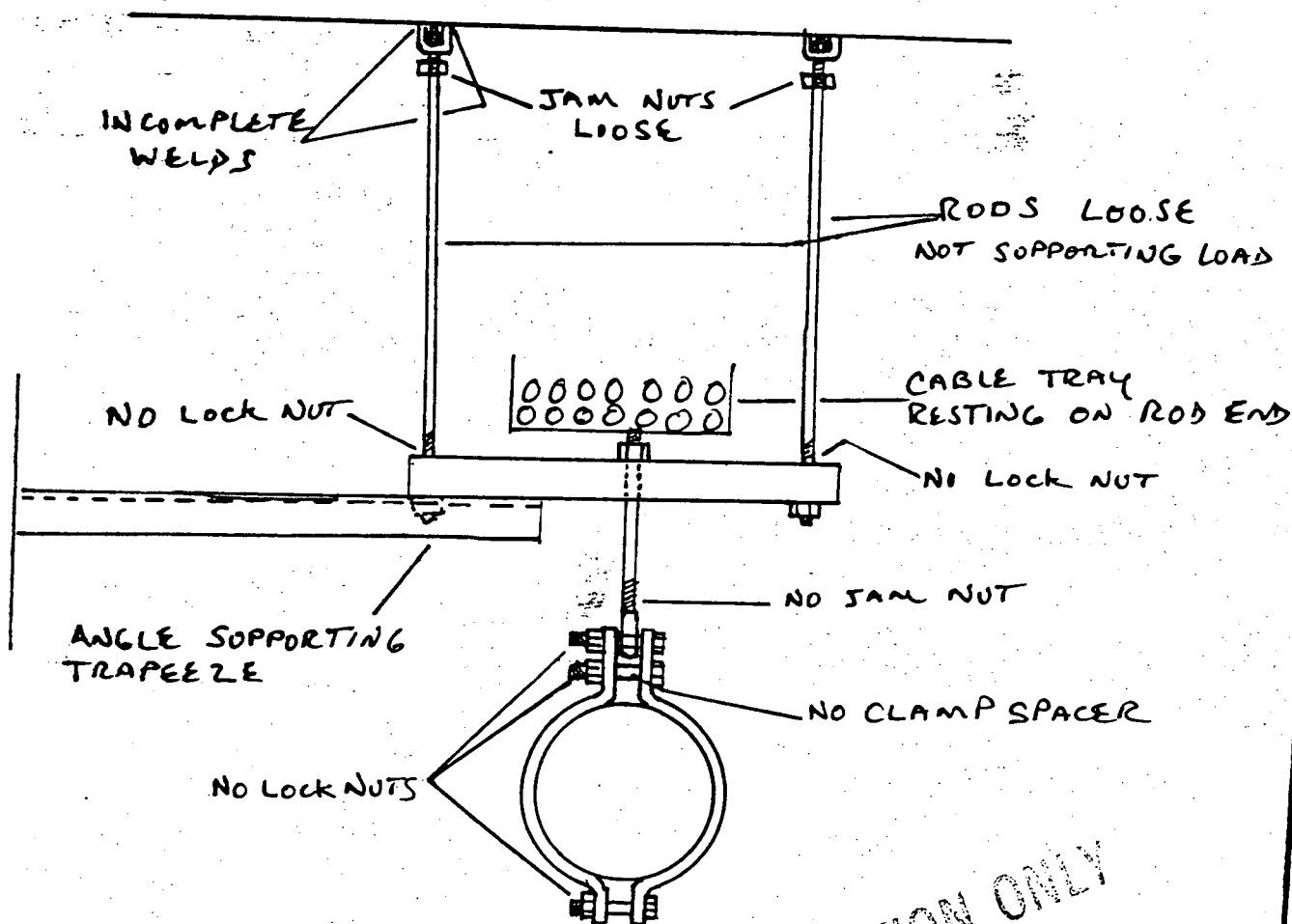
REVIEWERS COMMENTS: no DWG of

ANII REVIEW: DATE:

105

PAGE 2 OF 2DATA SHEET NO. 1097-34EXAM ITEM CPL 222B - B1ISO DWG. NO. CPL 222B REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER

Art Purnan

LEVEL

II

DATE

4-4-92

EXAMINER

NA

LEVEL

NA

DATE

NA

REVIEWER

Edward R. Donovan

LEVEL

II

DATE

4-6-92

REVIEWER

DATE

REVIEWER

DATE

AM

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-222B-B1

Visual Exam Report No. 1097-34

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC"
DEAD WEIGHT SUPPORT. SINCE THIS SUPPORT IS CARRYING DEAD LOAD
WITHOUT DISTRESS, IT IS FUNCTIONAL. THIS SUPPORT IS SCHEDULED
TO BE MODIFIED UNDER MOD M-1087 AND CORRECTIVE ACTION IS
REQUIRED.

Clement Rajandre 14-29-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1897-155

WR2A # 14A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM:	COMPONENT	COMPONENT
COMPONENT COOLANT	NAME: SUPAORT ATTACHMENT	ID NO.: CPL-326-WS-D

DWG./LOC.: CPL-326 REV.-1 / WH U.T. ROOM

<div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> VT-3 PROCEDURE: </div> <div> SP 1097 EDO 44592 NDEP 613 REV.: 0 </div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> VT-4 PROCEDURE: 614 REV.: </div> </div>
---	--

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION	YES	NO	N/A	COMMENTS
Present				

FASTENING DEVICES

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

RESISTANCE TO MOVEMENT

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

VARIABLE/CONSTANT SUPPORT	ACTUAL: 12/28
---------------------------	---------------

SNUBBER	ACTUAL: $\frac{N}{A}$	STROKE: $\frac{N}{A}$	S/N $\frac{N}{A}$
---------	-----------------------	-----------------------	-------------------

COMMENTS: RECORDABLE INDICATION

EXAMINER: *Edmund R Donovan* LEVEL: *II* DATE: *4-15-92*

REVIEWER: C. P. [Signature] LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW: _____ DATE: _____

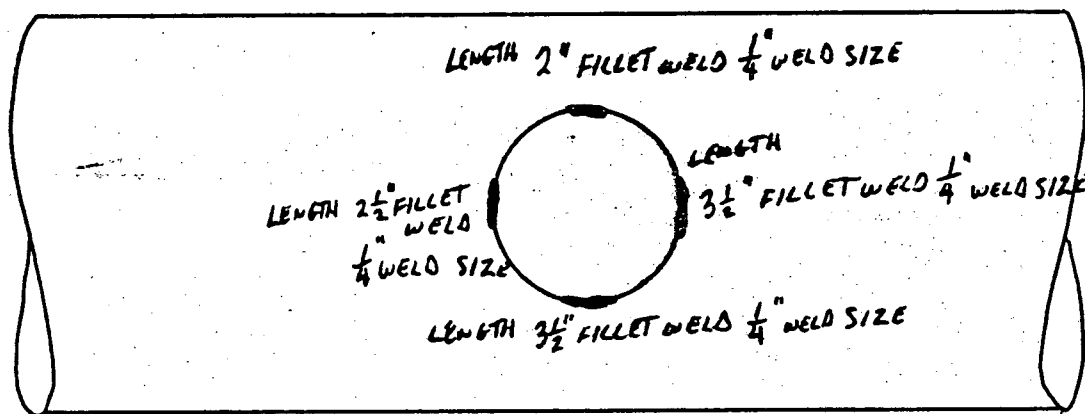
1125

PAGE 2 OF 2
DATA SHEET NO. 1097-155
EXAM ITEM CPL-326-WS-0
ISO DWG. NO. CPL 326 REV. 1

SKETCH SHEET

VIEW LOOKING UP

← WEST



INTEGRAL ATTACHMENT WELD
DOES NOT GO ALL THE WAY AROUND STANTION
SUPPORT
CORROSION BRO 4-15-92
CORROSION ON PIPE ATTACHMENT WELD AND
STANTION LESS THAN 5% WALL LOSS

EXAMINER
EXAMINER
REVIEWER
REVIEWER
REVIEWER

Edmund Donovan
NA
Carl P. P...

LEVEL II
LEVEL NA
LEVEL II
DATE
DATE

DATE 4-15-92
DATE NA
DATE 4-16-92

CP&L
Carolina Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-154

WR&A # N/A

PAGE 1 OF 2 ^{ERO 4-16-92}

PLANT: HB ROBINSON UNIT 1 ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-328-D</u>
-------------------------------------	-----------------------------------	---------------------------------------

DWG./LOC.: CPL-326 REV.-1 / W.H.U.T. ROOM

SP 1097 ERO 4-15-92
☒ VT-3 PROCEDURE: NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		N A
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
EROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT		<input checked="" type="checkbox"/>		
CLEARANCES OF MOVING PARTS		<input checked="" type="checkbox"/>		
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>

COMMENTS: NO RECORD ABLE INDICATIONS

EXAMINER: <u>Chuck Davon</u>	LEVEL: <u>II</u>	DATE: <u>4-15-92</u>
REVIEWER: <u>Art P...</u>	LEVEL: <u>II</u>	DATE: <u>4-16-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

GRINNELL

B. F. SHAW

OR CONT. NO. P. O. D-5230; D-5931

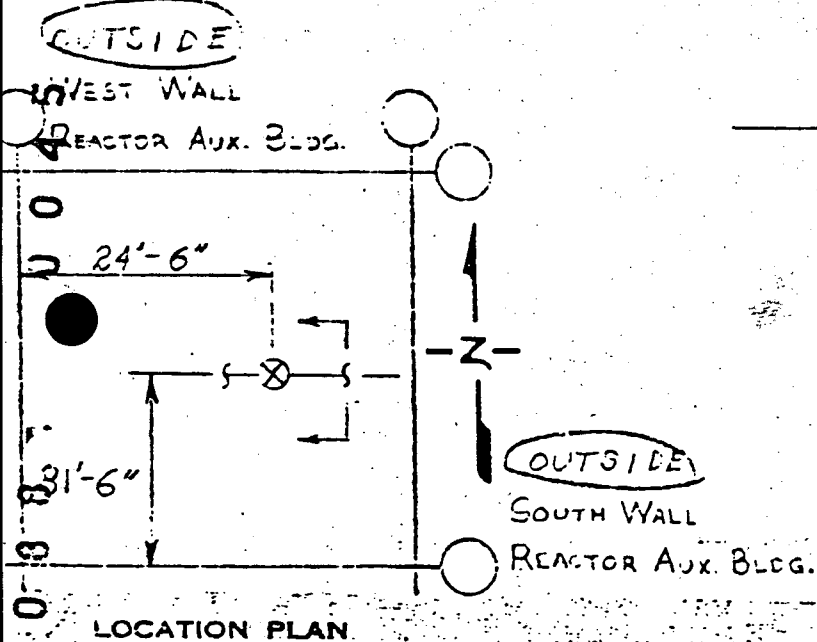
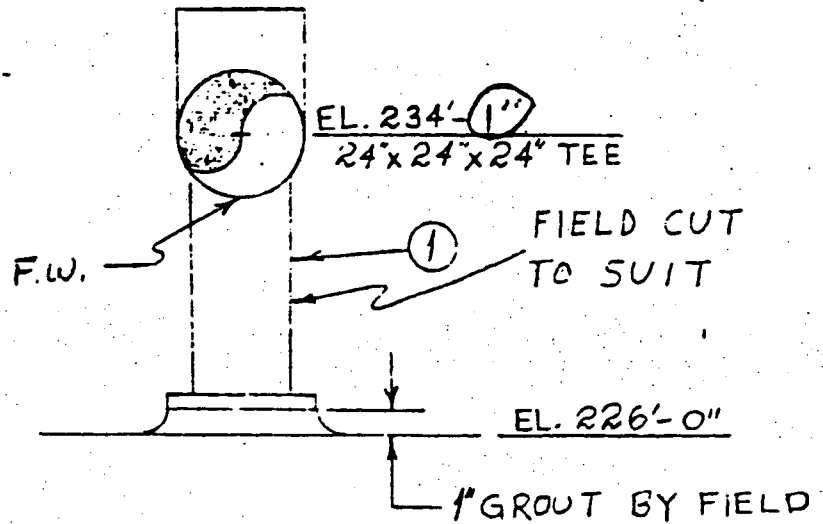
NAME H. B. ROBINSON STATION UNIT #2

PIPE HANGER DEPARTMENT

DRAWN BY A.A. DATE 7/11/68

REVISED BY N/A DATE 12-3-68
HBR ST 0425047

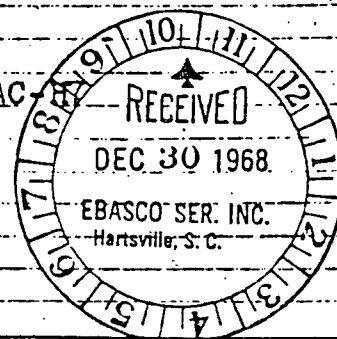
CPL-326
PT-"D"



INFO ONLY
MAR 0 9 1992

APPROX. LOAD-7000#

ITEM NO.	MATERIALS AND OPERATIONS	QUANTITY	SHIP
	PIPE SUPPORT CONSISTING OF:	one	
1	H.S. 63" "C" 8" Stan24" Pipe D-8'-3 5/8" E-7'-4 1/16" G-3/8" x 14" x 14" TW-230#	1	
	Hanger Assembly Sketch & Engrg. Apply coat of iron oxide to above mat'l.	1	
	Mark: AC		



PIPE G190272 (2)

AC-H7

007

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-326-WS-D
CPL-326-D

Visual Exam Report No. 1097-155
1097-154

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC,"
DEAD WEIGHT SUPPORT. BECAUSE THE WEIGHT ACTS DOWN, THE WELDS
DO NOT TRANSFER PRIMARY LOADS. SMALL AMOUNT OF CORROSION
DOES NOT AFFECT STRUCTURAL INTEGRITY OF SUPPORT.

Clement Rajendra / 4-29-92
NED Engineer Date

CP&L
Charles P. & L. Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-151

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: COMPONENT COOLANT COMPONENT INTEGRAL COMPONENT NAME: SUPPORT ATTACHMENT ID NO.: CPL-326-WS-B

DWG./LOC.: CPL 326 REV-1 / W.H.U.T. ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 4-15-92 NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A


EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR
☒ OTHER 6" SCALE

TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
DEBRIS		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
CORROSION/EROSION	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N: <u>N/A</u>			

COMMENTS: RECORDABLE INDICATION

EXAMINER: Edmund R. Donovan LEVEL: II DATE: 4-15-92

REVIEWER: Art Pinner  LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

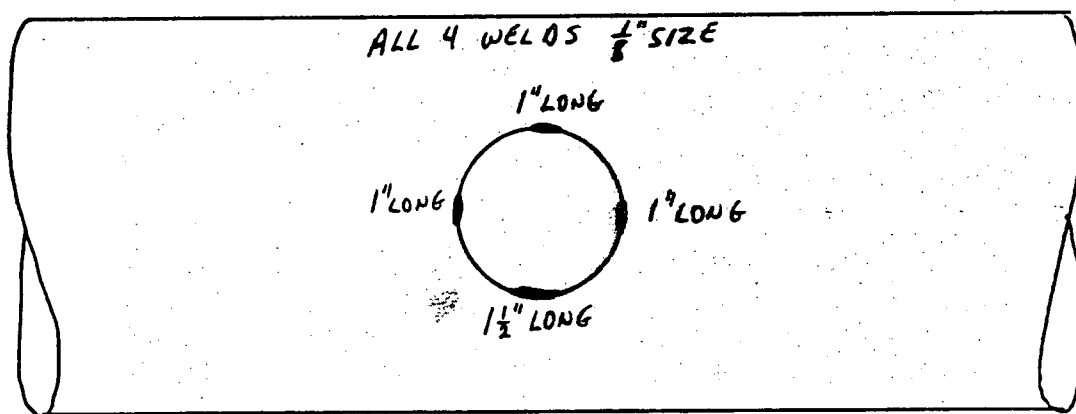
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

SKETCH SHEET

VIEW LOOKING UP

← WEST



INTEGRAL ATTACHMENT WELD
 DOES NOT GO ALL THE WAY AROUND STANTION
 CORROSION ON PIPE, ATTACHMENT WELDS AND STANTION
 LESS THAN 5% WALL LOSS

EXAMINER Elmwood D. Brown
 EXAMINER A
 REVIEWER Carl P. Brown
 REVIEWER _____
 REVIEWER _____

LEVEL II
 LEVEL NA
 LEVEL II
 DATE _____
 DATE _____

DATE 4-15-92
 - DATE NA
 DATE 4-16-92

QW

B. F. SHAW

OR CONT. NO. P. O. D-5930; D-5931

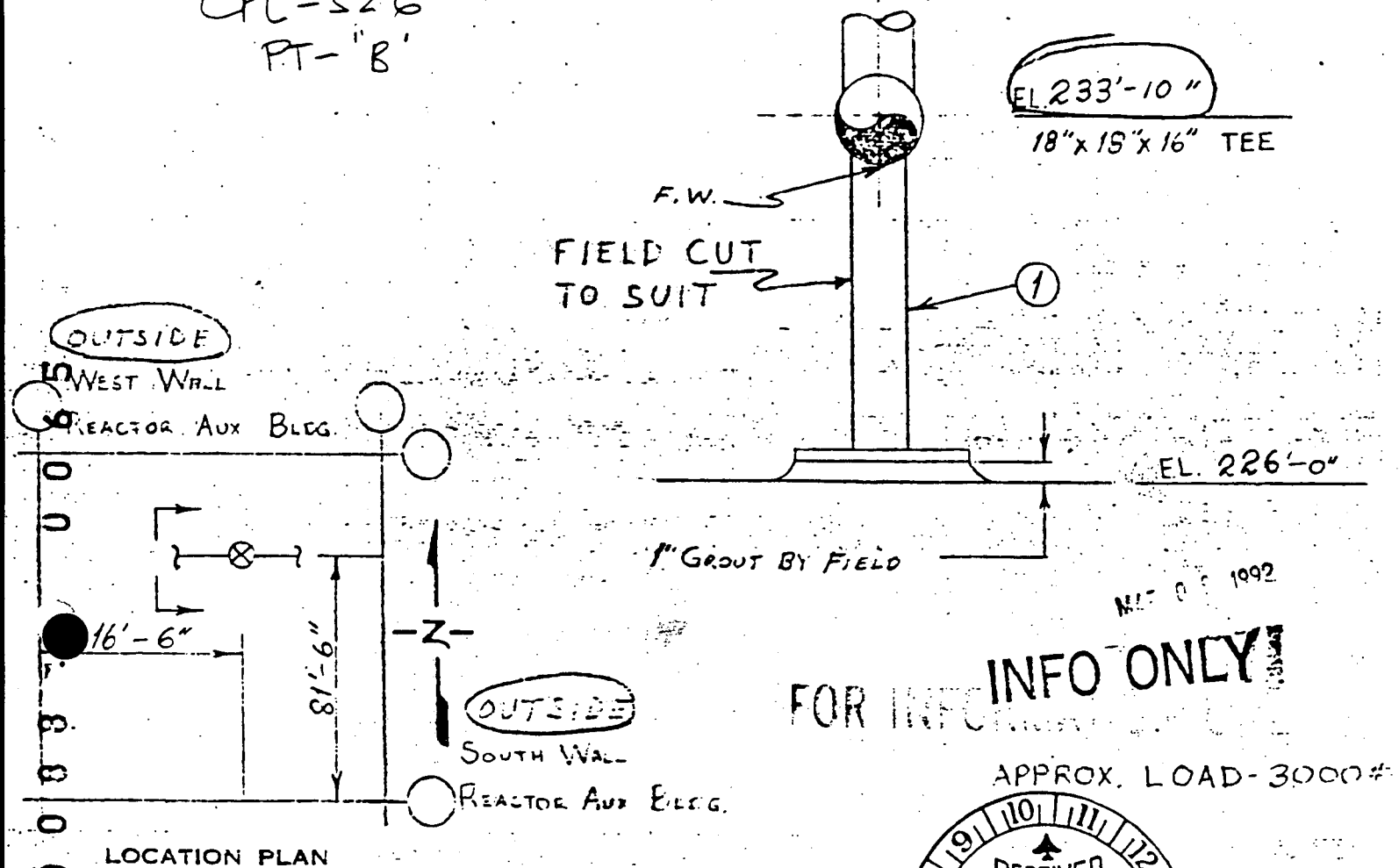
NAME H. B. ROBINSON STATION UNIT #2

PIPE HANGER DEPARTMENT

DRAWN BY A. A. DATE 7/2/68REVISED BY N. A. P. DATE 12-3-68

CPL-326

PT-"B"



FOR INFO INFO ONLY

APPROX. LOAD-3000#



ITEM NO.	MATERIALS AND OPERATIONS	QUAN.	SHIP
	BILL OF MATERIALS		
	PIPE SUPPORT CONSISTING OF:		
1	H.S. 63, "C" C.S. 6" Stanchion 18" Pipe D-7'-9 5/8" E-7'-0 15/16" G-3/8" x 10" x 10" TW-145#	one	
	Hanger Assembly Sketch & Engrg.	1	
	Apply coat of iron oxide to above mat'l. except th'ds. which shall be greased.		
	Mark: H26		

REF. DRW'G. NOS.

PIPE G190272-2

STEEL

MARK NO. AC-H26

SKETCH NO. 928

REV. 1

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-326-WS-B

Visual Exam Report No. 1097-151

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

Not APPLICABLE

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC,"
DEAD WEIGHT SUPPORT. BECAUSE THE WEIGHT ACTS DOWN, THE WELDS
DO NOT TRANSFER PRIMARY LOADS. SMALL AMOUNT OF CORROSION
DOES NOT AFFECT STRUCTURAL INTEGRITY OF SUPPORT.

Clement Rajendra / 4-29-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097729

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>CC</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 326-C</u>
-------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 326 REV1 / RHR HEAT EXCHANGER ROOM

[x] VT-3 PROCEDURE: ^{SP1097 M-1292} NBEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x] VIDEO RECORDING NO: [x] N/A

EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			SEE ATTACHMENT N/A
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION	✓			SEE ATTACHMENT
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	N/A
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Art. P... LEVEL: II DATE: 4-11-92

REVIEWER: Chf. Moss LEVEL: II DATE: 4-14-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

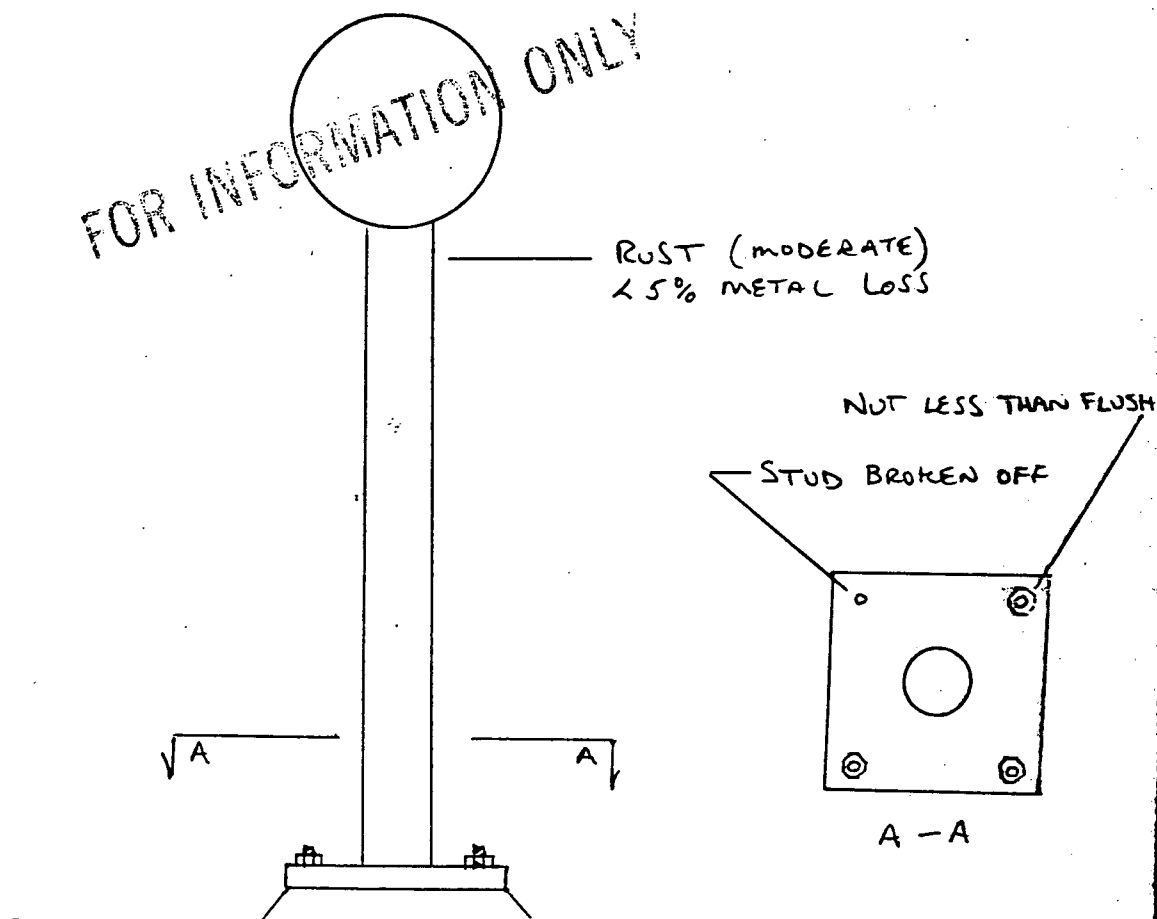
ANII REVIEW: _____ DATE: _____

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-129
EXAM ITEM CPL 326 - C
ISO DWG. NO. CPL 326 REV. 0

SKETCH SHEET

FOR INFORMATION ONLY



EXAMINER Art. Pincus

LEVEL II

DATE 4-11-92

EXAMINER Ch. Moss @

LEVEL II

DATE 4-14-92

REVIEWER Richard B. Weber

LEVEL 4/14/92 N/A

DATE 4/14/92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

AM

GRINNELL

HBR 91 0425064

PIPE HANGER DEPARTMENT

DRAWN BY H. A. DATE 7/12/68REVISED BY N. A. P. DATE 12-9-68

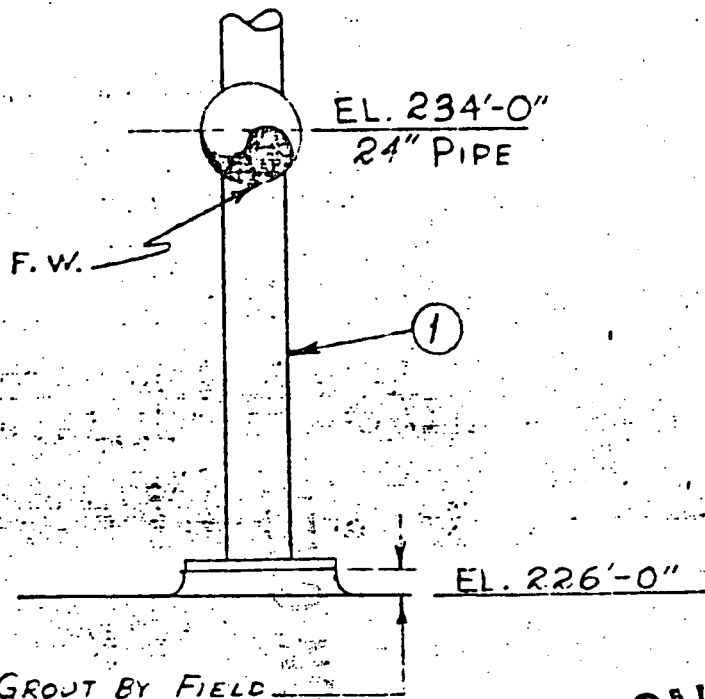
T. SHAW

P. O. D-5930, D-5931

H. B. ROBINSON STATION UNIT #2

P-326

PT. "C"



OUTSIDE

WEST WALL

REACTOR AUX. BLDG.

25'-3"

8'-7"

-Z-

OUTSIDE

SOUTH WALL

REACTOR AUX. BLDG.

LOCATION PLAN

INFO ONLY

MAR 09 1992

APPROX. LOAD - 3300#

FOR INFORMATION

MATERIALS AND OPERATIONS

QUAN. SHIP

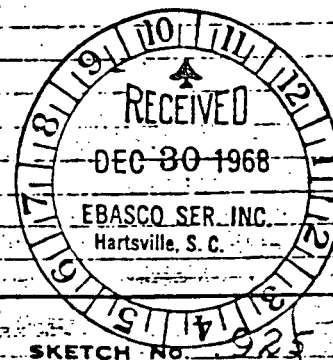
PIPE SUPPORT CONSISTING OF:

H.S. 63 "C" C.S. 8" Stanchion 24" Pipe, D-7'-11" E-6'-11 7/16" G-3/8" x 14" x 14" TW-220#

Hanger Assembly Sketch & Engrg.

Apply coat of iron oxide to above mat'l. except th'ds. which shall be greased.

Mark: AC-H23



PIPE G190272-0

REF. DRW'G. NOS.

STEEL

MARK NO. AC-H23

SKETCH NO. 925

REV. 1

PRINTED IN U.S.A. 8-68



VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1092-730

NR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON

UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM:

COMPONENT

COMPONENT

CC

NAME:

SUPPORT

ID NO.:

CPL 326-C-WS

DWG./LOC.: CPL 326 REV 1

RHR HEAT EXCHANGER RDOW

[x] VT-3 PROCEDURE: ^{SP1097 Rev 4-92} ~~NDEP 613~~ REV.: 0

[] VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☐

VIDEO RECORDING NO:

☒ N/A

EQUIPMENT USED:

TYPE OF COMPONENT SUPPORT:

☒ FLASHLIGHT ☐ MIRROR

☐ OTHER

☐ HYDRAULIC SNUBBER

☐ CONSTANT SUPPORT

☐ MECHANICAL SNUBBER

☐ VARIABLE SUPPORT

☒ SUPPORT/HANGER

CONDITION
Present

YES

NO

N/A

COMMENTS

FASTENING DEVICES

MISALIGNMENT

DEBRIS

CORROSION/EROSION

STRUCTURAL INTEGRITY

RESISTANCE TO MOVEMENT

CLEARANCES OF MOVING PARTS

ARC STRIKES/GOUGES

VARIABLE/CONSTANT SUPPORT

ACTUAL: N/A

SNUBBER

ACTUAL: N/A

STROKE: N/A

S/N N/A

COMMENTS: RECORDABLE INDICATION

EXAMINER:

Cert P...

LEVEL: II

DATE: 4-11-92

REVIEWER:

Chf Moss CP

LEVEL: II

DATE: 4-14-92

COMPONENT CONDITION:

☐ SATISFACTORY

☐ UNSATISFACTORY

REVIEWED BY:

Richard B. Weber 4/14/92

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

ANII REVIEW:

DATE:

nes

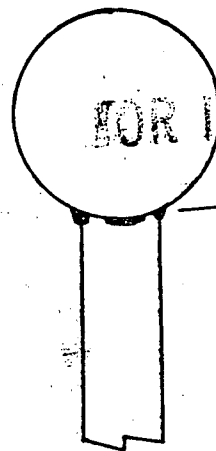
PAGE 2 OF 2

DATA SHEET NO. 1097730

EXAM ITEM CPL 326-C-WS

ISO DWG. NO. CPL 326 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

MODERATE RUST ON WELDS
< 5% METAL LOSS

EXAMINER Cert Purnan
EXAMINER N/A
REVIEWER Chiff Moss
REVIEWER Richard B. Weber
REVIEWER

LEVEL II
LEVEL N/A
LEVEL II
DATE 4/14/92
DATE

DATE 4-11-92
DATE N/A
DATE 4-14-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-326-C
CPL-326-C-WS

Visual Exam Report No. 1097-129
1097-130

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC,"
DEAD WEIGHT SUPPORT. BECAUSE THE WEIGHT ACTS DOWN, THE WELDS
DO NOT TRANSFER PRIMARY LOADS. ALSO FOR THIS REASON BROKEN
STUDS, LACK OF THREAD ENGAGEMENT ON NUTS DO NOT AFFECT
STRUCTURAL INTEGRITY OF THE SUPPORT. SMALL AMOUNT OF CORROSION
DOES NOT AFFECT THE STRUCTURAL INTEGRITY OF SUPPORT.

Clement Rajendra 14-29-92
NED Engineer Date

CPL
Carolina Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-138

WR&A # N/A

PAGE 1 OF 2 ^{ERO} 4-15-92

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: <u>COMPONENT COOLING</u>	COMPONENT NAME: <u>SUPPORT LUGS</u>	COMPONENT ID NO.: <u>CPL-327-WS-T</u>
-------------------------------------	--	--

DWG./LOC.: CPL-327 REV-0 / NON REGEN HT EXCH. ROOM

☒ VT-3 PROCEDURE: SP1097 ERO 4-15-92 ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER <u></u> <input checked="" type="checkbox"/> MIRROR	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS		<input checked="" type="checkbox"/>		
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: NO RECORDABLE INDICATIONS

EXAMINER: Edward R. Donovan LEVEL: II DATE: 4-15-92

REVIEWER: Eric P. ... LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

CP&L
Crane Pump & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-157

WR&A # N/A

PAGE 1 OF 2

PLANT: H B ROBINSON UNIT 11 ☒ 12 ☐ 1 PSI ☒ ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-327-T</u>
-------------------------------------	-----------------------------------	---------------------------------------

DWG./LOC.: CPL-327 REV-0 / NON REGEN HT. EXCH. ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 4-15-92 ~~NDEP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.: 0

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>			<u>SEE ATTACHED SKETCH</u>
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS			<input checked="" type="checkbox"/>	
EROSION/EROSION			<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>			
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edward L. Darovec LEVEL: II DATE: 4-15-92

REVIEWER: Art P... LEVEL: II DATE: 4-16-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

VIEWERS COMMENTS:

ANII REVIEW:

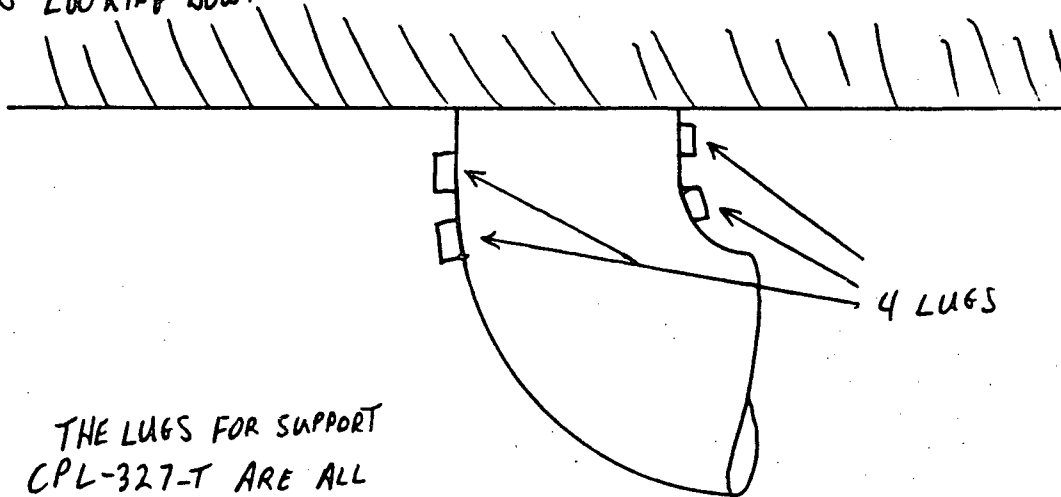
DATE:

1025

PAGE 2 OF 2
DATA SHEET NO. 1097-157
EXAM ITEM CPL-327-T
ISO DWG. NO. CPL-327 REV. 0

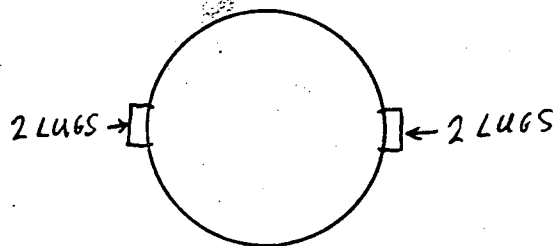
WEST WALL
VIEW LOOKING DOWN

SKETCH SHEET



THE LUGS FOR SUPPORT
CPL-327-T ARE ALL
THAT IS LEFT OF
THIS SUPPORT ALL
OTHER PIECES ARE
MISSING

VIEW LOOKING WEST



EXAMINER Edward L. Dawson
EXAMINER NA
REVIEWER Art Purnan
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL III
DATE _____
DATE _____

DATE 4/5/92
DATE NA
DATE 4-16-92

EDW

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-WS-T
CPL-327-T
N/A

Visual Exam Report No. 1097-158
1097-157

- [] Support is acceptable "as is". No corrective action required.
- [] Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- [] Support is functional short term. The following corrective actions must be performed prior to return to service.
- [] Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

REVIEW OF STRESS ISOMETRIC AC-5, SH.3 DOES NOT SHOW
A SUPPORT AT THIS LOCATION. (DP154) NO RECORD OF SUPPORT DRAWING
WITH NUMBER AC-5-54/1 EXISTS IN RUN-OF-RECORD FILES.
ISI DRAWINGS AND DATABASE SHOULD BE REVISED TO DELETE
REFERENCE TO THIS COMPONENT.

Clement Rajendra 14-30-92
NED Engineer Date

CPL
 Cables Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097-76

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON

UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: <u>Aux Feed</u>	COMPONENT NAME: <u>Support</u>	COMPONENT ID NO.: <u>CPL-331B-A</u>
----------------------------	-----------------------------------	--

DWG./LOC.: CPL-331B Rev. 0 / Component Coolant Room

☒ VT-3 PROCEDURE: SP-1097 ERO 4-6-92
~~NDEP-613 REV.: 0~~ ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input checked="" type="checkbox"/> OTHER <u>6" Scale</u>	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>SEE ATTACHED SKETCH</u>
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>SEE ATTACHED SKETCH</u>
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>SEE ATTACHED SKETCH</u>
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: <u>Edmund R. Downer</u>	LEVEL: <u>II ONLY</u>	DATE: <u>4/6/92</u>
REVIEWER: <u>Cliff Mott</u>	LEVEL: <u>II</u>	DATE: <u>4-9-92</u>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

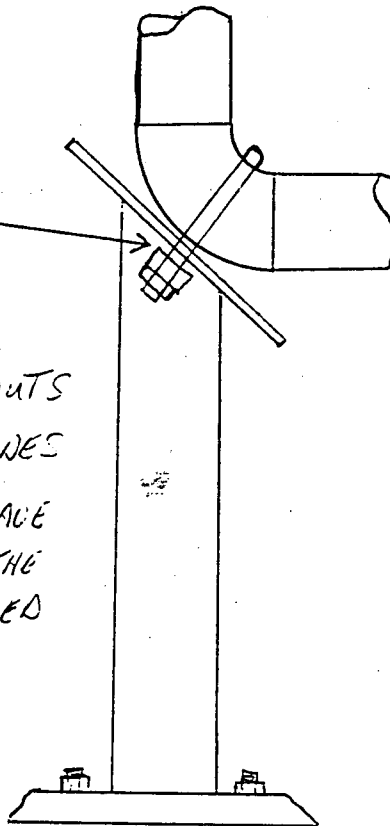
ANII REVIEW: _____ DATE: _____

1725

PAGE 2 OF 2DATA SHEET NO. 1092-76EXAM ITEM CPL-331B-AISO DWG. NO. CPL 331B REV. 0

SKETCH SHEET

LOCK NUTS
ARE TIGHT
BUT ARE NOT
THREADED ALL THE
WAY UP TO PLATE.
 $\frac{3}{16}$ " GAP BETWEEN NUTS
AND PLATE BOTH SIDES
A BOLT DOES NOT HAVE
0" CLEARANCE ALL THE
WAY AROUND AS CALLED
FOR ON DRAWING



FOR INFORMATION ONLY

EXAMINER Edmund R. DonoraEXAMINER NAREVIEWER 105 P. [signature]

REVIEWER _____

REVIEWER _____

LEVEL IILEVEL NALEVEL IL

DATE _____

DATE _____

DATE 4-6-92DATE NADATE 4-7-92DN

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-331B-A

Visual Exam Report No. 1097-76

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED,
NON-SEISMIC", DEAD WEIGHT SUPPORT. U-BOLT IS NOT
SUPPOSED TO TRANSFER ANY LOADS AND THERE SHOULD
BE CLEARANCE BETWEEN U-BOLT AND PIPE. C&R

4/30/92

Clement Rajendra 1430-92
NED Engineer Date

Number: 1-08

ATTACHMENT 1

ROBINSON NUCLEAR PROJECT
SITE MEMORANDUM

TO: <u>W.M. Biggs</u>	UNIT: <u>2</u>	SITE MEMO #
ATTN: <u>C.A. Jones / CLEMENT RAJENDRA</u>		<u>TSE-92-EL</u>
SUBJECT: <u>IST INDICATIONS</u>		SHEET OF
<u>ATTACHED Reports ARE INSPECTIONS</u>		MOD M-
<u>Requested By NED.</u>		PCN
<u>CPL-328-B</u>		RET-R-G*92-BX

CPL-334B-E (NOTE THIS SUPPORT IS
TO BE WORKED WITH CPL-334B-G)

	DISTRIBUTION
SIGNED: <u>[Signature]</u> <u>5-5-92 Ex 1888</u>	RESPOND BY:

*RELEASING AUTHORITY: _____ DATE: 1 1

RESPONSE:

THE FOLLOWING COMPONENTS' DISPOSITION ARE RETURNED HEREWITH: <u>CPL-325-I, CPL-328-B, CPL-328-BB, CPL-327-G</u> <u>CPL-326-H, CPL-326-I, CPL-327-N & CPL-327-L</u>	DISTRIBUTION
---	--------------

SIGNED: Clement Rajendra
*RELEASING AUTHORITY: C.A. Jones DATE: 5/6/97

*PLEASE PRINT NAMES OVER SIGNATURES IF THEY ARE NOT LEGIBLE.

CPL
Cable Power & Light Company
**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-25

WREA # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 11 ☒ 12 ☐ PSI ☒ ISI

SYSTEM: COMPONENT COOLANT COMPONENT NAME: BOX RESTRAINT COMPONENT ID NO.: CPL-325-I

DWG./LOC.: CPL-325 REV-1 / COMPONENT COOLANT ROOM

☒ VT-3 PROCEDURE: SP 1097 ERD 44-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☒ OTHER 1" SCALE
TYPE OF COMPONENT SUPPORT:
☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT		<input checked="" type="checkbox"/>		
DEBRIS	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH FOR LOCATION
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH FOR GAPS
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GAUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS

EXAMINER: Edmund R Down LEVEL: II DATE: 4-4-92

REVIEWER: Art Purnan LEVEL: II DATE: 4-9-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard A. Weber 4/9/92

REVIEWERS COMMENTS:

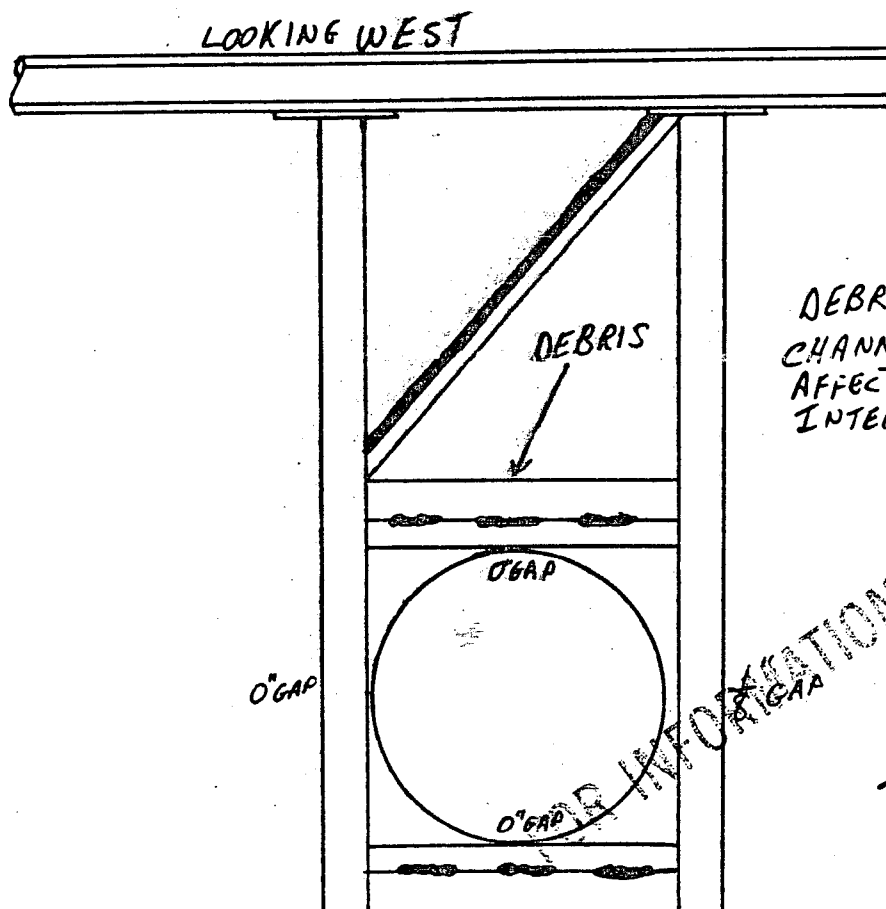
ANII REVIEW: PP Valladares

DATE: 4-9-92

mes

PAGE 2 OF 2DATA SHEET NO. 1097-25EXAM ITEM CPL-325-IISO DWG. NO. CPL 325 REV. 1

SKETCH SHEET



DEBRIS INSIDE
CHANNEL IRON DOES NOT
AFFECT STRUCTURAL
INTEGRITY

FOR INFORMATION ONLY

GAPS DO NOT
MEET BRAWING
SPEC.
ERD 4-8-92

EXAMINER

Edmund L. Donovan

LEVEL

II

DATE

4-4-92

EXAMINER

NA

LEVEL

NA

DATE

NA

REVIEWER

Carl P. ...

LEVEL

II

DATE

4-6-92

REVIEWER

Richard B. Weber

DATE

4/9/92

REVIEWER

ERD

DATE

BASE PLATE IDENTIFICATION

DESIGN LOADS

RESTRAINT LOCATION:
SEE ISO NO. AC-2
PT NO. 26/4

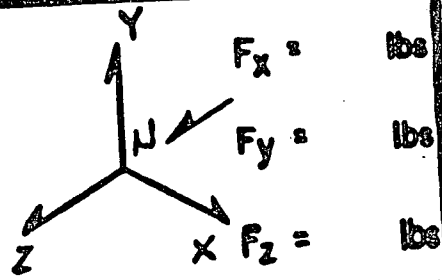
RAB
EAST OF COMPONENT
COOLING HEAT
EXCHANGERS

REST. CALC. NO. DPW-14

MOD. NO N/A

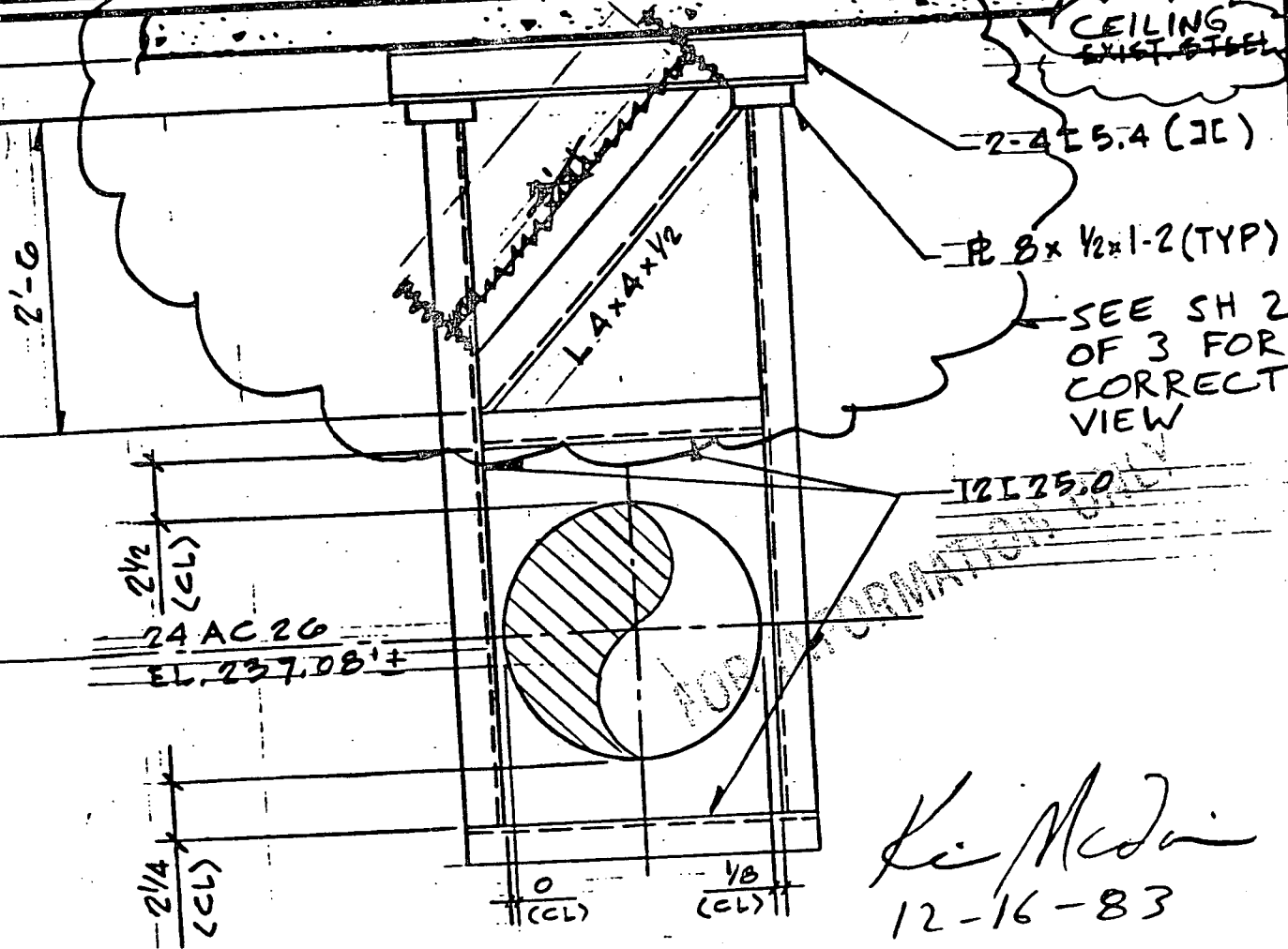
PMR NO N/A

LOAD CASE DBE
EBASCO CHART METHOD
(GRINNELL DSN LOAD)



N/A

SUPPORT II



Ki McJain
12-16-83

ELEV. LKG. EAST

GENERAL NOTES: SEE SK-AB-CAR-AB-1

REV	DATE	BY	CHK	APPD

ASCO SERVICES INCORPORATED

CIVIL DR. GP
CH. CET
E NTS

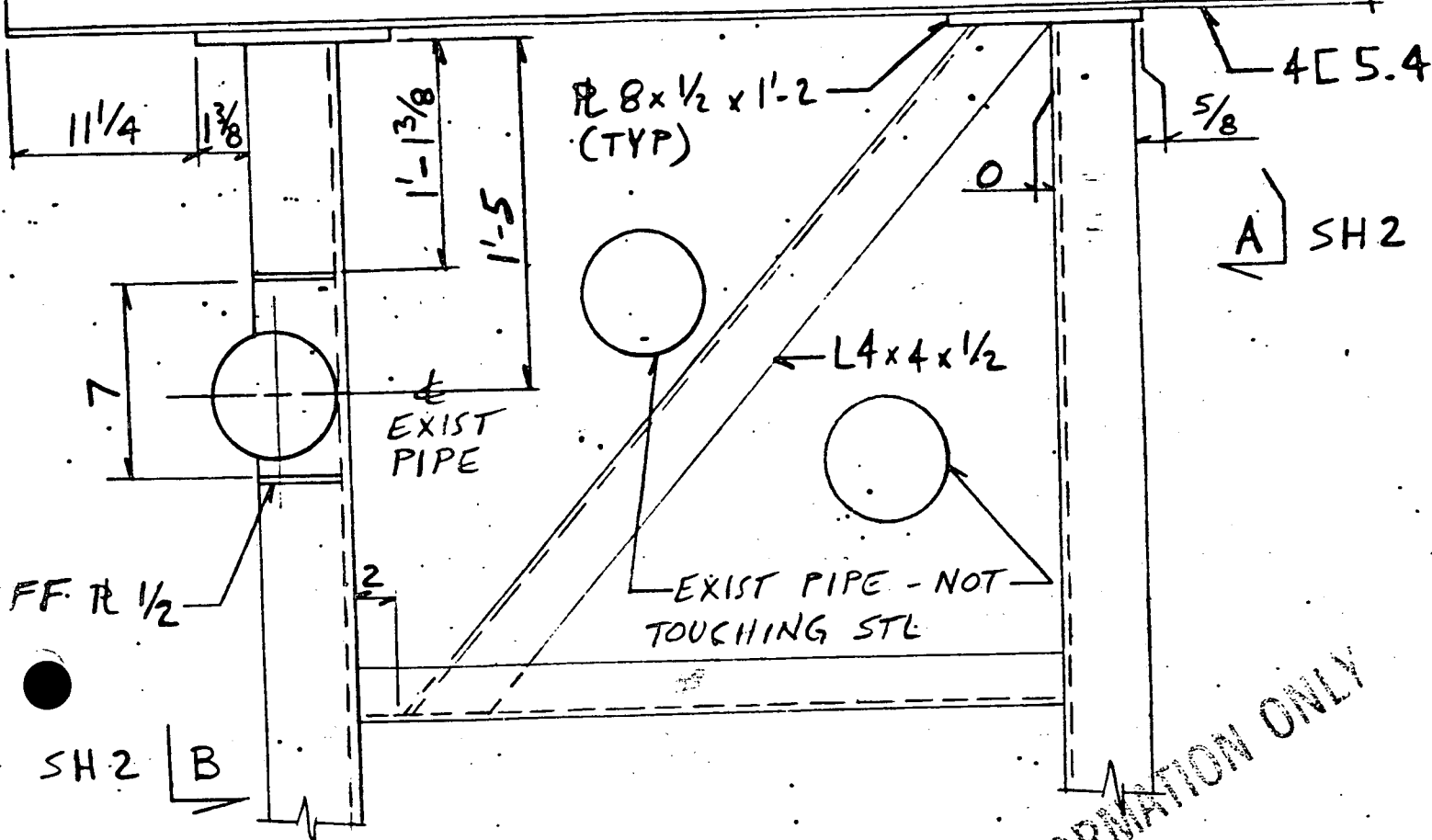
APPROVED

H.B. ROBINSON - UNIT 2
AS-BUILT RESTRAINT SKETCH
SYSTEM: COMPONENT COOLING
ISO NO. / POINT NO. AC-2 / 26/4

AB-CAR-
AC-2-26/4
SH. 1 OF X

EMB R (TYP)

CEILING

SHIM R $\frac{3}{8}$ (TYP)

ELEV LKG EAST

AC-2/26/4

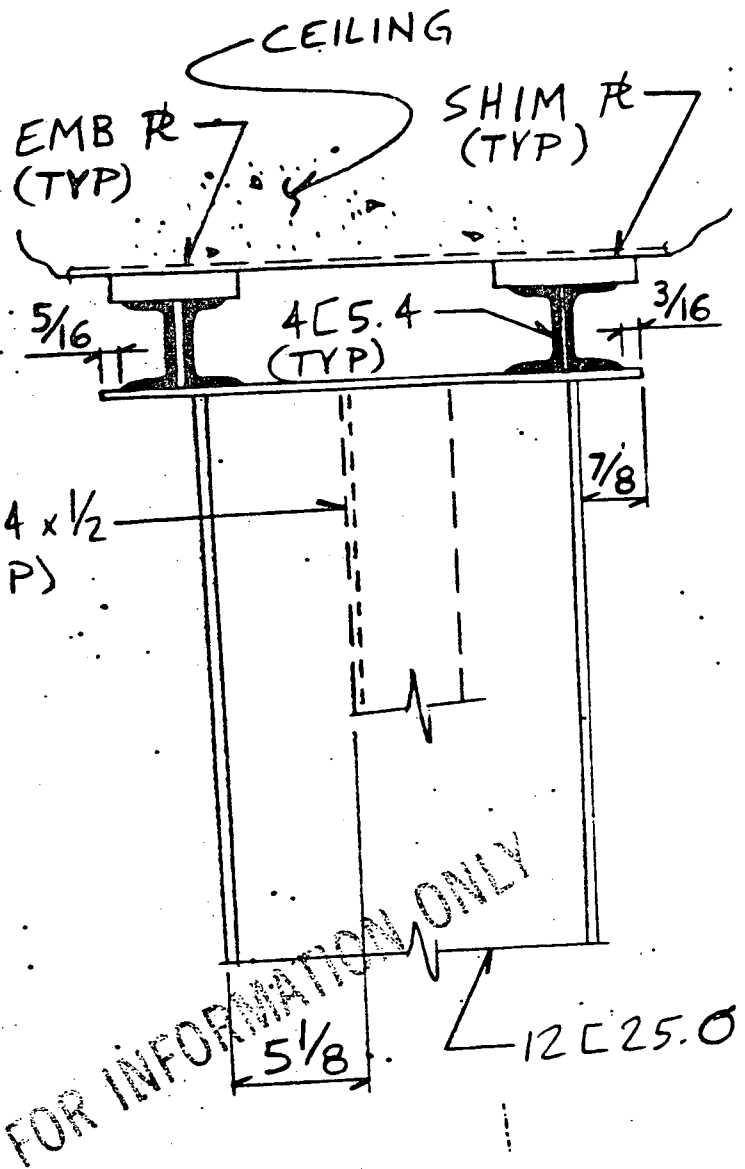
Inspected By

K. McJain

Date

12-16-83

SUPPORT "I"
PT#



SECT A (SHI)

AC-2/26/4

Date 12-16-83

SUPPORT "I"
PT#

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-325-I

Visual Exam Report No. 1097-25

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

DEBRIS IN FRAMING STEEL DOES NOT AFFECT STRUCTURAL
INTEGRITY. CLEARANCES MEET TOLERANCE REQUIREMENTS
OF SPEC. CPL-HBR2-C-011. THIS SUPPORT IS A SAFETY-RELATED
SEISMIC SUPPORT WITH HORIZONTAL & VERTICAL RESTRAINTS.
REF. STRESS ISO AC-2, SA.1 DATA POINT 1001.

Clement Rajendra 15-5-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-65

WR&A # 14

PAGE / OF 2

PLANT: HB ROBINSON UNIT ☐ 1 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: COMPONENT COOLING	COMPONENT NAME: RESTRAINT	COMPONENT ID NO.: CPL-328-B
------------------------------	------------------------------	--------------------------------

DWG./LOC.: CPL 328 REV-0 / SFP HX ROOM

SP 1097 ERD 4-7-92
☒ VT-3 PROCEDURE: ~~NDP-613~~ REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED:		TYPE OF COMPONENT SUPPORT:	
<input checked="" type="checkbox"/> FLASHLIGHT	<input checked="" type="checkbox"/> MIRROR	<input type="checkbox"/> HYDRAULIC SNUBBER	<input type="checkbox"/> CONSTANT SUPPORT
<input checked="" type="checkbox"/> OTHER <u>6" SCALE</u>		<input type="checkbox"/> MECHANICAL SNUBBER	<input type="checkbox"/> VARIABLE SUPPORT
		<input checked="" type="checkbox"/> SUPPORT/HANGER	

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		X		
MISALIGNMENT		X		
DEBRIS		X		
CORROSION/EROSION		X		
STRUCTURAL INTEGRITY		X		
RESISTANCE TO MOVEMENT	X			SEE ATTACHED SKETCH FOR GAPS
CLEARANCES OF MOVING PARTS			X	
ARC STRIKES/GOUGES		X		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: ~~N/A~~ RECORDABLE INDICATION
ERD
4892

EXAMINER: <i>Edward R. Dorman</i>	LEVEL: <i>II</i>	DATE: <i>4-7-92</i>
REVIEWER: <i>G. F.</i>	LEVEL: <i>II</i>	DATE: <i>4-9-92</i>

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY:

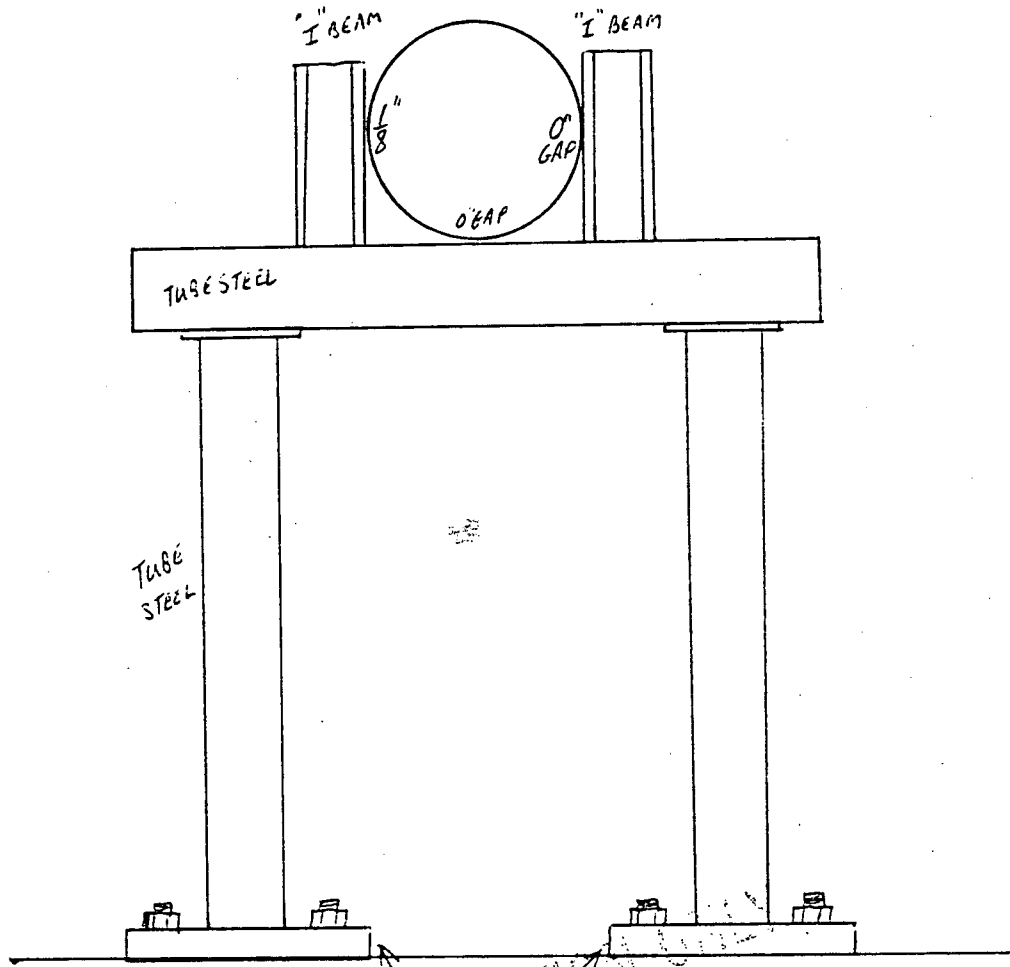
REVIEWERS COMMENTS:

III REVIEW: DATE:

1125

PAGE 2 OF 2DATA SHEET NO. 1097-65EXAM ITEM CPL-328-BISO DWG. NO. CPL-328 REV. 0

SKETCH SHEET



FOR INFORMATION
NOTATION
Bout

EXAMINER Colonel R. DonovanEXAMINER NAREVIEWER Art P...

REVIEWER _____

REVIEWER _____

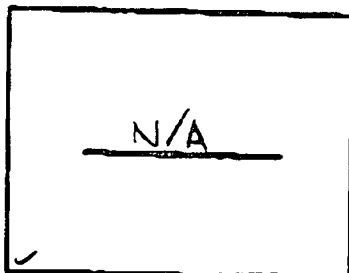
LEVEL IILEVEL NALEVEL II

DATE _____

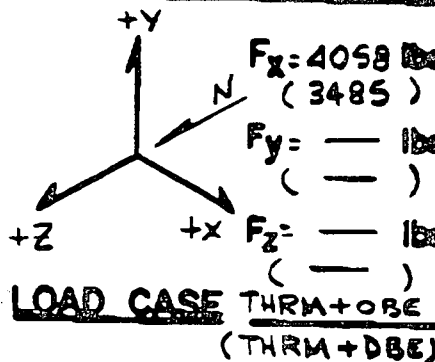
DATE _____

DATE 4-7-92DATE NADATE 4-8-92NA

AF 10248



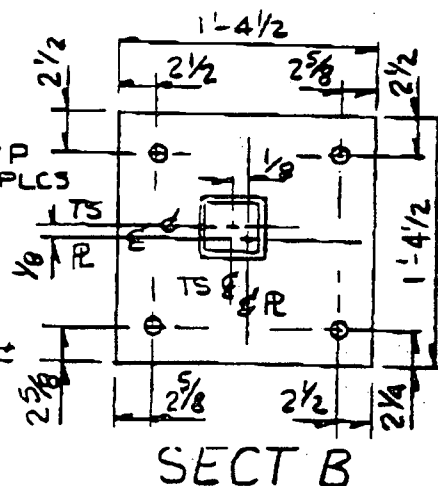
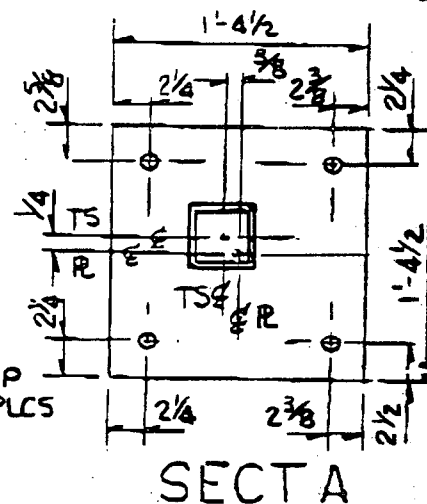
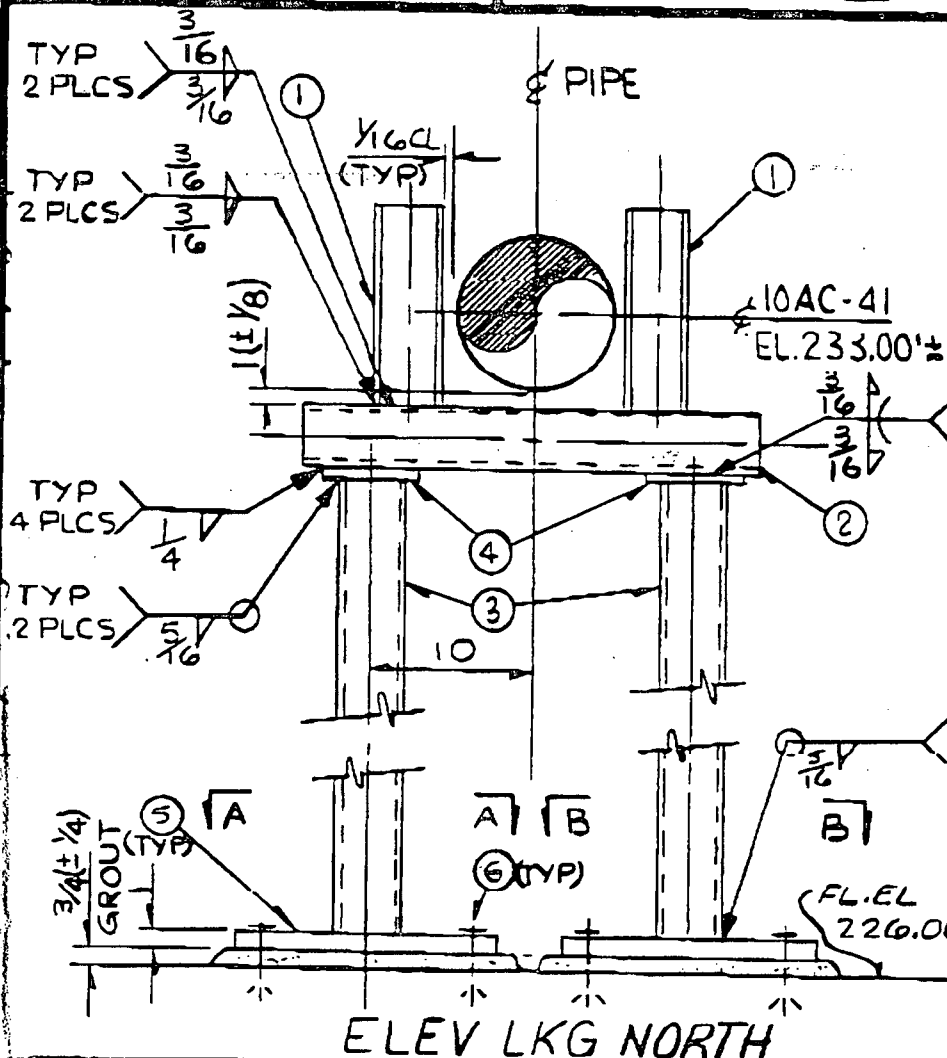
BASE PLATE IDENTIFICATION



RESTRAINT LOCATION:
 SEE ISO NO. AC-4
 PT NO. 41/1(1411)
 RAB-SPENT FUEL PIT
 HEAT EXCHANGER
 ROOM

EBASCO CMPTR RUN
 DATE: 9-5-84 TIME: 4:28 PM
RESTRAINT LOADS

REST. CALC. NO. AC-4-41/1
 MOD. NO. M 492-REV 3
 PMR. NO. 4



NUCLEAR SAFETY RELATED

REV 1 INCORPORATES "AS-BUILT" CONDITION

REV	DATE	BY	CHK	APP'D
1	4/16/85	Law	Hsw	MA

EBASCO SERVICES INCORPORATED

DIV. CIVIL DR. KC
 DATE 7/14/84 CHPKD
 SCALE MTS

APPROVED
H. B. Robinson
 HSW HSW

H.B. ROBINSON - UNIT 2
 AS-BUILT RESTRAINT SKETCH
 SYSTEM: AUXILIARY COOLANT
 ISO NO./POINT NO. AC-4/4V1

AB-CAR-
AC-4-41/1
 SH. 1 OF 2

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. _____

WR&A # N/A

PAGE 1 OF 2

PLANT: _____ UNIT 1 1 ☒ 2 1 1 PSI ☒ ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-328-B</u>
------------------------------	-----------------------------------	---------------------------------------

DWG./LOC.: CPL-328 REV-0 / S.F.P. NX ROOM

☒ VT-3 PROCEDURE: SP 1097 ERO 5-4-92
NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES			<input checked="" type="checkbox"/>	
MISALIGNMENT			<input checked="" type="checkbox"/>	
DEBRIS			<input checked="" type="checkbox"/>	
CORROSION/EROSION			<input checked="" type="checkbox"/>	
STRUCTURAL INTEGRITY			<input checked="" type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input checked="" type="checkbox"/>			SEE ATTACHED SKETCH
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES			<input checked="" type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATION RECHECK GAP FOR NED.

EXAMINER: Edward R. Down LEVEL: II DATE: 5-4-92

REVIEWER: _____ LEVEL: _____ DATE: _____

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: _____

ANII REVIEW: _____ DATE: _____

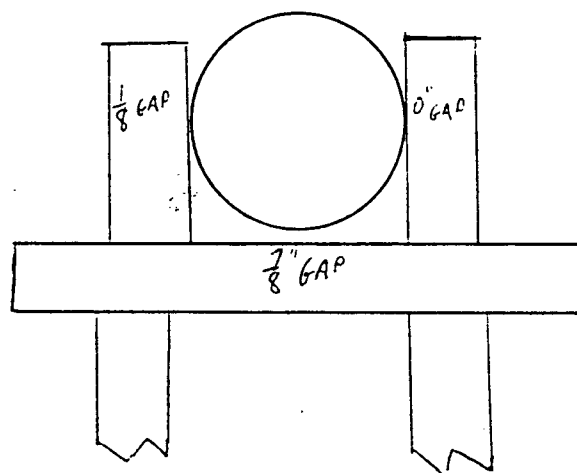
1125

PAGE 2 OF 2

DATA SHEET NO. _____

EXAM ITEM CPL-328-BISO DWG. NO. CPL-328 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Charles R. Dawson
EXAMINER NA
REVIEWER _____
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL _____
DATE _____
DATE _____

DATE 5-4-92
DATE NA
DATE _____

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-B

Visual Exam Report No. 1097-65

* SUPPLEMENTAL
DATED 5/4/92

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE

Basis:

CLEARANCE MEET REQUIREMENTS OF SPEC. CPL-HBR2-C-011.
THIS SUPPORT IS A SAFETY RELATED SEISMIC SUPPORT WITH
HORIZONTAL (ONE-WAY) RESTRAINT. REF. STRESS 150 AC-4, DATA
POINT 1411.

Clement Rajendra
NED Engineer

5/5/92
14 5-5-92
Date

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1097-141

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-328-BB</u>
------------------------------	-----------------------------------	--

DWG./LOC.: CPL-328 Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 CPN 4-13-92
NDEP-613 REV.: C ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		Partial exam - see page #2 for details
MISALIGNMENT		<input checked="" type="checkbox"/>		N/A
DEBRIS	<input checked="" type="checkbox"/>			Light ^{CPN} dust & debris on horizontal surfaces 4-18-92
CORROSION/EROSION		<input checked="" type="checkbox"/>		
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATION - see page #2 for details Double support
see CPL-327-Q.

NOTE: Partial exam only - insulation covering clamps - see page 2.

EXAMINER: Chiff Mast CPN LEVEL: II DATE: 4-13-92

REVIEWER: Art P... AN LEVEL: II DATE: 4-16-92

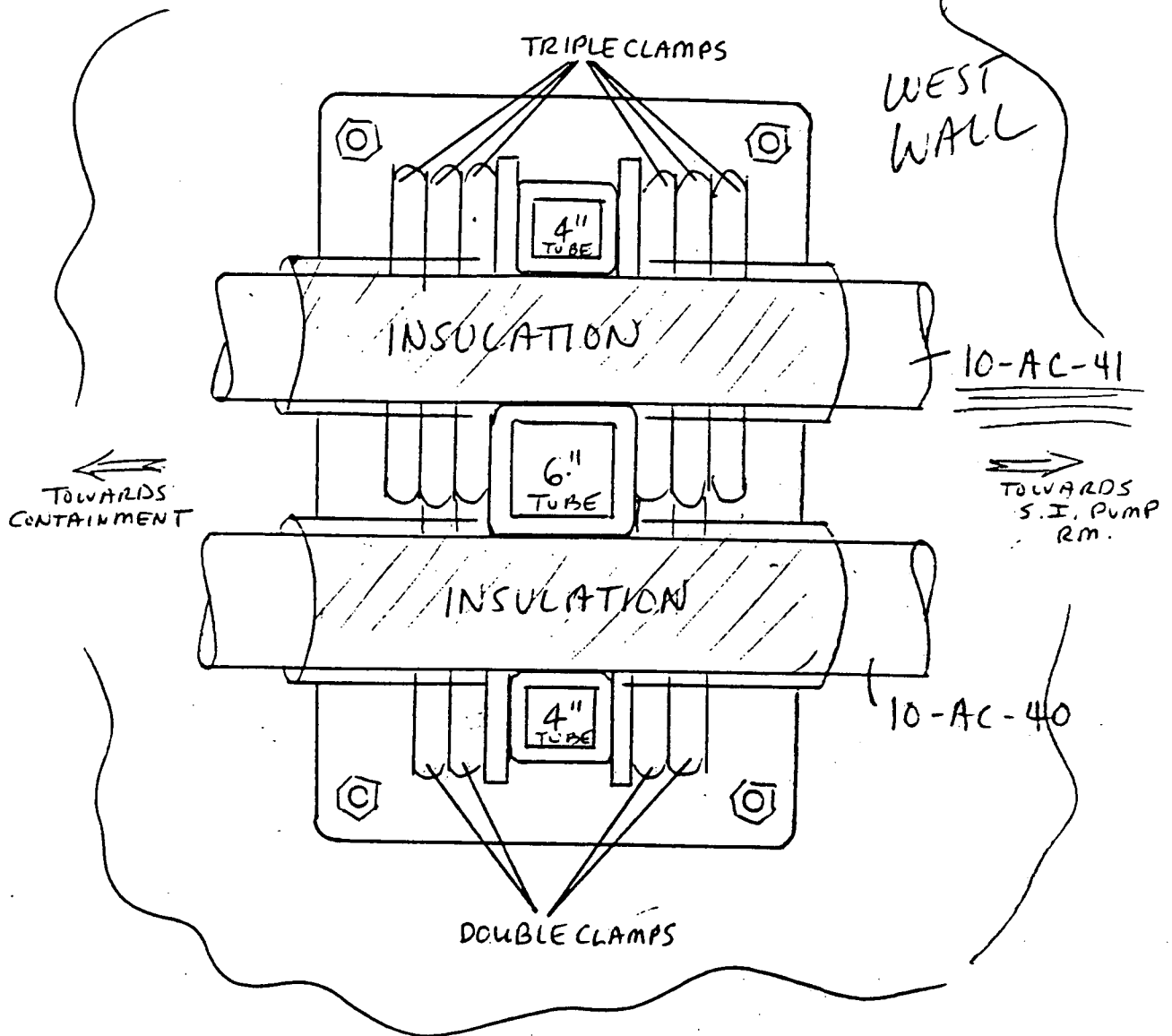
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: _____

REVIEWERS COMMENTS: FOR INFORMATION ONLY

ANII REVIEW: _____ DATE: _____

SKETCH SHEET



NOTE: INSULATION COVERS ALL CLAMP BOLTS - could not examine

- All other structures are acceptable, including welds & bolts.
- light ~~debris~~ debris on horizontal surfaces.

EXAMINER Chiff Moss

LEVEL II

DATE 4-13-92

EXAMINER N/A

LEVEL N/A

DATE N/A

REVIEWER Art Pinner

LEVEL II

DATE 4-16-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

RA

FOR INFORMATION ONLY

CP&L

VISUAL EXAMINATION
DATA SHEET

REPORT NO. 1047-244

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT [] 1 [X] 2 [] PSI [X] ISI

SYSTEM: COMPONENT COOLANT COMPONENT NAME: SUPPORT COMPONENT ID NO.: CPL-328-BB

DWG./LOC.: CPL-328 REV-0 / PIPE ALLEY

[X] VT-3 PROCEDURE: SP 1097 ERO 43092 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [X] REMOTE [X] VIDEO RECORDING NO: [X] N/A

EQUIPMENT USED: [X] FLASHLIGHT [X] MIRROR TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT
[X] OTHER 6" SCALE [] MECHANICAL SNUBBER [] VARIABLE SUPPORT
[X] SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<u>[X]</u>		
MISALIGNMENT		<u>[X]</u>		
DEBRIS		<u>[X]</u>		
CORROSION/EROSION		<u>[X]</u>		
STRUCTURAL INTEGRITY		<u>[X]</u>		
RESISTANCE TO MOVEMENT	<u>[X]</u>			<u>SEE ATTACHED SKETCH</u>
CLEARANCES OF MOVING PARTS			<u>[X]</u>	
ARC STRIKES/GOUGES		<u>[X]</u>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORD ABLE INDICATIONS

RE-EXAM AFTER INSULATION REMOVAL

EXAMINER: Edmund R. Dorian LEVEL: II DATE: 4-30-92

REVIEWER: W. P. ... AN LEVEL: II DATE: 5-1-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY:

REVIEWERS COMMENTS:

FOR INFORMATION ONLY

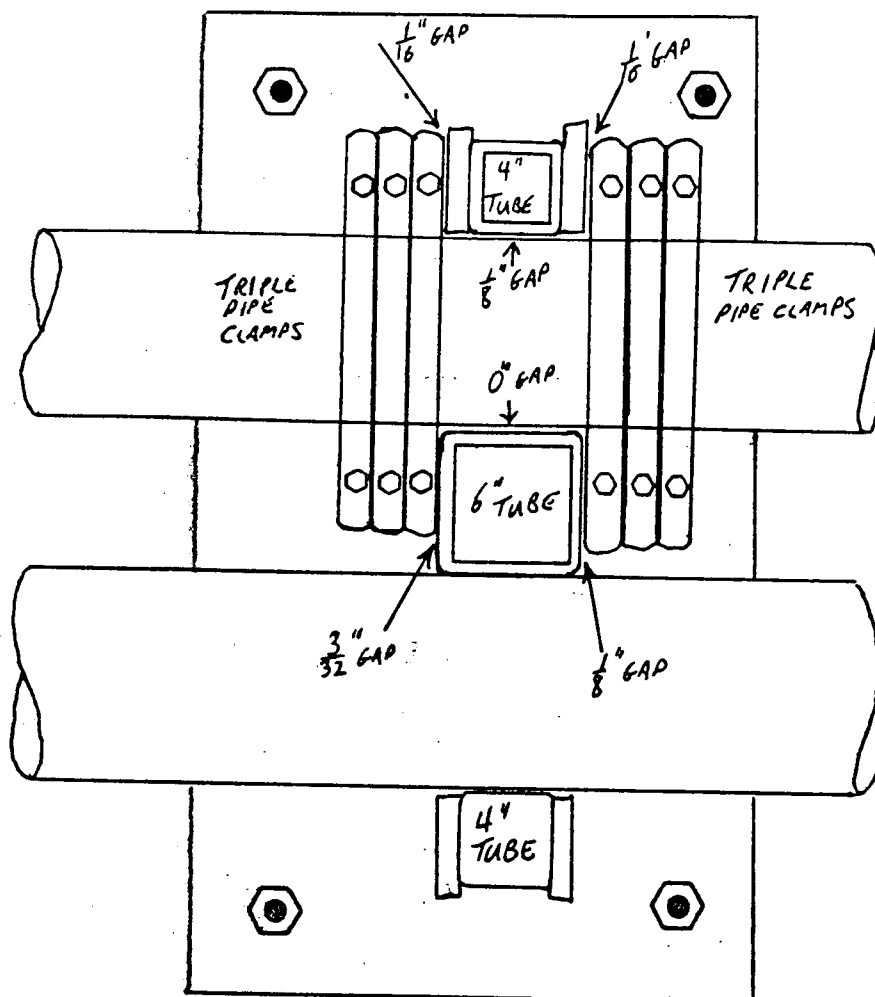
ANII REVIEW:

DATE:

1125

PAGE 2 OF 2
DATA SHEET NO. 1097-244
EXAM ITEM CPL-328-BB
ISO DWG. NO. CPL-328 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edmund R. Darnon
EXAMINER N/A
REVIEWER Art R. Darnon
REVIEWER _____
REVIEWER _____

LEVEL II
LEVEL N/A
LEVEL II
DATE _____
DATE _____

DATE 4-30-92
DATE 5/1
DATE 5-1-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-328-BB

Visual Exam Report No. 1097-141
& 1097-244

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

DEBRIS DOES NOT AFFECT STRUCTURAL INTEGRITY. THIS
SUPPORT IS A SAFETY-RELATED, SEISMIC SUPPORT WITH
VERTICAL & HORIZONTAL RESTRAINTS. REF. STRESS ISO
CLEARANCES ARE WITH TOLERANCES PER SPEC. CPL-HBR2-C-011. ^{AC-4, DP 1443}
^{AC-5, DP 1408} ^{CON} ^{5/5/92}

Clement Rajendra 15-5-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097742

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1-11 ☒ 2 ☐ PSI ☒ ISI

SYSTEM: COMPONENT COOLANT	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL-327-Q</u>
------------------------------	-----------------------------------	---------------------------------------

DWG./LOC.: CPL-327, Rev 0 / PIPE ALLEY

☒ VT-3 PROCEDURE: SP-1097 @ 4-13-92 NDEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input checked="" type="checkbox"/> MIRROR <input type="checkbox"/> OTHER _____	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> CONSTANT SUPPORT <input checked="" type="checkbox"/> MECHANICAL SNUBBER <input type="checkbox"/> VARIABLE SUPPORT <input checked="" type="checkbox"/> SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES		<input checked="" type="checkbox"/>		Partial exam - see page #2 for details
MISALIGNMENT		<input checked="" type="checkbox"/>		<u>@</u> N/A
DEBRIS	<input checked="" type="checkbox"/>			Light dust debris on horizontal surfaces
CORROSION/EROSION		<input checked="" type="checkbox"/>		4-18-92
STRUCTURAL INTEGRITY		<input checked="" type="checkbox"/>		
RESISTANCE TO MOVEMENT			<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS			<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES		<input checked="" type="checkbox"/>		
VARIABLE/CONSTANT SUPPORT	ACTUAL: N/A			
SNUBBER	ACTUAL: N/A		STROKE: N/A	S/N N/A

COMMENTS: RECORDABLE INDICATION - see page #2 for details Double support see CPL-328-BB

NOTE: Partial exam only - insulation covering clamps - see page 2.

EXAMINER: Chf Moss @ LEVEL: II DATE: 4-13-92

REVIEWER: Art Purnan @ LEVEL: II DATE: 4-16-92

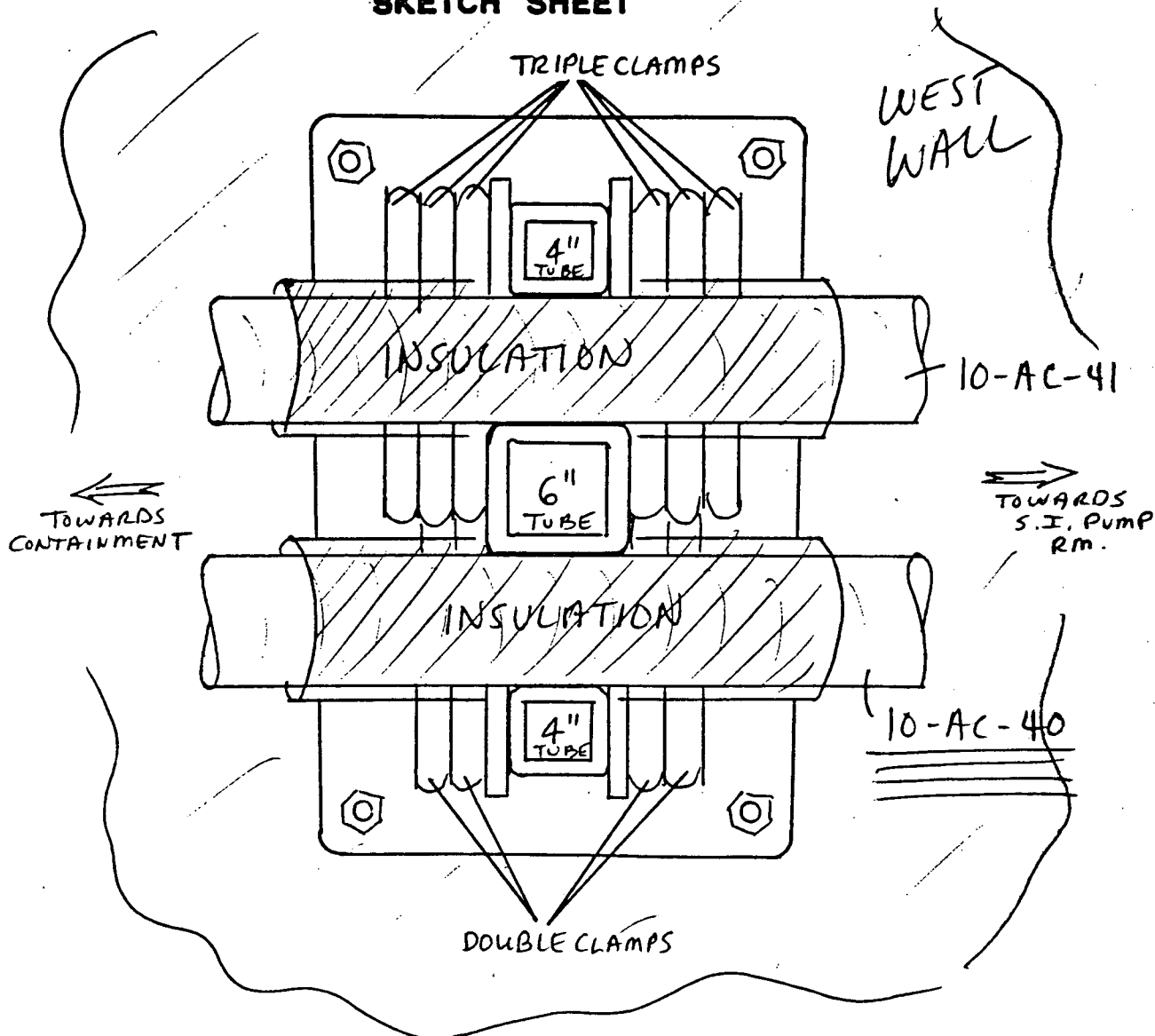
COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: FOR INFORMATION ONLY

REVIEWERS COMMENTS:

ANII REVIEW: _____ DATE: _____

SKETCH SHEET



NOTE: INSULATION COVERS ALL CLAMP BOLTS - could not examine

- All other structures are acceptable, including welds & bolts.
- light ~~dust~~ debris on horizontal surfaces.

EXAMINER Chiff Mass

LEVEL II

DATE 4-13-92

EXAMINER N/A

LEVEL N/A

DATE N/A

REVIEWER Chiff Mass

LEVEL II

DATE 4-16-92

REVIEWER _____

DATE _____

REVIEWER _____

DATE _____

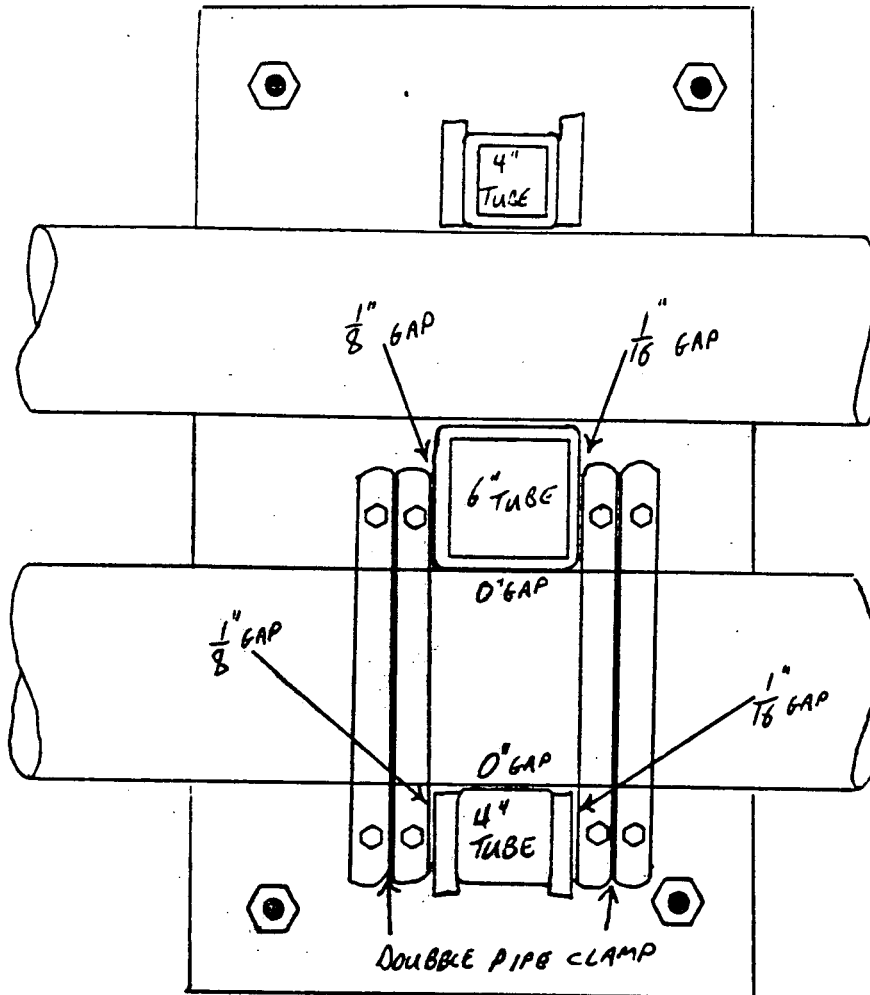
1125

FOR INFORMATION ONLY

1125

PAGE 2 OF 2
 DATA SHEET NO. 1097-243
 EXAM ITEM CPL-327-Q
 ISO DWG. NO. CPL-327 REV. 0

SKETCH SHEET



NEED GAP
TOLERANCE

FOR INFORMATION ONLY

EXAMINER	<u>Edward J. Down</u>	LEVEL	<u>II</u>	DATE	<u>4-30-92</u>
EXAMINER	<u>A</u>	LEVEL	<u>II</u>	DATE	<u>4/</u>
REVIEWER	<u>Art P...</u>	LEVEL	<u>II</u>	DATE	<u>5-1-92</u>
REVIEWER	_____	DATE	_____		
REVIEWER	_____	DATE	_____		

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-G

Visual Exam Report No. 1097-142
+1097-243

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

N/A

Basis:

DEBRIS DOES NOT AFFECT STRUCTURAL INTEGRITY. THIS SUPPORT
IS A SAFETY-RELATED, SEISMIC SUPPORT WITH VERTICAL AND
HORIZONTAL RESTRAINTS. REF. STRESS ISO AC-5, DP 1402. CLEARANCES
ARE ACCEPTABLE GIVEN THE TOLERANCE AND METHODOLOGY USED TO
VERIFY THESE CLEARANCES.

Clement Rajendra 5-5-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-207

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>CCW</u>	COMPONENT NAME: <u>SUPP02T</u>	COMPONENT ID NO.: <u>CPL 326-H</u>
--------------------	--------------------------------	------------------------------------

DWG./LOC.: CPL 326 REV 1 / CCW HEAT EXCHANGER ROOM

[x] VT-3 PROCEDURE: SP 1097 REV 4-21-92 NOEP-613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x] VIDEO RECORDING NO: [x] N/A

EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER <u></u>	TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHMENT
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS
COMPONENT INSULATED

EXPANDED SCOPE

EXAMINER: Art Pinner LEVEL: II DATE: 4-21-92

REVIEWER: Edmund R. Donovan EDN LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

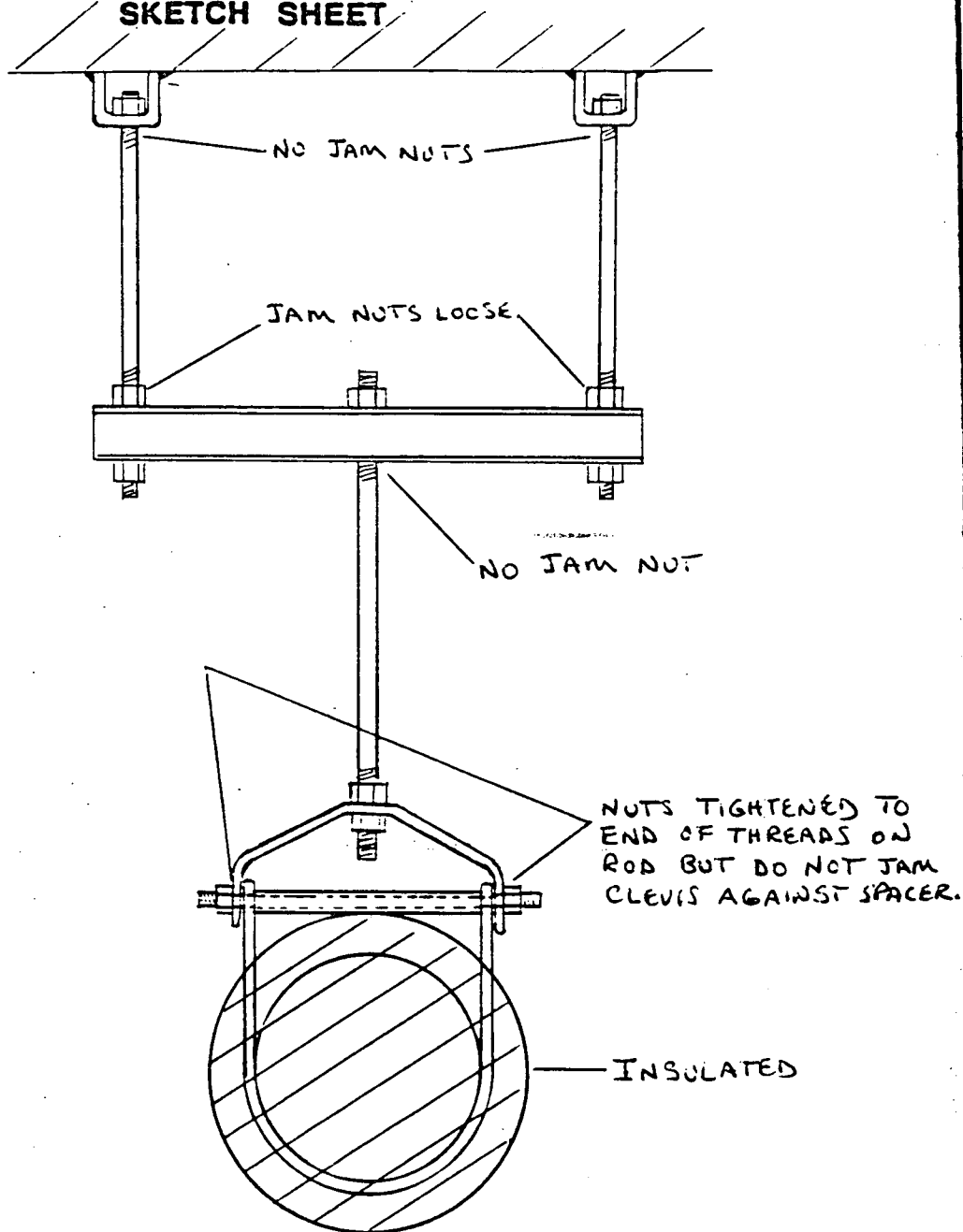
FOR INFORMATION ONLY

ANII REVIEW: DATE:

104

PAGE 2 OF 2DATA SHEET NO. 1097-207EXAM ITEM CPL 326 -HISO DWG. NO. CPL 326 REV. 1

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER

Art Purnan

LEVEL

II

DATE

4-21-92

EXAMINER

N/A

LEVEL

N/A

DATE

N/A

REVIEWER

Edmund R. Downey

LEVEL

II

DATE

4-22-92

REVIEWER

Richard B. Weber

DATE

4/25/92

DATE

REVIEWER

RP

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-326-H

Visual Exam Report No. 1097-207

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE MISSING JAM NUTS/ ^{LOCKNUT} AT THREADED RODS. TIGHTEN
ALL LOOSE NUTS.

Basis:

THIS SUPPORT IS CLASSIFIED AS "NON-SAFETY RELATED, NON-SEISMIC",
DEAD WEIGHT SUPPORT. JAM NUTS AND CLEVIS STRAP NUTS ARE
NOT INVOLVED IN LOAD TRANSFER ~~AN~~ BUT ARE REQUIRED TO
CBR 5/5/92
PREVENT SUPPORT FROM GETTING DISCONNECTED DUE TO VIBRATION
LOOSENING.

Clement Rajendra / 5-5-92
NED Engineer Date

**VISUAL EXAMINATION
DATA SHEET**

REPORT NO. 1097-208

WR&A # N/A

PAGE 1 OF 2

PLANT: H. B. ROBINSON UNIT [] 1 [x] 2 [] PSI [x] ISI

SYSTEM: <u>CCW</u>	COMPONENT NAME: <u>SUPPORT</u>	COMPONENT ID NO.: <u>CPL 326 - I</u>
--------------------	--------------------------------	--------------------------------------

DWG./LOC.: CPL 326 REV 1 / CCW HEAT EXCHANGER ROOM

[x] VT-3 PROCEDURE: SEP 613 REV.: 0 [] VT-4 PROCEDURE: 614 REV.:

DIRECT [x] REMOTE [x] EQUIPMENT USED: [x] FLASHLIGHT [x] MIRROR [] OTHER _____	VIDEO RECORDING NO: [x] N/A TYPE OF COMPONENT SUPPORT: [] HYDRAULIC SNUBBER [] CONSTANT SUPPORT [] MECHANICAL SNUBBER [] VARIABLE SUPPORT [x] SUPPORT/HANGER
--	--

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	✓			<div>SEE ATTACHMENT</div> <div>N/A</div>
MISALIGNMENT		✓		
DEBRIS		✓		
CORROSION/EROSION		✓		
STRUCTURAL INTEGRITY		✓		
RESISTANCE TO MOVEMENT			✓	
CLEARANCES OF MOVING PARTS			✓	
ARC STRIKES/GOUGES		✓		
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u>		STROKE: <u>N/A</u>	S/N <u>N/A</u>

COMMENTS: RECORDABLE INDICATIONS
COMPONENT INSULATED
EXPANDED SCOPE

EXAMINER: Art P... LEVEL: II DATE: 4-21-92

REVIEWER: Edmund R. Dawson LEVEL: II DATE: 4-22-92

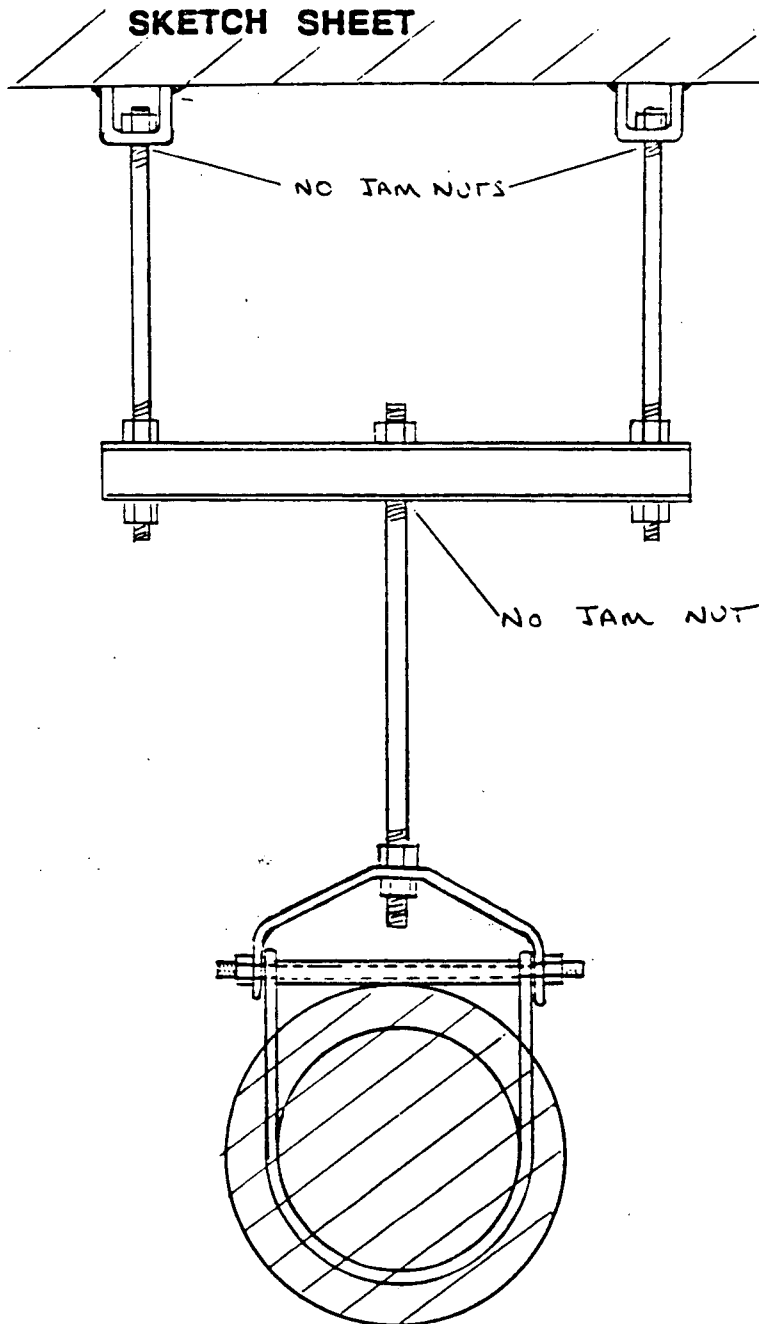
COMPONENT CONDITION: [] SATISFACTORY [] UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

ANII REVIEW: DATE:

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Art Pinner

EXAMINER N/A

REVIEWER Charles K. Dargatzis

REVIEWER Richard B. Weber

REVIEWER _____

LEVEL II

LEVEL N/A

LEVEL II

DATE 4/25/92

DATE _____

DATE 4-21-92

DATE N/A

DATE 4-22-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-326-I

Visual Exam Report No. 1097-208

- ☐ Support is acceptable "as is". No corrective action required.
- ☒ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

PROVIDE MISSING JAM NUTS/LOCKNUT.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED,
NON-SEISMIC" DEAD WEIGHT SUPPORT. JAM NUTS ARE NOT
INVOLVED IN LOAD TRANSFER BUT ARE REQUIRED TO PREVENT
SUPPORT FROM GETTING DISCONNECTED DUE TO VIBRATION
LOOSENING.

Clement Rajendra 5-5-92
NED Engineer Date

VISUAL EXAMINATION DATA SHEET

REPORT NO. 1097-68

WR&A # N/A

PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 2 1 PSI ISI

SYSTEM: COMPONENT COOLANT COMPONENT NAME: HANGER COMPONENT ID NO.: CPL-327-N

DWG./LOC.: CPL-327 REV-D / ABOVE NON REGEN HX ROOM ON SECOND FLOOR AUX.

SP 1097 ERO 4-21-92
☒ VT-3 PROCEDURE: NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: ☒ FLASHLIGHT ☒ MIRROR ☐ OTHER
TYPE OF COMPONENT SUPPORT: ☐ HYDRAULIC SNUBBER ☐ CONSTANT SUPPORT
☐ MECHANICAL SNUBBER ☐ VARIABLE SUPPORT
☒ SUPPORT/HANGER

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VARIABLE/CONSTANT SUPPORT	ACTUAL: <u>N/A</u>			
SNUBBER	ACTUAL: <u>N/A</u> STROKE: <u>N/A</u> S/N <u>N/A</u>			

COMMENTS: RECORDABLE INDICATIONS COMPONENT INSULATED

EXPANDED SCOPE

EXAMINER: Edward R. Doreen

LEVEL: II

DATE: 4-21-92

REVIEWER: W. P. Pinner

LEVEL: II

DATE: 4-22-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Weber 4/25/92

REVIEWERS COMMENTS:

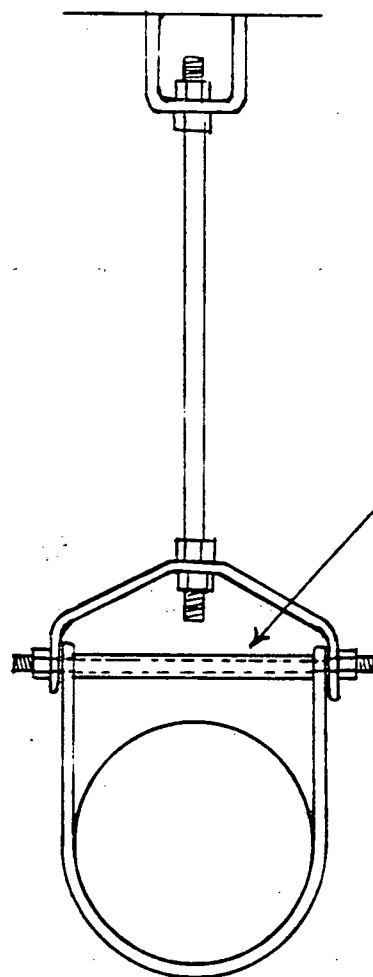
ANII REVIEW:

DATE:

nes

PAGE 2 OF 2DATA SHEET NO. 1097-188EXAM ITEM CPL-327-NISO DWG. NO. CPL 327 REV. 0

SKETCH SHEET

PIPE SPACER
FOR CLEVIS
IS MISSING

FOR INFORMATION ONLY

EXAMINER Richard R. Donovan
EXAMINER NA
REVIEWER Jim P...
REVIEWER Richard B. Weber
REVIEWER

LEVEL II
LEVEL NA
LEVEL II
DATE 4/25/92
DATE

DATE 4-21-92
DATE NA
DATE 4-22-92

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-N

Visual Exam Report No. 1097-188

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED, NON-SEISMIC,"
DEAD WEIGHT SUPPORT. CLAMP SPACER DOES NOT CONTRIBUTE TO
STRUCTURAL INTEGRITY, ITS FUNCTION IS TO PREVENT OVERTIGHTENING
OF CLEVIS STRAP AND THEREFORE MAY BE OMITTED.

Clement Rajendra

NED Engineer

1-5-92

Date

CPL
Control Power & Light Company
**VISUAL EXAMINATION
 DATA SHEET**

REPORT NO. 1097787
 WR&A # N/A
 PAGE 1 OF 2

PLANT: HB ROBINSON UNIT 1 1 ☒ 2 1 PSI ☒ ISI

SYSTEM: <u>COMPONENT COOLANT</u>	COMPONENT NAME: <u>HANGER</u>	COMPONENT ID NO.: <u>CPL-327-L</u>
-------------------------------------	----------------------------------	---------------------------------------

DWG./LOC.: CPL-327 REV-0 / ABOVE NON REGEN HX ROOM ON SECOND FLOOR AUX

SP 1097 ERO 42192
☒ VT-3 PROCEDURE: NOEP-613 REV.: 0 ☐ VT-4 PROCEDURE: 614 REV.:

DIRECT ☒ REMOTE ☒ VIDEO RECORDING NO: ☒ N/A

EQUIPMENT USED: <input checked="" type="checkbox"/> FLASHLIGHT <input type="checkbox"/> OTHER _____ <input checked="" type="checkbox"/> MIRROR	TYPE OF COMPONENT SUPPORT: <input type="checkbox"/> HYDRAULIC SNUBBER <input type="checkbox"/> MECHANICAL SNUBBER <input checked="" type="checkbox"/> SUPPORT/HANGER <input type="checkbox"/> CONSTANT SUPPORT <input type="checkbox"/> VARIABLE SUPPORT
---	---

CONDITION Present	YES	NO	N/A	COMMENTS
FASTENING DEVICES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
MISALIGNMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
DEBRIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CORROSION/EROSION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
STRUCTURAL INTEGRITY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH
RESISTANCE TO MOVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CLEARANCES OF MOVING PARTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ARC STRIKES/GOUGES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VARIABLE/CONSTANT SUPPORT ACTUAL: N/A

SNUBBER ACTUAL: N/A STROKE: N/A S/N N/A

COMMENTS: RECORDABLE INDICATION COMPONENT INSULATED
EXPANDED SCOPE

EXAMINER: Edward R. Davoren LEVEL: II DATE: 4-22-92

REVIEWER: Art Pennington LEVEL: II DATE: 4-22-92

COMPONENT CONDITION: ☐ SATISFACTORY ☐ UNSATISFACTORY

REVIEWED BY: Richard B. Leber 4/25/92

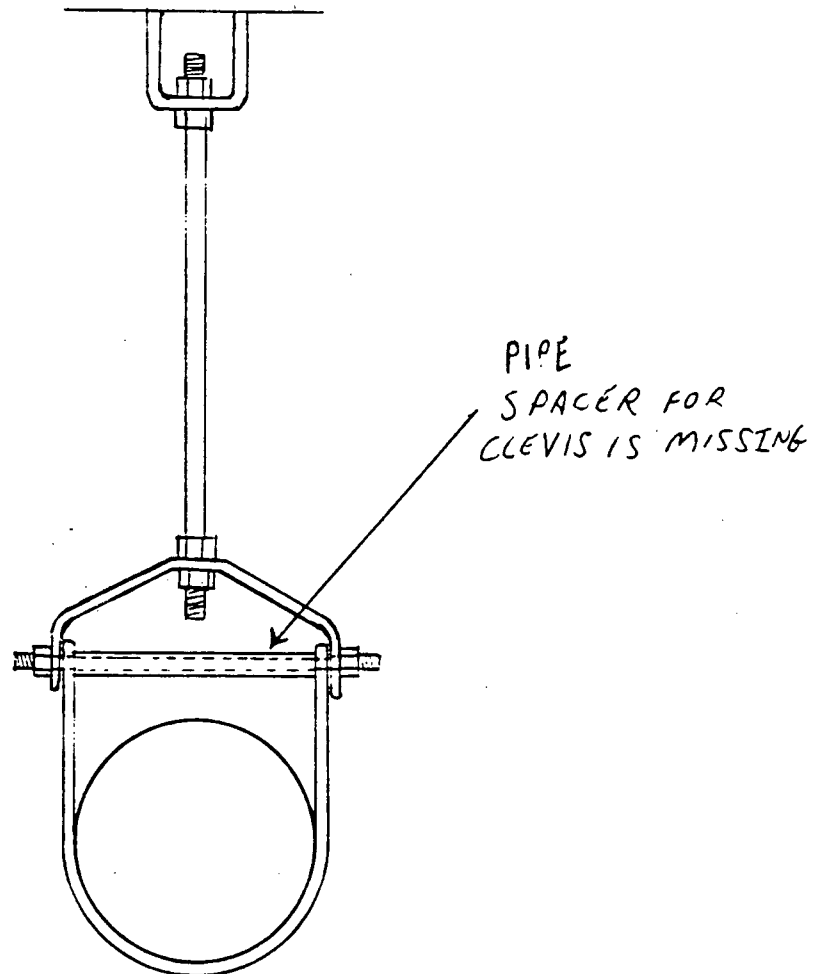
REVIEWERS COMMENTS:

ANII REVIEW: DATE:

125

PAGE 2 OF 2
DATA SHEET NO. 1097-189
EXAM ITEM CPL - 327-L
ISO DWG. NO. CPL 327 REV. 0

SKETCH SHEET



FOR INFORMATION ONLY

EXAMINER Edmund R. Donovan
EXAMINER NA
REVIEWER Carl J. ...
REVIEWER Richard B. Kleber
REVIEWER _____

LEVEL II
LEVEL NA
LEVEL II
DATE 4/25/92
DATE _____

DATE 4-21-92
DATE NA
DATE 4-22-92

AVD

SUPPORT CORRECTIVE ACTION/EVALUATION DOCUMENTATION SHEET

Support ID CPL-327-L

Visual Exam Report No. 1097-189

- ☒ Support is acceptable "as is". No corrective action required.
- ☐ Support is functional. The following corrective actions are recommended to be performed prior to return to service.
- ☐ Support is functional short term. The following corrective actions must be performed prior to return to service.
- ☐ Support is not functional. The following corrections must be performed prior to return to service.

Corrective Actions:

NOT APPLICABLE.

Basis:

THIS SUPPORT IS CLASSIFIED AS A "NON-SAFETY RELATED,
NON-SEISMIC", DEAD WEIGHT SUPPORT. CLAMP SPACER DOES NOT
CONTRIBUTE TO STRUCTURAL INTEGRITY, ITS FUNCTION IS TO
PREVENT OVERTIGHTENING OF CLEVIS STRAP AND THEREFORE
MAY BE OMITTED.

Clement Rajendra 15-5-92
NED Engineer Date

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1089

ULTRASONIC EXAMINATION OF PIPING SYSTEMS
FOR H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY: *Dave L...* 3/27/92
Engineering Manager - Programs Date

APPROVED BY: *M. F. Bag...* 3/29/92
Manager Technical Support Date

CONTROLLED
RECIPIENT

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 43	0

ULTRASONIC EXAMINATION OF PIPING SYSTEMS

FOR

H.B. ROBINSON STEAM ELECTRIC PLANT

UNIT 2

Project Application		Copy No.	Assigned To		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	Level III	Project Mgr.	General Mgr.	
0	Scott Larson	<i>[Signature]</i> 2/20/92	<i>[Signature]</i>	<i>[Signature]</i> 2/20/92	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED



DOCUMENT NO. 83A6011

PAGE 2 OF 40

FORM # NES 206 1'90

1. PURPOSE

The purpose of this procedure is to define the techniques, recording criteria and equipment for ultrasonic (UT) examination of welds in piping systems.

2. SCOPE

This procedure is limited to manual examinations of piping butt welds in ferritic, austenitic, dissimilar metal and other high alloy steels having a nominal wall thickness within the range of 0.2 inches to 6.0 inches which are examined from the outer surface of the pipe (OD). The examination techniques described herein comply with references 3.1 which specify techniques for detection of fabrication and service induced flaws including stress corrosion cracking. This procedure meets the requirements of the referenced documents to the extent specified in this procedure.

3. REFERENCES

- 3.1 ASME Boiler & Pressure Vessel Code, Section XI Appendix III 1986 Edition.
- 3.2 80A9068 – NES Procedure for Certifying Nondestructive Examination Personnel.
- 3.3 80A9053 – NES Procedure for Ultrasonic Instrument Linearity Verification.

4. PERSONNEL REQUIREMENTS

- 4.1 Personnel performing examinations to this procedure shall be certified in accordance with references 3.1 and 3.2.
- 4.2 It is recommended that the examination crews comprise at least two members. At least one member of each examination crew shall have a minimum certification of UT Level II. Evaluations shall be conducted by an examiner with a minimum certification of UT Level II.
- 4.3 A copy of each examiner's certification summary and current eye test shall be maintained on site.

- 4.4 A copy of each examiner's certification summary and current eye test shall be made available to the plant owner or his agent prior to performing examinations per this procedure.

5. EQUIPMENT AND MATERIAL REQUIREMENTS

5.1 ULTRASONIC INSTRUMENT

- A. A pulse echo ultrasonic flaw detection instrument with the following requirements:
1. A current acceptable linearity in accordance with Ref.3.3
 2. Operates within the minimum frequency ranges of 1.0 MHz to 5.0 MHz
 3. Equipped with a stepped gain control calibrated in units of 2 dB or less.
- B. The following models of ultrasonic flaw detection equipment manufactured by Krautkramer Branson are acceptable for use:

USK-7

USK-40 series

USK-30 series

USK-6

5.2 SEARCH UNITS

Search units may contain either a single or dual transducer elements. Units with contoured wedges may be used. Search unit type used (e.g., dual element, contoured wedge, etc.) shall be documented on the applicable Calibration and Examination Data Sheet (Exhibit 1 and Exhibit 2).

A. Search Unit Size

The maximum nominal search unit dimension for circular, square or rectangular elements shall not exceed those listed in Table 5.2-1. Search units other than those sizes allowed in Table 5.2-1, shall require procedure change.

TABLE 5.2-1

Maximum Allowable Transducer Size

Pipe Wall Thickness (Nominal)	Transducer Size (diameter or square)
Less than 0.5 in.	1/4 in.
0.5 to 2.0 in.	1/2 in.
over 2.0 in.	1 in.

NOTE: For dual element search units used, the dimension applies to one of the two elements.

B. Search Unit Frequency

1. Shear Wave. 2.25 MHz is the recommended frequency. Other frequencies may be used if necessary to improve signal to noise ratio or resolution.
2. Longitudinal Wave 0°. 5 MHz is the recommended frequency. Other frequencies may be used if necessary to improve signal to noise ratio.
3. Longitudinal Wave Angle Beam (RL). 2.25 MHz is the recommended frequency. Other frequencies may be used if necessary to improve signal to noise ratio or resolution.

NOTE: All beam angles used during the examination shall be verified by actual measurement.

C. Search Unit Beam Angle.

1. In ferritic material, a beam angle of $45^\circ \pm 2^\circ$ shall be used. Other angles may be used where wall thickness or geometric configuration impedes effective use of a 45° search unit.

2. In austenitic and dissimilar metal welds where the actual beam angle in the examination component may change, the measured angle in the component at the ID surface shall be 40° or greater for shear wave, and 35° or greater for R L (see paragraph 7.3).

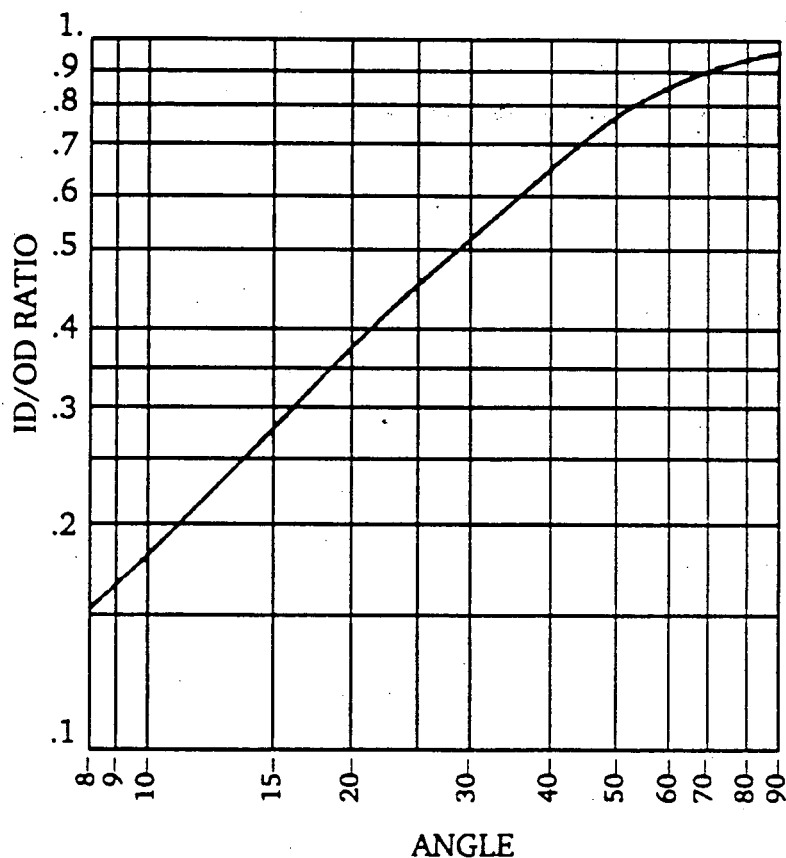
NOTE: Where circumferential scanning is required, ensure that the angle of the sound beam that is incident on the ID surface of the pipe is within the range of usable angles shown in the chart below.

The minimum refracted angle for a given ID/OD ratio can be determined as follows:

1. Calculate the ID/OD ratio: MAXIMUM USABLE REFRACTED ANGLE (DEGREES)

$$\frac{ID}{OD} = \text{Ratio}$$

2. For the given ratio move horizontally across the figure to a point that intersects the curve. Then move vertically downward and note the maximum usable angle.



5.3 CABLE

Cables shall have appropriate connectors and may be any convenient length. Examinations shall be conducted using the same cable as that used during the calibration. The number of connectors shall be documented with the cable type on the Ultrasonic Calibration Data Sheet (Exhibit 1).

5.4 COUPLANT

Ultragel – or couplant supplied by the Plant Owner.

5.5 CALIBRATION BLOCK(S)

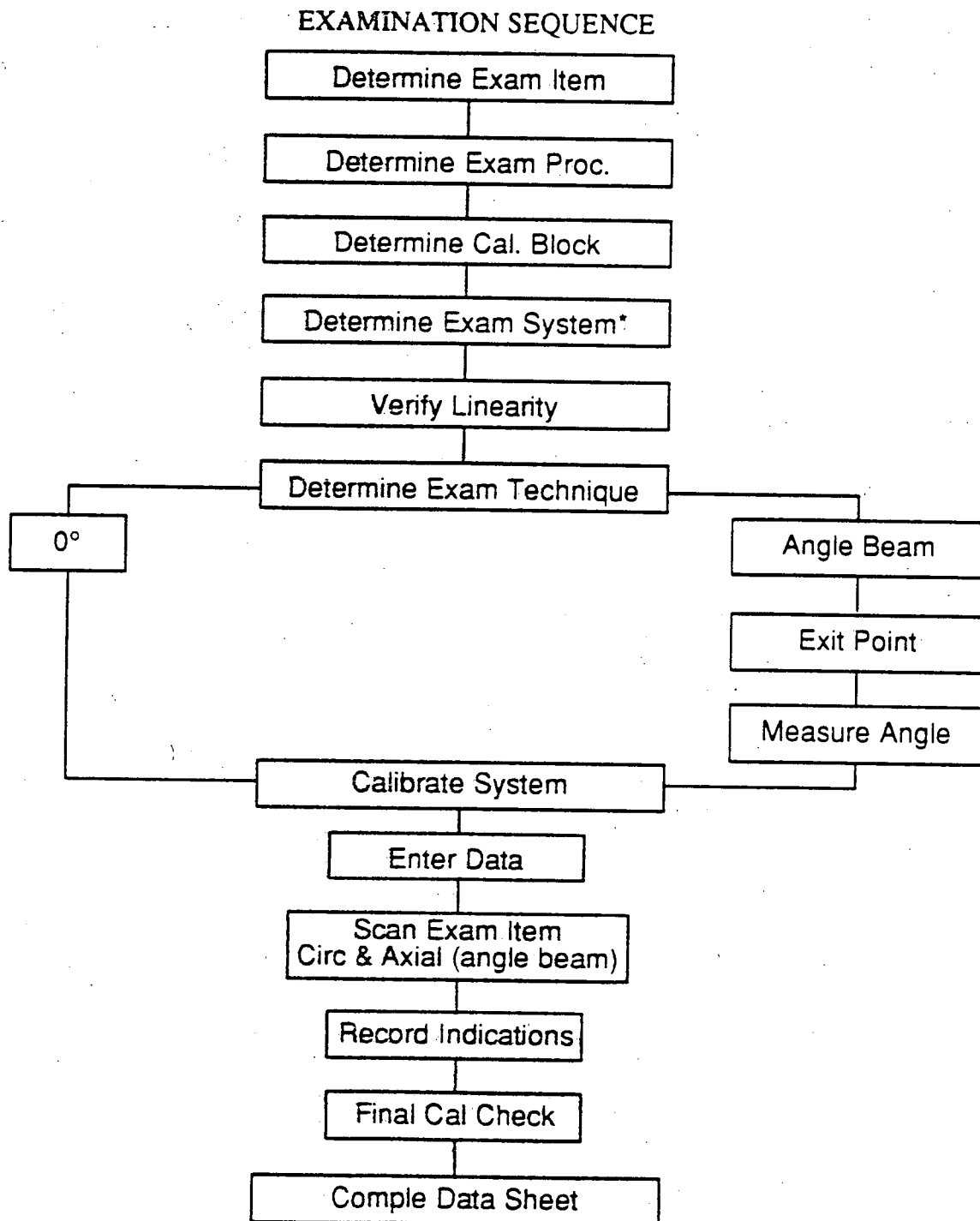
A. Calibration blocks shall be selected and provided by the Plant Owner and shall as a minimum, contain reflectors that enable calibration as required in Section 7 of this procedure.

B. IIW CALIBRATION STANDARDS

These may be either full size or miniature IIW standards and shall be fabricated from either Stainless or Carbon Steel. Selection for use shall depend upon the material to be examined.

6. GENERAL PREREQUISITES

The following flow chart describes a typical examination sequence:



*System = Instrument, Transducer, Wedges, and Cable.

- 6.1 The components to be examined shall be identified/determined by the Plant Owner.
- 6.2 Calibration Blocks shall be selected and provided by the Plant Owner.
- 6.3 The component shall be prepared for examination by the plant owner, e.g., the examination surface shall be free of foreign matter which may interfere with ultrasonic transmission.
- 6.4 Each weld to be examined shall be identified by the Plant Owner with reference points sufficient to locate the search unit along the weld seam.

NOTE: The examiner shall notify the NES "lead individual" or other designated contact individual when surface preparation of scanning surfaces and identification of reference points are not suitable for ultrasonic examination.

- 6.5 Previous examination data provided by the Plant Owner shall be reviewed by the examiner and the following items should be identified:
 - A. 0° information for interfering conditions
 - B. Weld configuration
 - C. Obstructions
 - D. Circumferential Scan Data
 - E. Recordable indications
 - F. Previous examination technique
 - G. Previously measured angle in the component
 - H. Use the preceding information/data to make a determination (prior to starting examination) of the extent of coverage of the examination volume and limitations (if any), and the best examination technique(s) to apply.
- 6.6 Examination technique shall be established (e.g. 1/2 Vee, 3/4 Vee, 1-1/2 Vee etc.) depending on component geometry.

- A. The required angle beam method of examination for axial scans is the 3/4 Vee technique. However, weld configuration, scan path obstructions, material attenuation, material thickness, search unit type or site specific requirements, may require different methods and calibrations to obtain the required coverage.
 - B. Variables such as weld configuration, weld crown width or physical interference may prevent obtaining the required coverage of the examination volume with 3/4 Vee examination from two sides. These types of interference may be eliminated by one or more of the following:
 - 1. Increasing the beam path as required. (beam paths greater than 3/4 Vee are prohibited in austenitic material);
 - 2. Reducing the dimension of the wedge edge-to-beam entry point;
 - 3. Reducing search unit size;
 - 4. Increasing beam angle;
 - 5. Conditioning the weld surface.
 - C. Circumferential scan. For welds in Carbon Steel, only those welds showing reportable Preservice Inspection (PSI) transverse indications need be examined for transverse reflectors. The examination technique shall be 1/2 Vee (see 7.5.3).
- 6.7 Linearity checks shall be performed in accordance with Reference 3.4 and shall be scheduled as follows:
- A. Screen height, amplitude control and horizontal linearities shall be verified at the beginning and end of each outage or every three months (while in use), whichever is less.
 - B. Screen height and amplitude control linearities should be performed daily (when in use).
- 6.8 The calibration block surface temperature shall be within 25°F of the component to be examined.

7. CALIBRATION PROCEDURE

7.1 PREREQUISITES

- A. If the calibration block does not contain the reflectors required to perform the calibration techniques identified in this section, or is otherwise incorrect for the items to be examined, the Plant Owner shall be notified and the examination not performed.
- B. Calibration shall be performed from the OD surface (clad or unclad) of the calibration block which corresponds to the component surface to be scanned.
- C. The calibration shall be performed using the same transducers, wedges and cables (length and number of connectors) that are to be used during the examination.
- D. Dual Search Units

NOTE: Dual search units shall be used as directed by the supervisor or the L III UT examiner.

- 1. When using dual angle beam search units, (shear or longitudinal wave), component thickness and focal distance shall be compatible. Compatibility is determined by a signal to noise ratio of at least 10:1 when scanning the ID notch in the component calibration block. Where this is not achievable, the site supervisor shall be notified and may authorize performance of the examination as appropriate.
 - 2. Half Vee techniques only shall be used.
- E. Transducer Exit Point

The transducer sound beam exit point shall be marked on the wedge.

The exit point to wedge front edge dimension shall be measured and recorded in the Search Unit Remarks section on the Ultrasonic Calibration Data Sheet. Record as:
Exit Point to Wedge Front Edge: _____".

- F. Maximum response from the calibration reflector shall be obtained with the sound beam essentially perpendicular to the axis of the calibration reflector. The centerline of the search unit shall be at least 3/4" from the nearest side of the calibration block. Directing the beam into a corner formed by the reflector and the side of the block may produce a higher amplitude signal at a longer beam path; this beam path shall not be used for calibration.
- G. Where it is noted that the Distance Amplitude Correction (DAC) curve appears to plot below 20% Full Screen Height (FSH), a double DAC shall be established (see paragraph 7.6).
- H. Determination of beam angle (see Paragraph 7.2)

NOTE: For Stainless Steel examinations, unless this information already exists (previous data), the beam angles shall be determined in the component at least once for each pipe size, schedule and material to be examined. This is to identify beam angle changes in the component which may result in misinterpretation of examination results. Where this determination is necessary, steps A, through D, of paragraph 7.3 shall be followed.

7.2 DETERMINATION OF BEAM ANGLE

The beam angle shall be determined as follows:

A. Carbon Steel:

The beam angle shall be determined using a Carbon Steel IIW Calibration Block (standard or mini).

B. Stainless Steel:

1. Refracted Longitudinal. The beam angle shall be determined by triangulation, using the reflectors in the appropriate piping calibration block.
2. Shear. The refracted angle shall be determined by following the instructions in Paragraph 7.3

7.3 METHOD FOR DETERMINING SHEAR WAVE BEAM ANGLE IN COMPONENTS

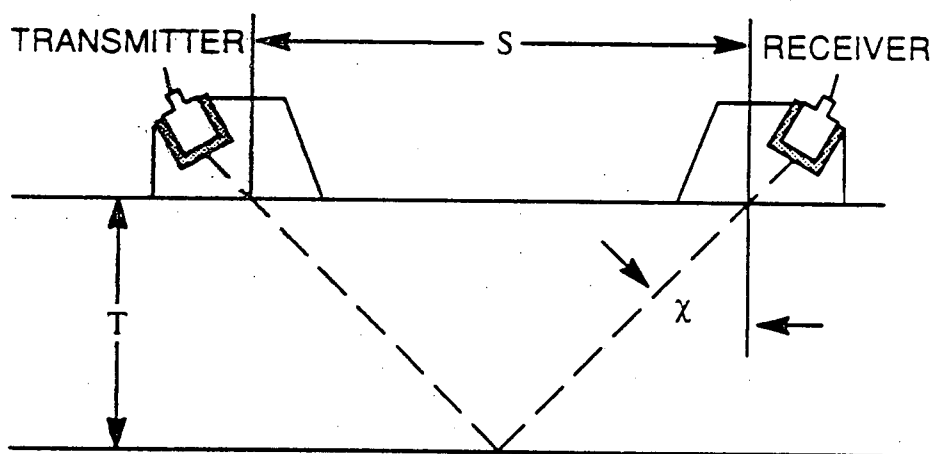
- Use two search units representing the nominal examination angle. ($\pm 2^\circ$) with verified exit points.
- With a 0° search unit, measure the thickness of the area through which the angle beam will pass during the examination (calibration documentation not required).
- In the axial direction, couple the two angle beam search units in a "pitch-catch" arrangement.
- Maximize the signal and record the actual distance between the exit points of the two search units.
- Using the formula below, calculate the actual (in the material) beam angles:

$$\frac{S}{2T} = \tan(\chi)$$

E.g., $S = 2"$
 $T = 1"$
 Then $\frac{2}{2 \times 1} = 1$

INV. TAN 1 = 45°

S = Skip distance
 T = Thickness (actual)
 χ = Actual beam angle



BEAM ANGLE VERIFICATION

7.4 0° CALIBRATION FOR BASE MATERIAL (When required).

0° calibration for the detection of interfering conditions (laminar inclusions) shall be performed on the component in conjunction with the examination.

- A. The sweep setting shall be established such that two back reflections from the component appear on the CRT screen during the 0° scanning.

NOTE: It is recommended that a linear screen (calibrated in metal path) be used, in the event that indication recording becomes necessary.

- B. With the search unit placed on the component, the sensitivity level of the first back reflection shall be set at 80% FSH.
- C. Increase the gain by +6dB. This sensitivity level shall be maintained while scanning the component. (Observe second back reflection amplitude.)

7.5 ANGLE BEAM CALIBRATION

NOTE: The angle beam technique described in Paragraph 7.5 (3/4 Vee technique) establishes an alternative examination method which provides enhancement to the ASME Section XI Code specified 1/2 Vee examination technique (Article III-3230 (d)).

- A. Verify the search unit sound beam exit point using a standard IIW or miniature IIW block.
- B. Determine the beam angle (see Paragraph 7.2 or 7.3)

7.5.1 Contoured wedges.

- a. For contoured wedges without an identified exit point, determine the exit point by passing the edge of a steel scale (or any suitable edge) along the curved area

of the wedge and marking the location on the wedge where the maximum amplitude response occurs.

- b. The beam angle shall be determined by triangulation using the reflectors in the piping calibration block.
- c. Sweep calibration shall be accomplished by using the measured metal path from reflectors in the appropriate piping calibration block.

7.5.2 Transducer Perpendicular to Weld

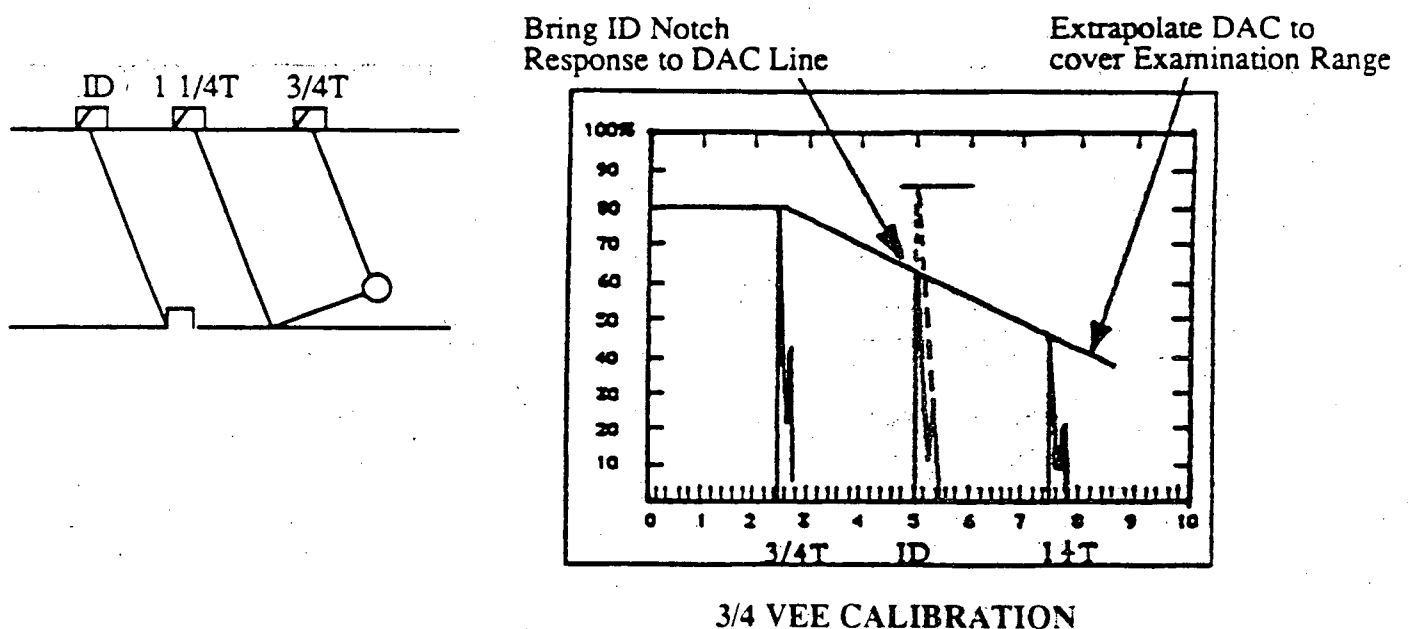
- a. Shear Wave Angle Beam Calibration 3/4 Vee Technique

- 1. Establish sweep calibration. For recommended metal paths see Exhibits 5 thru 10.

NOTE: In all cases, the examiner should avoid using a sweep calibration that uses only a small portion of the screen.

- 2. The shape and slope of the DAC curve is established by obtaining maximized responses from the 3/4 T and 1-1/4 T holes. The 1/2 T and 1-1/2 T holes may be substituted where the 3/4 T and 1-1/4 T holes do not exist.
 - 3. Set the signal amplitude from the hole producing the highest amplitude to 80% FSH and mark its amplitude and position on the CRT screen. Without changing sensitivity, maximize the signal from the remaining hole and mark its amplitude and position on the CRT. Note signal response amplitudes and position on the Ultrasonic Calibration Data Sheet (Exhibit 1.).

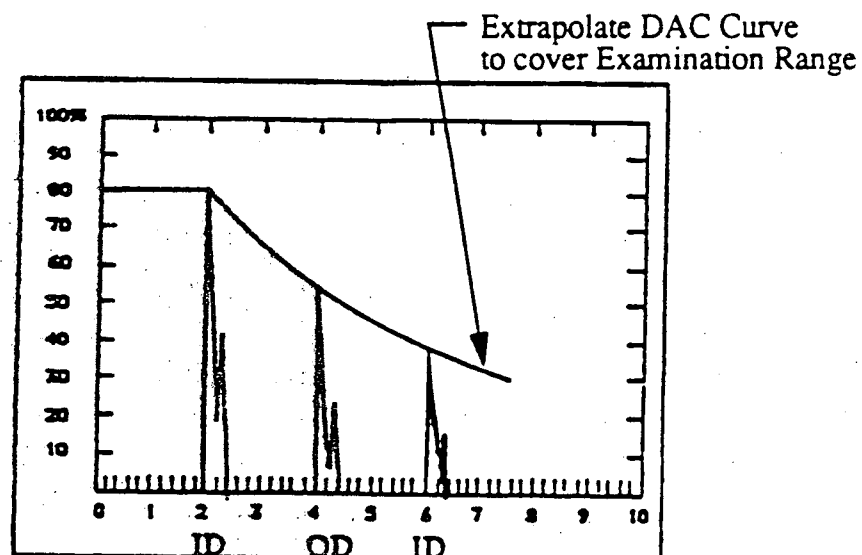
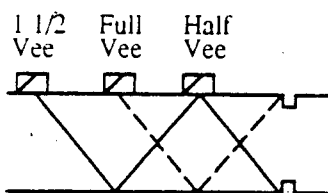
4. Plot a DAC curve by connecting the locations (marked on the CRT) with a continuous line. Extrapolate the DAC curve to include the inner 1/3 thickness and extend the DAC line horizontally to the left of the first calibration signal position as shown below.



5. Obtain a maximized response from the ID notch and adjust the instrument sensitivity to bring its peak to the DAC line. This is "REFERENCE SENSITIVITY". On the Ultrasonic Calibration Data Sheet (Exhibit 1.) note the change in sensitivity required to bring its peak to the DAC line.
6. Upon completion of calibration, ensure that all data and instrument settings are recorded on the Ultrasonic Calibration Data Sheet (Exhibit 1).

b. Shear Wave Angle Beam Calibration: Full Vee and 1-1/2 Vee Techniques.

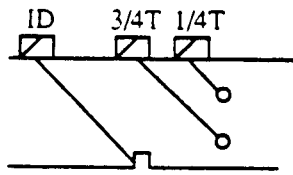
1. Establish sweep calibration. For recommended metal paths see Exhibits 5 thru 10.
2. Obtain maximized signal responses from the notches in the calibration block and mark the signal response positions on the CRT.
3. Maximize the signal from the notch that produces the highest response and set its amplitude to 80% FSH.
4. Without changing sensitivity settings, maximize the remaining notch signal response(s) and mark the peak amplitudes on the CRT and on the Ultrasonic Calibration Data Sheet (Exhibit 1).
5. Plot a DAC curve by connecting the locations (marked on the CRT) with a continuous line extended to cover the full examination range. This is "REFERENCE SENSITIVITY".
6. Upon completion of calibration, ensure that all the data and instrument settings are recorded on the Ultrasonic Calibration Data Sheet (Exhibit 1).



1 1/2 VEE CALIBRATION

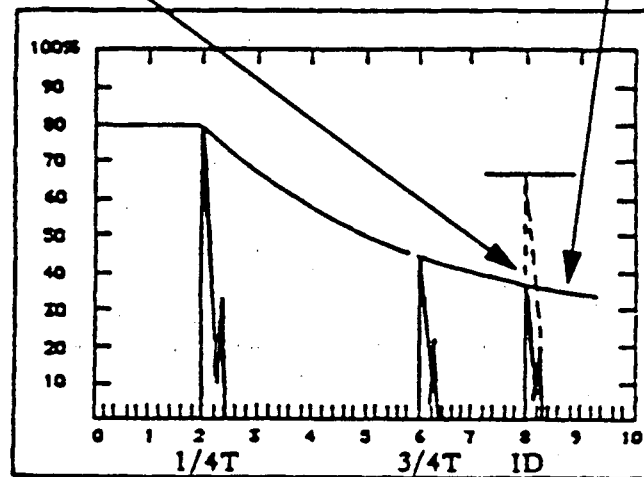
c. 1/2 VEE CALIBRATION

1. Establish sweep calibration. For recommended metal paths see Exhibits 5 thru 10.
2. The shape and slope of the DAC curve is established by obtaining responses from the 1/4 T and 3/4 T holes.
3. Set the signal amplitude from the hole which provides the highest response to 80% FSH and mark its amplitude and position on the CRT screen. Without changing sensitivity, maximize the signal from the remaining hole and mark the amplitude at the appropriate position on the CRT. Note signal responses and amplitudes on the Ultrasonic Calibration Data Sheet (Exhibit 1).
4. Plot a DAC curve by connecting the locations (marked on the CRT) with a continuous line extended to include the full examination range.
5. Obtain a maximized signal from the ID notch and adjust the instrument sensitivity to bring the top of the signal to the DAC line. This is "REFERENCE SENSITIVITY". Note the change in sensitivity required to bring the ID notch response to the DAC line, on the Ultrasonic Calibration Data Sheet Exhibit 1).
6. Upon completion of calibration, ensure that all data and instrument settings have been recorded on the Ultrasonic Calibration Data Sheet (Exhibit 1).



Bring ID Notch
Response to DAC Line

Extrapolate DAC to
Cover Examination Range



1/2 VEE CALIBRATION

7.5.3 Transducer Parallel to the Weld.

Shear wave angle beam calibration for reflectors transverse to the weld shall be established by setting the ID notch at 80% of FSH. The DAC curve in this case shall be a straight line drawn at 80% .

7.6 DOUBLE DAC

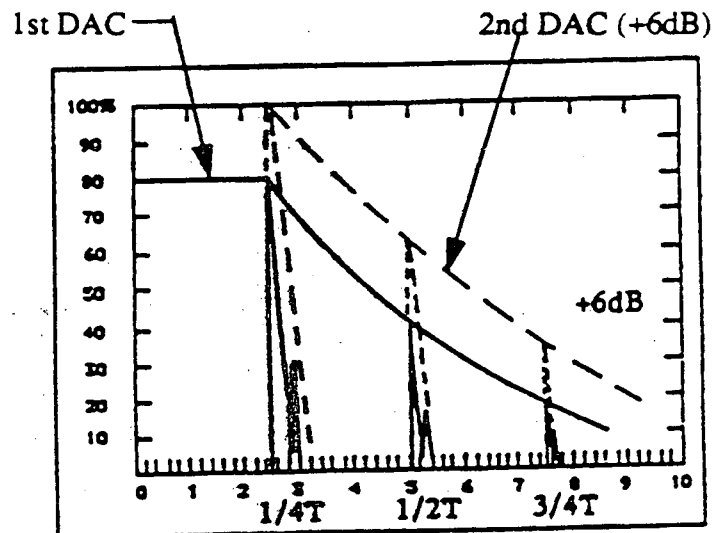
Factors such as high attenuation, transducer frequency or transducer size, may cause the slope of the DAC to fall below 20% FSH within the calibration area of the CRT. If this condition is still apparent after changing the size and/or frequency of the transducer, the following correction shall be made:

- A. Note the point where the DAC curve drops below the 20% FSH line.
- B. Mark this point on the CRT and increase the gain by +6dB.
- C. Mark the new location of the side drilled hole that previously appeared below the 20% line.
- D. Return to the previous reflector that was originally above 20% and mark its new amplitude on the CRT. (see note below)

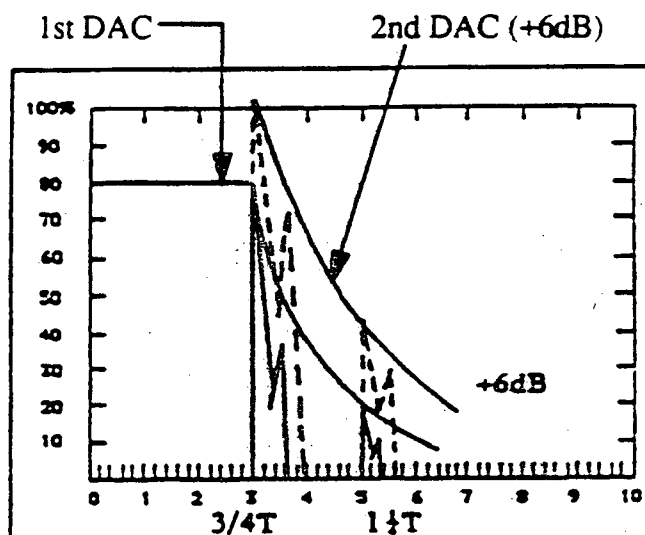
- E. Connect the new points established in 7.6.C and 7.6.D to establish the second DAC curve
- F. Extend the curve if necessary to include the examination area
- G. Record the new positions and settings on the Ultrasonic Calibration Data Sheet (Exhibit I).

NOTE: Where the amplitude of the reflector referenced in "D" above increases to a level that exceeds FSH, set this signal amplitude at 100% FSH and create the second DAC using the signal from this reflector as the starting point and the signal from the next reflector as the second point on the DAC. Connect the two points. This is now the second DAC. Record data as in "G" above.

DOUBLE DAC



Example 1



Example 2

8. EXAMINATION PROCEDURE

8.1 PREREQUISITES

NOTE: "SYSTEM" = Instrument, Transducer, Wedge(s) and Cable.

8.1.1 System Calibration

Perform the complete ultrasonic examination system calibration, establishing the DAC curve, within one day prior to use of the system for examination of those welds for which the calibration is applicable, and at least once each week during the examination, or at any time that any part of the system is changed.

8.1.2 System Check

- a. Verify the system calibration (instrument sensitivity, and sweep range calibration) at the following intervals:
 1. At the start and finish of examinations for which the examination applies.
 2. At intervals not to exceed 12 hours. (Recommended – 4 hour intervals.)
 3. With every change of examination personnel.
 4. With any change of batteries
 5. If the examiner suspects any malfunction of the UT system.
- b. If any point of the DAC curve has decreased 20% or 2dB in amplitude, all data sheets since the last calibration shall be considered invalid. A new calibration shall be made and recorded and the affected examination areas reexamined.
- c. If any point of the DAC has increased more than 20% or 2 dB in amplitude, recorded indications taken since the last valid calibration shall be

reexamined with the correct calibration and their values changed on the data sheets. The reason for the changed values shall be noted on the Ultrasonic Calibration Data Sheet. No action is required where no recordable indications exist.

- d. If any point on the DAC curve has moved more than 2 minor divisions of the sweep division reading, correct the sweep range calibration and note the correction on the Ultrasonic Calibration Data Sheet. If recordable reflectors are noted on the data sheets, those data sheets shall be considered invalid. A new calibration shall be established and recorded and the affected areas reexamined.

8.2 SCANNING FOR REFLECTORS PARALLEL TO THE WELD

NOTE: The 1-1/2 Vee calibration shall be used in carbon steel only, and only if access to the weld and required volume (WRV) is limited to one side.

- A. Calibrate the system as described in Section 7.5 as appropriate.
- B. Locate the weld in the piping system. (If the weld number is not physically marked on the pipe, verification of identification of the adjacent components e.g. a valve etc, should be made).
- C. Verify that the surface finish on the component is similar to that of the calibration block used to calibrate the system and that examination zone coverage will be to the extent identified in the pre-examination preparations.
- D. Establish a search unit scan path that provides 100% WRV coverage (or maximized coverage if 100% coverage is not achievable). See Exhibit 4 and 5 for examination coverage and formula for determining metal path.
- E. Scanning shall be conducted at reference sensitivity level + 6dB minimum. For IGSCC examinations, scanning sensitivity should be a minimum of 10 dB above reference, where the material grain structure allows. When using focused R L

search units, noise from grain structure may prevent a meaningful examination (see Paragraph 7.1.D.1). In this case scanning may be conducted at reference sensitivity.

- F. Scan the weld and WRV from both sides with the search unit oriented perpendicular toward the weld. (If 1-1/2 Vee technique is required, scan from one side only). Each scan shall be overlapped a minimum of 10% of the element dimension.
- G. The search unit shall be swiveled at least 20° each side of normal, to maximize examination effectiveness. Where this is not possible, the scan shall be overlapped by 50% of maximum beam intensity (- 6dB) points) as determined on the calibration block -OR- 50% of a single element dimension.
- H. The rate of search unit movement shall not exceed 6 inches per second. (3 inches per second for IGSCC detection).
- I. Record all indications as required by Section 9. If the WRV is free of recordable indications, this shall be noted on the Ultrasonic Examination Data Sheet (Exhibit 2)
- J. Record all obstructions or other conditions that interfered with the examination. Include sufficient dimensions from datum zero so that a determination/calculations subsequently can be made of the volume not covered, or which received limited examination coverage.
- K. Remove couplant from the examination surface.

8.3 SCANNING FOR REFLECTORS TRANSVERSE TO THE WELD

REMINDER: For welds in carbon steel, only those welds showing reportable PSI transverse indications need be examined for transverse reflectors.



- A. Calibrate the system as described in paragraph 7.5.3
- B. Locate the weld in the piping system (if the weld number is not physically marked on the pipe, verification of identification of adjacent components e.g. a valve etc., should be made).
- C. Scanning Sensitivity:
 - 1. Scanning shall be conducted at the primary reference level + 6dB minimum.
 - 2. For IGSCC examinations, scanning sensitivity should be a minimum of 10 dB above reference, if the material grain structure allows.
 - 3. When using focused R L search units, noise from grain structure may prevent a meaningful examination (see Paragraph 7.1.D.1). In this case scanning may be conducted at reference sensitivity.
- D. For welds in **ferritic material**, scan the weld crown in two directions with the search unit oriented parallel to the weld. If the examination is a baseline (PSI or new replaced piping), examine the weld and a minimum of 1/2" on both sides of the weld in two directions.
- E. For PSI and ISI of **austenitic and dissimilar metal** welds, scan the weld and a minimum of 1/2" on either side of the weld in two directions.
- F. The search unit shall be swiveled at least 20° each side of normal, to maximize examination effectiveness. Where this is not possible, the scan shall be overlapped by 50% of maximum beam intensity (- 6dB) points) as determined on the calibration block -OR- 50% of a single element dimension.
- G. Record all indications as required by Section 9. If the WRV is free of recordable indications, this shall be noted on the Ultrasonic Examination Data Sheet (Exhibit 2)
- H. Note all obstructions or other conditions that interfered with the examinations on the Ultrasonic Examination Data Sheet (Exhibit 2). Include sufficient dimensions from datum zero so that a determination/calculations subsequently can be made of the volume not covered, or which received limited examination coverage.

- I. Remove couplant from examination surface.

9. RECORDING

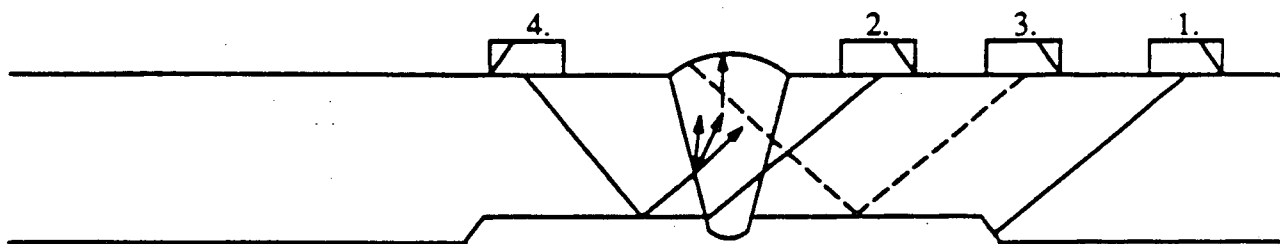
9.1 PREREQUISITES

- A. Except as provided in 9.3.D, indications shall be recorded at reference sensitivity.
- B. When using "Double DAC" examination, indication(s) shall be recorded at the appropriate sensitivity pertaining to the specific DAC used at the time of the detection of the indication(s).
- C. Previously recorded geometry shall be verified at the previous recording level (% of DAC) and coordinates. Indications need not be re-plotted, but shall be referenced on the new data sheet by previous data sheet number and date, or by attaching a copy of the previous data sheet to the new data package.
- D. The determination that indications are of geometric or metallurgical origin shall be made by one or more of the following methods:
 - 1. Plot and verify the indications as follows:
 - a. Record maximum amplitudes as a percent of the DAC curve, sweep readings to the reflector, search unit locations and sound beam direction.
 - b. Plot location of the reflector at a representative position on a full scale cross section profile drawing, showing the source of the indication and all other relative geometric conditions.
 - 2. Use of other NDE methods or techniques.
 - 3. Comparison with fabrication drawings of weld preparation drawings.
 - 4. Review of original radiographs.

9.2 RECORDING CRITERIA FOR GEOMETRIC INDICATIONS

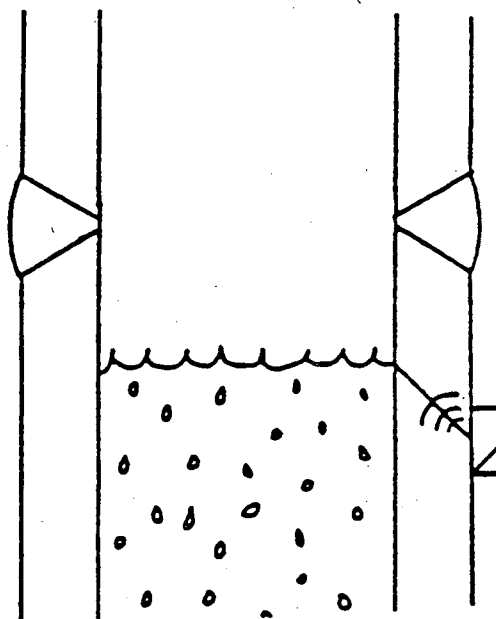
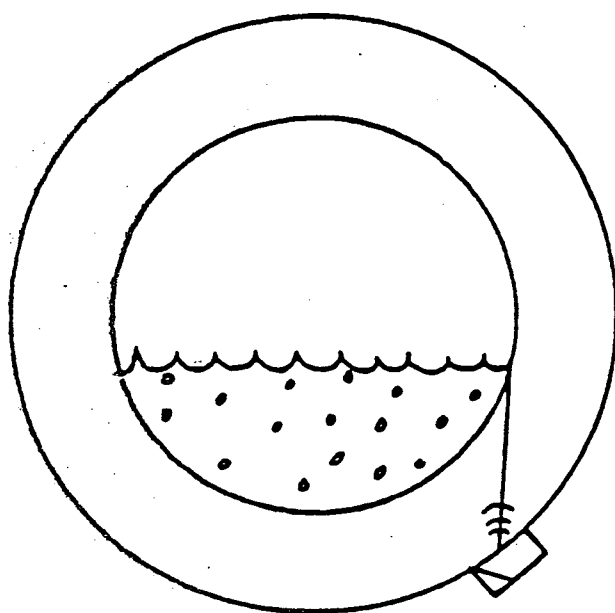
welding). Geometric indications can also occur from a water level interface in a pipe. Examples of the above are shown in the sketches below. Such indications need not be characterized as flaws or compared with the allowable flaw standards (e.g. ASME Section XI IWA-3000).

- A. For PSI or new replaced piping, indications with amplitudes 20% of DAC or greater, shall be recorded.
- B. For ISI (inservice inspection) where geometry has not been previously recorded (as referenced in 9.1.C), indications that have amplitudes 50% DAC or greater shall be recorded.
- C. For each geometric indication, the information required on the Ultrasonic Indication Report Sheet (Exhibit 3) shall be provided, including a cross sectional plot showing OD profile and geometry in the indication area.



EXAMPLES OF GEOMETRIC INDICATIONS

1. Counterbore
2. Weld Root
3. Weld Crown
4. Beam Redirection



GEOMETRIC INDICATION FROM WATER IN PIPE

9.2.1 Method of Recording Geometric Indications:

Record the maximum amplitude, location, and extent of a geometric indication.

For example: Counterbore, 80% DAC maximum amplitude, 1 inch from the weld root, and from 90 degrees to 180 degrees.

- or -

100% maximum amplitude at weld root, intermittent, 360 degrees.

9.3 RECORDING CRITERIA FOR NON-GEOMETRIC INDICATIONS

- A. Any indication suspected to result from cracking, shall be recorded regardless of amplitude.
- B. Indications which are determined to be non-service induced (e.g. welding induced flaws) and are not of geometric or metallurgical origin shall be recorded if they meet or exceed the following:
 - 1. Ferritic material - 50% DAC
 - 2. Stainless Steel - 20% DAC
- C. For each non-geometric indication, the information required on the Ultrasonic Indication Report Sheet (Exhibit 3) shall be provided, including a cross sectional plot showing OD profile and ID geometry in the area of the indication(s).
- D. If a suspected non-geometric indication (as in B above) is not recordable at reference level, it shall be recorded at scanning sensitivity level.
- E. The examiner shall provide any additional information that will aid in dispositioning the indications.

9.4 ACCEPTANCE CRITERIA

Acceptance of indications shall be determined by the requirements of ASME Section XI, IWA-3000, or other referencing code sections as applicable.

10. EXAMINATION RECORDS

- A. NES shall be responsible for submitting to the Plant Owner or his Agent, a complete set of examination records.
- B. Exhibit 1 shall be completed by examiners to the extent possible, at the time of the calibration. Where the sheet cannot be completed at the time of the calibration, the sheet shall be completed promptly after the last examination that uses that calibration.
- C. Exhibits 2 and 3 shall be completed by the examiners as required.
- D. The examiner(s) shall sign the completed data sheet, noting applicable NDE Certification level(s).
- E. NES record retention shall be limited to that time until the Final Report and/or the examination data is delivered to the Plant Owner or his Agent.

11. ATTACHMENTS

- 11.1 Exhibit 1 – Ultrasonic Calibration Data Sheet
- 11.2 Exhibit 2 – Ultrasonic Examination Data Sheet
- 11.3 Exhibit 3 – Ultrasonic Indication Report Sheet
- 11.4 Exhibit 4 – Required Examination Volume
- 11.5 Exhibit 5 – Table 1 (Metal Path Calculation)
- 11.6 Exhibit 6 – Angle Beam Verification Block 1.0" presentation
- 11.7 Exhibit 7 – Angle Beam Verification Block 2.5" presentation
- 11.8 Exhibit 8 – Angle Beam Verification Block 5.0" presentation
- 11.9 Exhibit 9 – Angle Beam Verification Block 10.0" presentation
- 11.10 Exhibit 10 Angle Beam Verification Block 20.0" presentation

DATA SHEET NO. _____
PAGE _____ OF _____

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. _____
REV. _____
CHANGE NO. _____

INSTRUMENT

Model _____
Serial No. _____
Sweep Length _____ Delay _____
Range _____
Gain (coarse) _____ dB
Gain (fine) _____ dB
Reference Sensitivity _____ dB
Remarks: _____

SEARCH UNIT

Serial No. _____
Size _____
Frequency _____ MHz
Mode _____
Nom. Angle _____ °
Measured Angle _____ °
Cable Type _____
Cable Length _____
Remarks: _____

CALIBRATION BLOCK

No. _____
T _____ Dia. _____
Temperature _____ ° F
Thermometer S/N _____

CALIBRATION

0° ☐ Axial ☐ Circ. ☐
Metal Path ☐ Depth ☐
Each Major Screen Div. = _____
Remarks: _____

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1			6		
2			7		
3			8		
4			9		
5			10		

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	
80	-12	
40	+6	
20	+12	

COUPLANT

Brand _____
Batch No. _____

DAC PLOT

CAL CHECKS

TIME

INITIAL CAL	
INTERMEDIATE	
INTERMEDIATE	
INTERMEDIATE	
FINAL CAL.	

REMARKS: _____

EXAMINERS 1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____
REVIEWERS 1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____
3 _____ LEVEL _____ DATE _____

1125

NUCLEAR ENERGY SERVICES, INC.

DATA SHEET NO. _____		ULTRASONIC EXAMINATION DATA SHEET				COMPONENT/SYSTEM _____			
PAGE _____ OF _____						ISO/DWG. NO. _____ REV. _____			
EXAM ITEM _____						THERMOMETER S/N _____			
						COMPONENT TEMP. _____ ° F			

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.
REMARKS:											

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.
REMARKS:											

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.
REMARKS:											

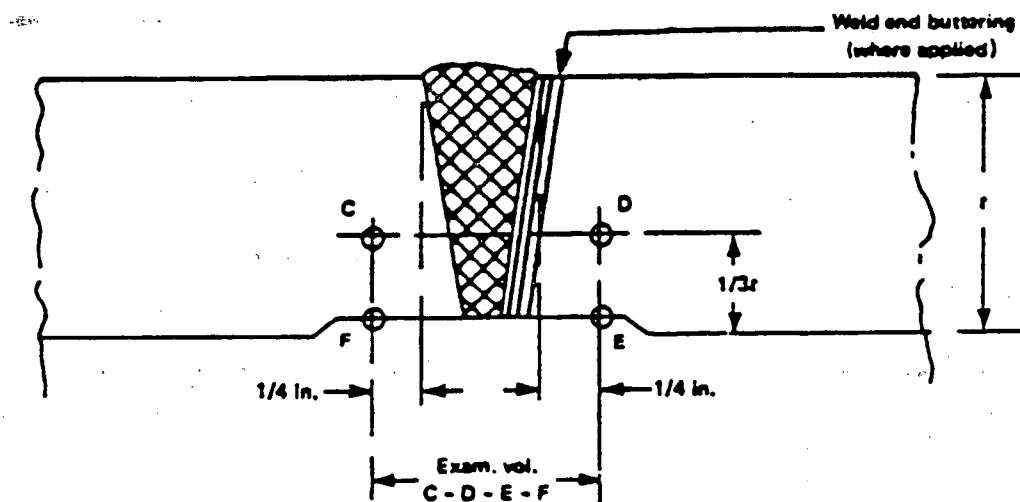
SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.
REMARKS:											

EXAMINERS:	REVIEWERS:
1 _____ LEVEL _____ DATE _____	1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____	2 _____ LEVEL _____ DATE _____
	3 _____ LEVEL _____ DATE _____

**ULTRASONIC EXAMINATION SHEET
EXHIBIT 2**

[illegible]

ULTRASONIC INDICATION REPORT SHEET
EXHIBIT 3



ASME SECTION XI WELD EXAMINATION VOLUME

NOTE: For Non ASME Section XI Examinations – See Referencing Code for Appropriate Examination Volume.

REQUIRED EXAMINATION VOLUME

EXHIBIT 4

FORMULA FOR DETERMINING METAL PATH

VEE PATH	<u>45°</u>	<u>60°</u>	<u>70°</u>
1/2	T X 1.414	T X 2.0	T X 2.923
3/4	T X 2.121	T X 3.0	T X 4.386
1, 1/2	T X 4.242	T X 6.0	T X 8.769

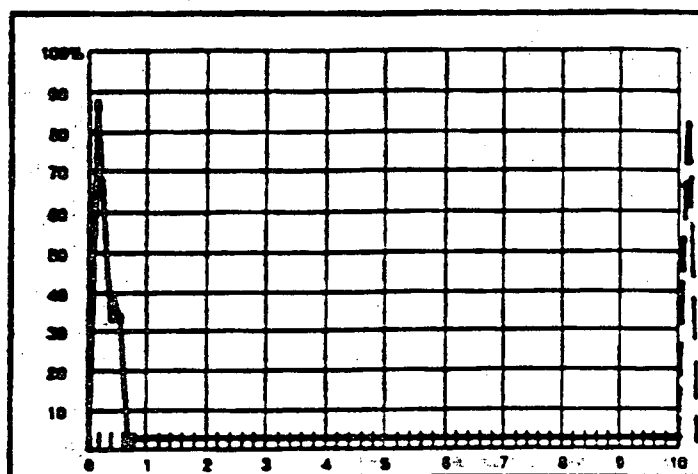
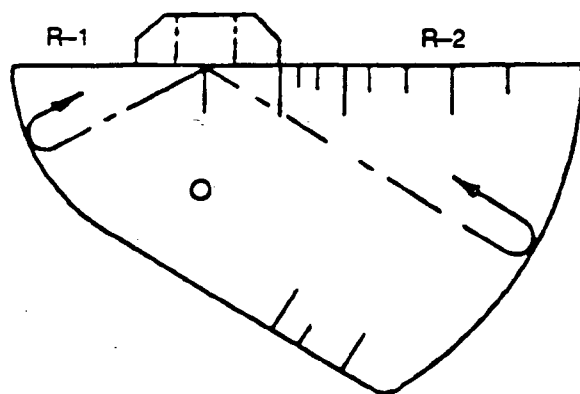
For determining other metal paths when using other angles, calculate as follows:

- (1) 1/2 Vee Constant = $1/\cos$ angle
- (2) 3/4 Vee Constant = $1/\cos$ angle x 1.5
- (3) 1, 1/2 Vee Constant = $1/\cos$ angle x 3.0

Constant x "T" = Metal Path for appropriate Vee path.

TABLE 1 (METAL PATH CALCULATION)

EXHIBIT 5



R-1 Reflection before delaying
to CRT position 10

R-2
reflection

METAL PATH CALIBRATION FOR A 1" CRT PRESENTATION

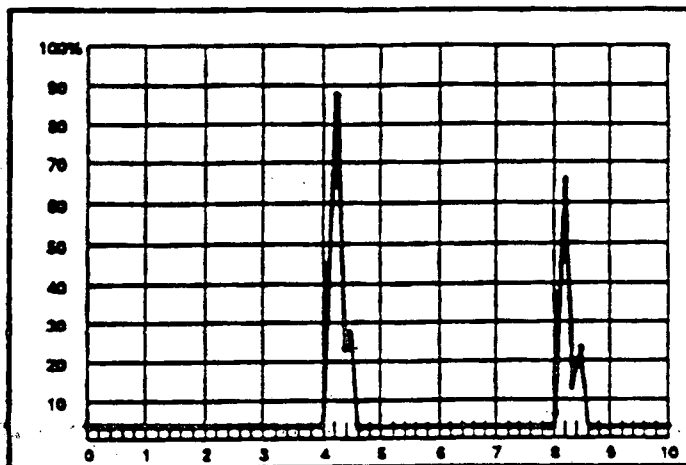
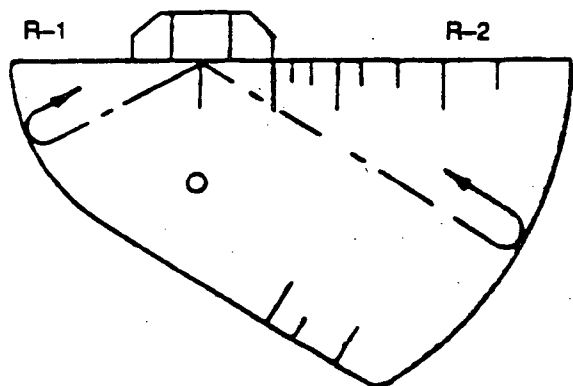
With the search unit coupled to the Miniature IIW Block:

- 1) Maximize the signal from the 1" radius (R-1).
- 2) With the Sweep and Delay controls, align this signal at position 10 on the CRT (CRT 10).
- 3) With the Delay control, move this signal to CRT 0.
- 4) Maximize the signal from the 2" radius (R-2).
- 5) With the Sweep control, align this signal at CRT 10.
- 6) Repeat steps 1 thru 5 until the respective signals are aligned at CRT 0 and CRT 10.
- 7) With the Delay control only, move the R-1 signal across the screen to position CRT 10.
- 8) Make no further adjustments to sweep or delay controls.

The instrument is now calibrated for 1" metal path. Each Major Division = 0.10".

ANGLE BEAM VERIFICATION BLOCK 1.0" PRESENTATION

EXHIBIT 6



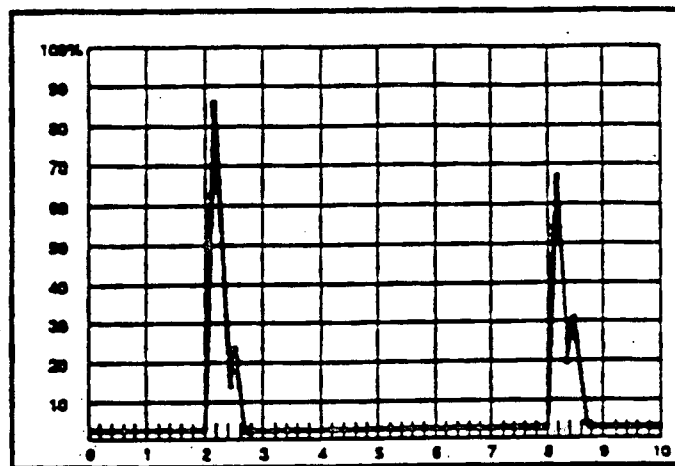
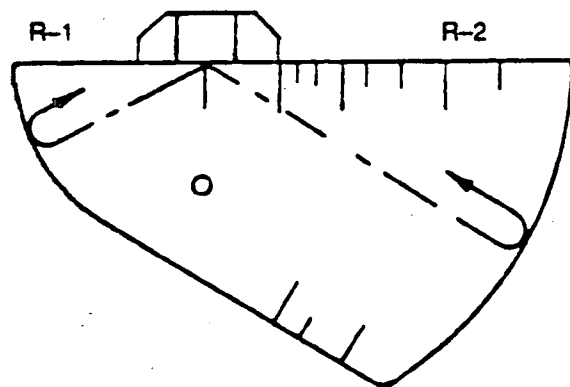
METAL PATH CALIBRATION FOR A 2.5" CRT PRESENTATION

With the search unit coupled to the Miniature IIW Block:

- 1) Maximize the signal from the 1" radius (R-1).
- 2) With the Sweep and Delay controls, align this signal at position 4 on the CRT (CRT 4).
- 4) Maximize the signal from the 2" radius (R-2).
- 5) With the Sweep and Delay control, align this signal at CRT position 8.
- 6) Repeat steps 2 thru 4 until the respective signals are aligned at CRT position 4 and CRT position 8.

The instrument is now calibrated for 2.5" metal path. Each Major Division = 0.25".

ANGLE BEAM VERIFICATION BLOCK 2.5" PRESENTATION EXHIBIT 7



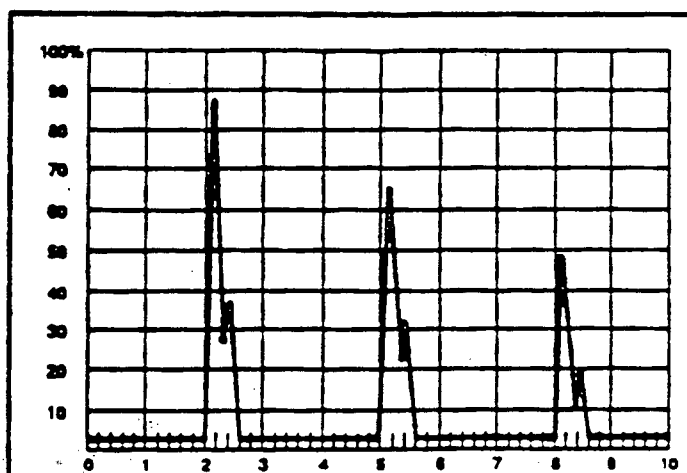
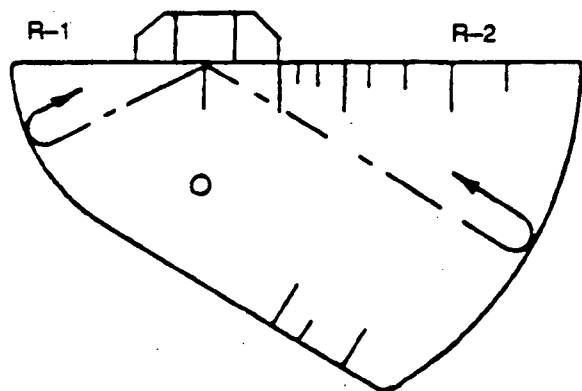
METAL PATH CALIBRATION FOR A 5" CRT PRESENTATION

With the search unit coupled to the Miniature IIW Block and:

- 1) With the transducer facing the 1" radius, maximize the signals from the 1" (R-1) and 2" radius (R-2).
- 2) With the Sweep and Delay controls, align these signals at positions 2 and 8 respectively.
- 3) Face the transducer at the 2" radius (R-2), the signal from R-2 should appear at position 4 on the CRT.

The instrument is now calibrated for 5.0" metal path. Each Major Division = 0.50".

ANGLE BEAM VERIFICATION BLOCK 5.0" PRESENTATION EXHIBIT 8



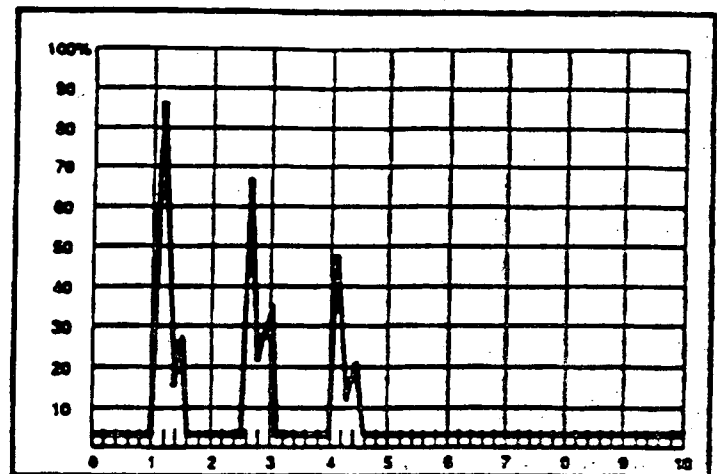
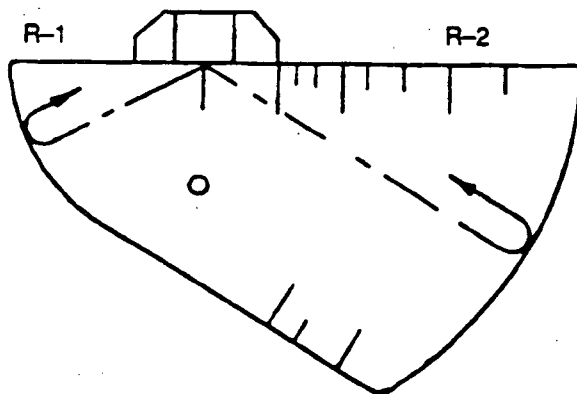
METAL PATH CALIBRATION FOR A 10" CRT PRESENTATION

With the search unit coupled to the Miniature IIW Block and:

- 1) With the transducer facing the 2" radius, maximize the signals from the 2" (R-2) and align this signal at CRT position 2.
- 2) Adjust the gain control if necessary and observe the signals that appear from the 5" and 8" metal paths. (These metal paths and signals result from the sound making successive "round trips" from each radius).
- 3) With the Sweep and Delay controls, align these signals at CRT positions 5 and 8 respectively.

The instrument is now calibrated for 10.0" metal path. Each Major Division = 1.0".

ANGLE BEAM VERIFICATION BLOCK 1.0" PRESENTATION EXHIBIT 9



METAL PATH CALIBRATION FOR A 20" CRT PRESENTATION

With the search unit coupled to the Miniature IIW Block and:

- 1) With the transducer facing the 2" radius, maximize the signals from the 2" radius (R-2) at CRT position 1.
- 2) Adjust the gain control if necessary and observe the signals that appear from the 5" and 8" metal paths. (These metal paths and signals result from the sound making successive "round trips" from each radius).
- 3) With the Sweep and Delay controls, align these signals at CRT positions 2.5 and 4 respectively.

The instrument is now calibrated for 10.0" metal path. Each Major Division = 2.0".

ANGLE BEAM VERIFICATION BLOCK 2.0" PRESENTATION

EXHIBIT 10

12.0

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1090

ULTRASONIC EXAMINATION OF COMPONENT WELDS
IN FERRITIC AND AUSTENITIC MATERIALS
FOR H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:

Dave Lane
Engineering Manager - Programs

3/27/92
Date

APPROVED BY:

M. F. Bagg
Manager - Technical Support

3/29/92
Date

**CONTROLLED
RECIPIENT**

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 35	0

**ULTRASONIC EXAMINATION
OF COMPONENT WELDS
IN FERRITIC
AND AUSTENITIC MATERIALS
FOR
H.B. ROBINSON STEAM ELECTRIC PLANT
UNIT 2**

Project Application <div style="text-align: center;">2454</div>		Copy No.	Assigned To		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	LEVEL III	PROJECT MGR.	GENERAL MGR.	
0	Scott Larson	<i>[Signature]</i> 2/20/92	<i>[Signature]</i> 2/20/92	<i>[Signature]</i> 2/20/92	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED

1. PURPOSE

The purpose of this procedure is to define the technique, recording criteria and equipment for the Ultrasonic (UT) examination of component welds in ferritic and austenitic material.

2. SCOPE

- 2.1 This procedure is limited to the manual ultrasonic examination of welds in ferritic and austenitic wrought (rolled, drawn, forged, or extruded) and cast materials, excluding piping systems.

Note: This procedure is not applicable to piping systems.

- 2.2 This procedure is applicable only to components beyond the scope of ASME Code Section V, Article 4 and Appendix III of Section XI except as noted in 2.3.
- 2.3 Components less than 0.75 inches in thickness or components which are constructed of pipe material shall be examined in accordance with the applicable procedure for ultrasonic examination of piping systems.

3. REFERENCES

- 3.1 ASME B&PV Code, Section XI; -1986 Edition.
- 3.2 ASME B&PV Code, Section V, Article 5; -1986
- 3.3 80A9053, NES Procedure for Ultrasonic Instrument Linearity Verification
- 3.4 80A9068, NES Procedure for Certifying Nondestructive Examination Personnel

4. PERSONNEL REQUIREMENTS

- 4.1 Personnel performing examinations to this procedure shall be certified in accordance with references 3.1 and 3.4.
- 4.2 It is recommended that examination crews consist of at least two members. At least one member of each crew shall have a minimum certification of Level II. Evaluations shall be conducted by an examiner with a minimum certification of Level II.

- 4.3 A copy of each examiner's certification summary and current eye test shall be maintained on-site.
- 4.4 A copy of each examiner's certification summary and current eye test shall be submitted to the Plant Owner or his Agent, prior to performing examinations in accordance with this procedure.

5. EQUIPMENT AND MATERIAL REQUIREMENTS

5.1 ULTRASONIC INSTRUMENT

A pulse echo ultrasonic flaw detection instrument with current linearity which operates within the minimum frequency ranges of 1.0 MHz to 5.0 MHz shall be used. This shall be equipped with a stepped gain control calibrated in units of 2dB or less.

5.2 SEARCH UNITS

A. Prerequisites

- 1) Search units may contain either single or dual transducer elements. Units with contoured wedges may be used.
- 2) Angle beam and 0° search unit sizes will be dependent on the size of the area to be scanned, surface configuration, and component geometry.

B. Size

- 1) Angle beam search unit size shall not exceed 1" diameter or 1"x1".
- 2) 0° search unit element size shall not exceed 1" diameter or 1"x1".

NOTE: For dual element search units the dimension applies to one of the two elements.

C. Frequency

2.25 MHz is the recommended frequency. Other frequencies may be used if necessary to improve signal to noise ratio.

D. Beam Angle

1. The examination shall generally be performed using a 0° and a nominal 45° angle beam search unit. Other angles are permitted provided the UT Level

III is notified, and the notification documented on the Ultrasonic Calibration Data Sheet (Figure 1).

2. The beam angle in the production material shall be within the range of 35° to 70° perpendicular to the contact surface.

5.3 CABLE

Cables shall have appropriate connectors and may be any convenient length. Examinations shall be performed using the same cable as that used during the calibration.

5.4 COUPLANT

Ultragel – or couplant supplied by the Plant owner.

5.5 CALIBRATION BLOCK(S)

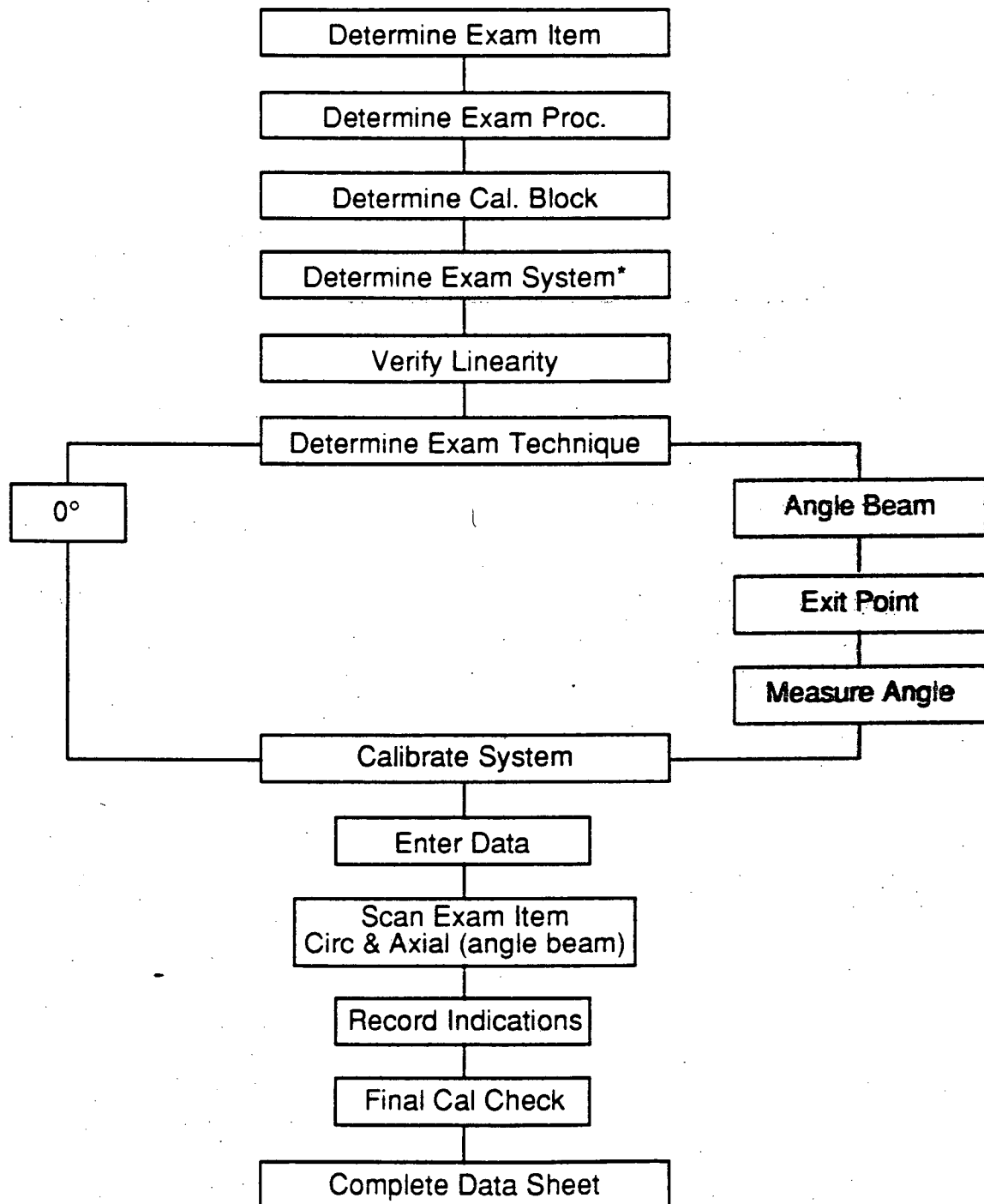
- A. Calibration blocks shall be selected and provided by the Plant Owner and shall as a minimum, contain reflectors that enable calibration as required in Section 7 of this procedure.
- B. IIW Calibration Standards

These may be either full size or miniature IIW standards and shall be fabricated from Carbon Steel or Stainless Steel as applicable.

6. GENERAL PREREQUISITES

The following flow chart describes a typical examination sequence:

EXAMINATION SEQUENCE



*System = Instrument, Transducer, Wedges, and Cable.

- 6.1 The components to be examined shall be identified/determined by the plant owner.
- 6.2 Calibration blocks shall be selected and provided by the Plant Owner.
- 6.3 The component shall be prepared for examination by the Plant Owner, e.g. the examination surface shall be free of foreign matter which may interfere with Ultrasonic transmission.
- 6.4 Each weld to be examined shall be identified by the Plant Owner with reference points sufficient to locate the search unit along the weld seam.

NOTE: The examiner shall notify the NES "lead individual" or other designated contact individual when preparation of the scanning surface(s) and identification of reference points are not suitable for the ultrasonic examination.

- 6.5 Previous examination data provided by the Owner, shall be reviewed by the examiner and the following items should be identified:
 - (A) Interfering conditions
 - (B) Weld configuration
 - (C) Obstructions
 - (D) Recordable indications
 - (E) Previous examination technique
 - (F) Previously measured angle in the component
- 6.6 The required angle beam method of examination is the 1/2 Vee technique. Where conditions exist that interfere with the scanning of required examination volumes the examination technique shall be modified to examine the maximum volume possible.

NOTE: Modifications to any technique in this procedure shall be approved by a UT Level III. Documentation of this shall be attached to the Ultrasonic Calibration Data Sheet.

- 6.7 Linearity checks shall be performed in accordance with Reference 3.3 and shall be scheduled as follows:
 - (1) Screen height, amplitude control and horizontal linearities shall be verified at the beginning and end of each outage or every three months (while in use), whichever is less.
 - (2) Screen height and amplitude control linearities should be performed daily (while in use).
- 6.8 The calibration block surface temperature shall be within 25° F of the component to be examined.

7. CALIBRATION PROCEDURE

7.1 PREREQUISITES

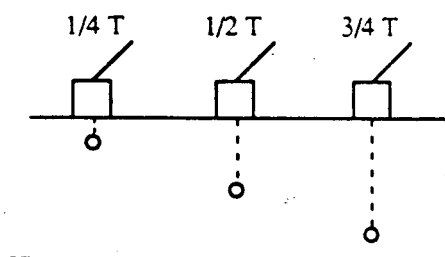
- A. Verify that the designated calibration block is correct for the specific item to be examined. Notify the NES "lead" or other designated individual, if a discrepancy is noted.
- B. If the calibration block does not contain the reflectors required to perform the calibration techniques identified in this section, the Plant Owner shall be notified and the examination not performed.
- C. Calibration shall be performed from the surface (clad or unclad) of the calibration block which corresponds to the component surface to be scanned.
- D. The calibration shall be performed with the contoured or contact wedges used during the examination.
- E. Dual Search Units
 - (1) When using dual search units, component thickness and focal distance shall be compatible. Compatibility is determined by the existence of a signal to noise ratio of at least 10:1 when scanning the ID notch in the component calibration block. Where this is not achievable, the UT LIII shall be notified and an explanation documented on the Ultrasonic Calibration Data Sheet (Figure 1).
 - (2) Half Vee techniques only, shall be used.
- F. The search unit actual sound beam exit point shall be determined and marked on the wedge.
- G. Measure the wedge exit point to-front-edge dimension and record in the Search Unit Remarks section on the Ultrasonic Calibration Data Sheet (Figure 1). Record as Exit Point to Front Edge: ____".
- H. Maximum response from calibration reflectors shall be obtained with the sound beam essentially perpendicular to the axis of the calibration reflector. The center line of the search unit shall be at least 3/4" from the nearest side of the block or pipe. Rotation of the beam into a corner formed by the reflector and the side of the block may produce a higher amplitude signal at a longer beam path; this beam path shall not be used for calibration.

- I. Measured beam angle shall be determined by using a Carbon Steel IIW Block or using the reflectors in the component calibration block. Note in the Search Unit Remarks section on the Ultrasonic Calibration Data Sheet when a component calibration block and its identification number is used for search unit angle check(s).
- J. Beam spread measurements shall be performed in accordance with Reference 3.2.
- K. The examiner should avoid using a sweep calibration that uses only a small portion of the CRT presentation.

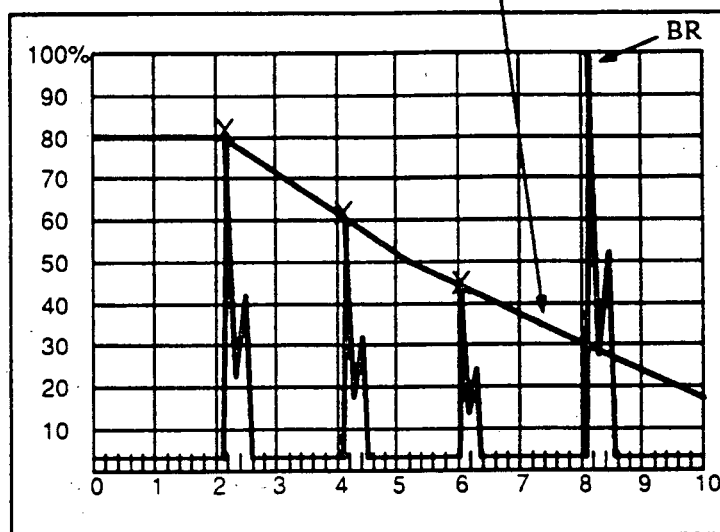
7.2 0° CALIBRATION

- A. Sweep range calibration should be performed using a metal path calibration that will display at least the maximum wall thickness.
- B. Distance Amplitude Correction (DAC) calibration shall be performed by obtaining the maximum response from the side drilled hole (SDH) which yields the highest amplitude.
- C. Set this signal at $80\% \pm 5\%$ FSH and mark the peak on the CRT screen. **This establishes reference sensitivity.** Position the search unit for maximum response from the two remaining reflectors and mark their peaks on the CRT screen. Connect the marks and extend the line to cover the required thickness. Record all settings on the Ultrasonic Calibration Data Sheet (Figure 1).

NOTE: The use of an electronic DAC is not permitted.



Extrapolate DAC Curve to cover Examination Range



0° CALIBRATION FOR WRV

7.3 1/2 VEE ANGLE BEAM CALIBRATION (REQUIRED TECHNIQUE)

7.3.1 Unclad Material Calibration

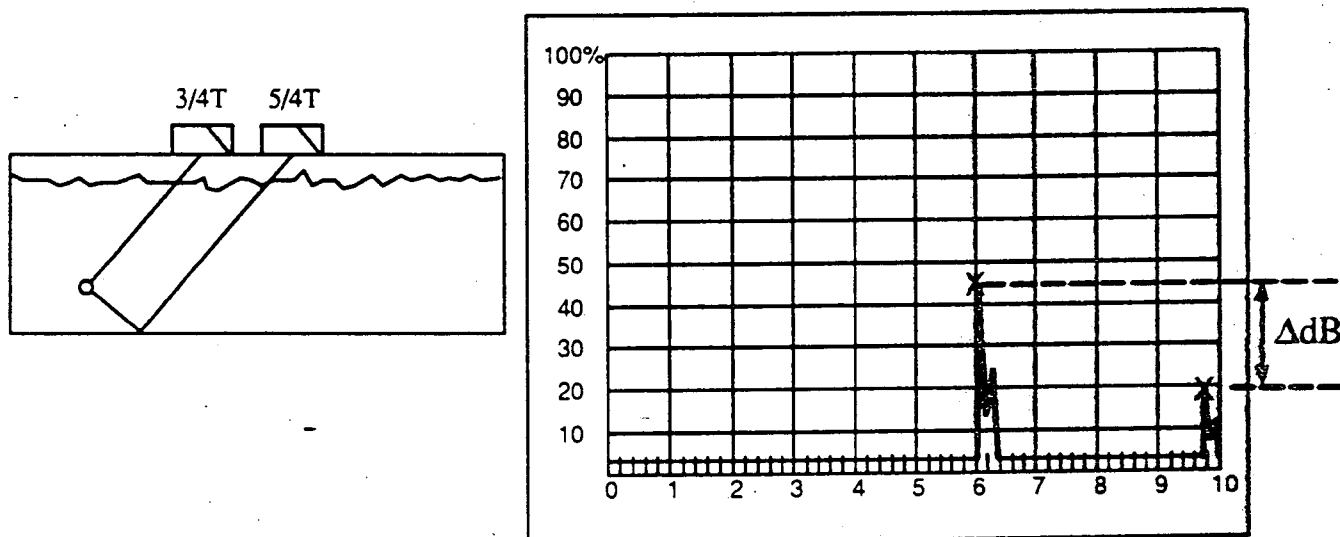
- A. Establish sweep range calibration as appropriate using the metal path formulas found in Figure 6.
- B. DAC calibration shall be established by using the 1/4T, 1/2T 3/4T and 5/4T SDH.
- C. Maximize the signal from the reflector which yields the highest amplitude.
- D. Adjust the gain control(s) to provide a signal amplitude of $80\% \pm 5\%$ FSH and mark its peak on the CRT screen. **This establishes reference sensitivity.**
- E. Position the search unit for maximum response from the 3 remaining reflectors and mark their peaks on the CRT screen.
- F. Position the search unit on the appropriate calibration surface and maximize the signal from the opposite surface notch. Mark its position and amplitude on the CRT Screen.
- G. Connect all the signal amplitude peaks (except for the opposite side notch) marked on the CRT screen. This establishes the DAC. This calibration will permit evaluation to the opposite surface. Record all settings on the Ultrasonic Calibration Data Sheet (Figure 1).

- H. A DAC is not required when examining materials less than 1 inch thick. Reference sensitivity shall be established by setting the response from a single calibration reflector to 80% FSH and drawing a straight line at 80% FSH across the CRT.

7.3.2 Cladded Material Calibration

NOTE: When calibrating on clad calibration blocks with the transducer on the UNCLAD surface, anomalies due to acoustic impedance at the clad to base metal interface as well as sound redirection from the clad itself may occur. This condition can affect the shape and slope of the DAC curve after the sound enters and exits the clad. In order to eliminate this condition follow the directions below.

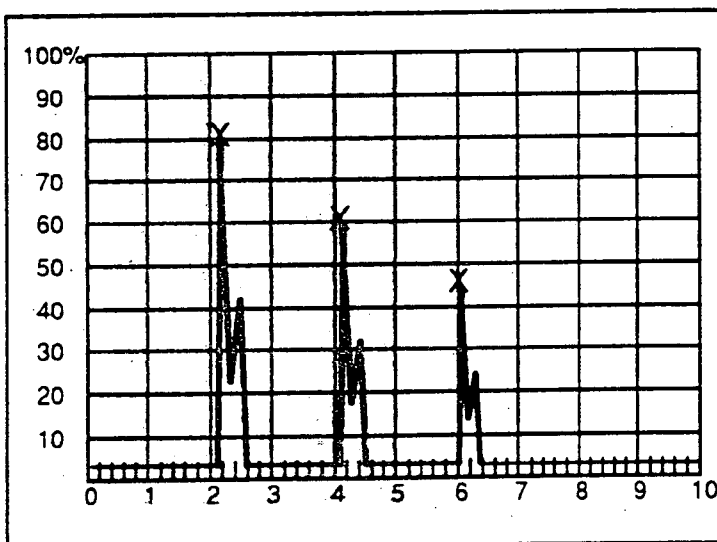
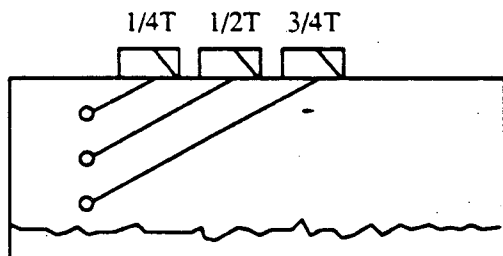
- A. Establish sweep range calibration as appropriate, using the metal path formulas found in Figure 6.
- B. Place the transducer on the CLAD side of the calibration block and note the Δ dB (difference in dB) between the responses from the 3/4 and the 5/4T holes.
- C. Mark the position of the 5/4T hole on the CRT.

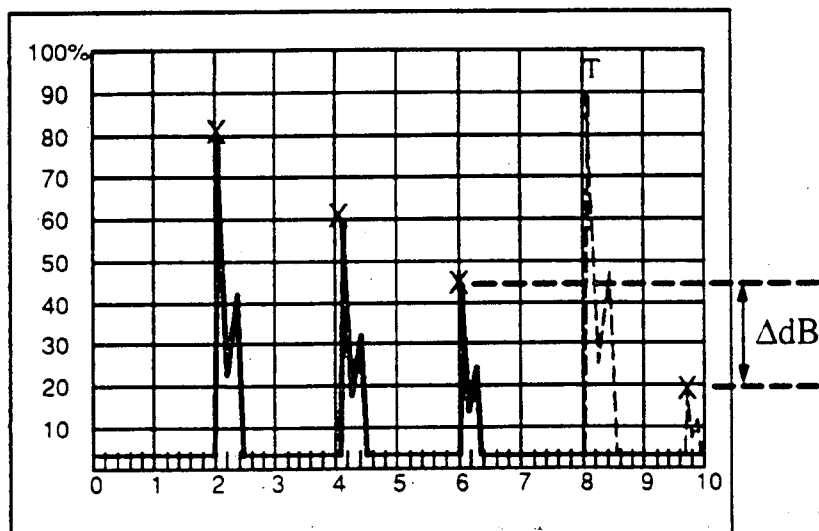
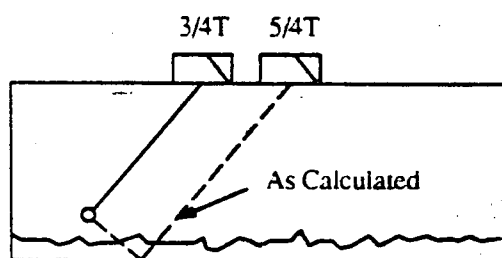


- D. Place the transducer on the unclad side of the block and construct the DAC curve as instructed below: (E thru N)
- E. At this point, DAC calibration shall be established by using the 1/4T, 1/2T and 3/4T holes only.

- F. Maximize the signal from the reflector that yields the highest amplitude.
- G. Adjust the gain control(s) to provide a signal amplitude of $80\% \pm 5\%$ FSH and mark its peak on the CRT screen. **This establishes reference sensitivity.**
- H. Position the search unit for maximum response from the 1/2T and 3/4T holes and mark their peaks on the CRT screen.
- I. Determine the amplitude for the 5/4T hole by positioning the transducer for the 3/4T hole at the maximum amplitude position, then decrease the gain by the Δ dB determined in B above.
- J. Mark the height of this signal amplitude on the CRT, at the 5/4T position as established in C above.
- K. Connect the screen marks to provide the DAC curve.
- L. This is reference sensitivity.
- M. Maximize the signal from the opposite surface notch. Mark its position and amplitude on the CRT screen.
- N. Record all settings on the Ultrasonic Calibration Data Sheet (Figure 1).

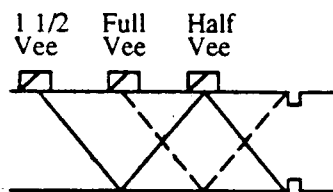
NOTE: This notch will be used only when evaluating indications at the opposite surface.



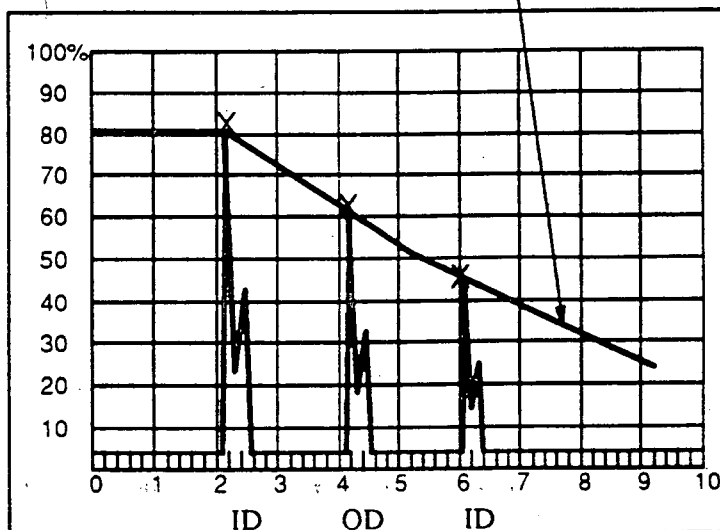


7.4 FULL VEE AND 1-1/2 VEE ANGLE BEAM CALIBRATION (SUPPLEMENTAL TECHNIQUE)

- A. Establish sweep calibration.
- B. Obtain maximized signal responses from the notches and mark the signal response positions on the instrument's CRT screen.
- C. Maximize the signal from the notch producing the highest response and set its amplitude to 80% FSH. This establishes reference sensitivity.
- D. Without changing sensitivity settings, maximize the remaining notch response(s) and mark the peak amplitudes on the CRT screen, and on the Calibration Data Sheet.
- E. Plot a DAC curve by connecting the locations (marked on the CRT) with a continuous line extended to cover the full examination range.
- F. Upon completion of calibration, ensure that all data and instrument settings are recorded on the Calibration Data Sheet.



Extrapolate DAC Curve to cover Examination Range



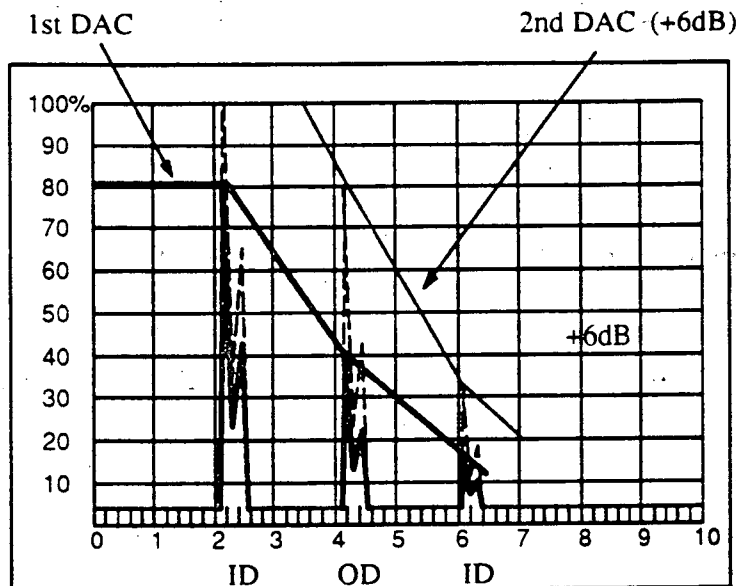
1 1/2 VEE CALIBRATION

7.5 DOUBLE DAC

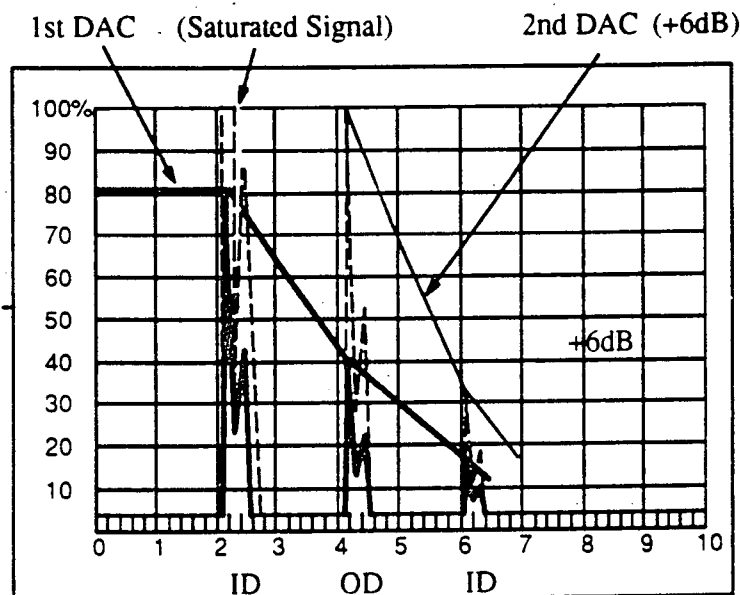
High attenuation, too high a transducer frequency or too small a transducer, may cause the slope of the DAC to fall below 20% FSH within the calibration area of the CRT screen. If this condition is still apparent after changing the size and/or frequency of the transducer, the following correction shall be made:

- Note the point where the DAC curve drops below the 20% line.
- Mark this point on the CRT screen and increase the gain by +6db.
- Mark the new location of the reflector that previously appeared below the 20% line.
- Return to the previous reflector that was originally above 20% and mark its new amplitude on the CRT screen.
- Connect the two new points established in 7.5.C and 7.5.D to establish the second DAC curve.
- Extend the curve if necessary to cover the examination area.
- Record the new positions and settings on the calibration data sheet.

NOTE: Where the amplitude of the reflector referenced in "D" above increases to a level that exceeds FSH, set this signal amplitude at 100% FSH and create the second DAC using the signal from this reflector as the starting point and the signal from the next reflector as the second point on the DAC. Connect the two points. This is now the second DAC. Record data as in "G" above. (See Example 2 below.)



DOUBLE DAC EXAMPLE 1



DOUBLE DAC EXAMPLE 2

8. EXAMINATION PROCEDURE

NOTE: "System" = Instrument, Transducer, Wedges and same Cable type and length.

8.1 SYSTEM CALIBRATION

Perform the complete ultrasonic examination system calibration, establishing the DAC curve, within one day prior to use of the system for examination of those welds for which the calibration is applicable, and at least once each week during the examination, or at any time that any part of the system is changed.

NOTE: When necessary to replace a cable (even one of the same type and length) system calibration shall be verified. The verification may be delayed until after completion of the examination(s) in progress. However, the requirements of paragraph 8.2 concerning variations in DAC amplitude, sweep and reexamination shall apply.

8.2 SYSTEM CHECK

- A. Verify the system calibration (instrument sensitivity and sweep range calibration) at the following intervals:
 - (1) At the start and finish of examinations for which the calibration applies.
 - (2) At intervals not to exceed 12 hours. (Recommended 4 hour intervals)
 - (3) With every change of examination personnel.
 - (4) If the examiner suspects any malfunction of the UT system.
- B. If any point on the DAC curve has decreased 20% or 2db of its amplitude, all data sheets since the last calibration shall be made and recorded invalid. A new calibration shall be made and recorded and the affected examination areas re-examined.
- C. If any point on the DAC curve has increased more than 20% or 2db of its amplitude, recorded indications taken since the last valid calibration shall be re-examined with the correct calibration and their values changed on the data sheets. The reason for the changed values shall be noted on the data sheet. No action is required where no recordable indications exist.

- D. If any point on the DAC curve has moved on the sweep line more than ± 2 minor divisions of the sweep division reading, correct the sweep range calibration and note the correction on the calibration data sheet. If recordable reflectors are noted on the data sheets, those data sheets shall be considered invalid. A new calibration shall be established and recorded, and the affected areas re-examined.
- E. The use of simulators to verify 8.2.A is allowed if used in accordance with the following:
- 1) Simulator checks must be correlated with the original calibration block during the original calibration.
 - 2) Simulator check shall be made with the entire system.
 - 3) Simulator used shall be completely identifiable on the Calibration Data Sheet (Figure 1).

NOTE: A simulator may be any one or combination of the following:

- 1) A suitable reflector from an IIW Block
- 2) A suitable reflector from a Mini IIW Block

8.3 SCANNING - GENERAL REQUIREMENTS

- A. Calibrate the system as described in Section 7 as appropriate.
- B. Scanning shall be conducted at the primary reference level +6db minimum.
- C. Locate the weld on the component.
- D. Verify that the surface finish on the component is similar to that of the calibration block used to calibrate the system.
- E. Establish a search unit scan path that provides 100% code required volume coverage (or maximizes coverage if 100% coverage is not achievable). Refer to Figures 4, 5 and 6 as appropriate, for examination coverage.
- F. Each scan shall be overlapped a minimum of 10% of the element dimension.
- G. The rate of search unit movement shall not exceed 6 inches per second.
- H. Record all indications as required by Section 10.0. If examination volume is free of recordable indications, this shall be noted on the data sheet.
- I. Record all obstructions or other conditions that interfered with the examination.
- J. Remove couplant from examination surface.

8.4 SCANNING (0°)

- A. The base material in the area through which the angle beam will pass shall be scanned with a 0° prior to the initial angle beam examination to detect areas that might affect interpretation of angle beam results. This is not to be used as an acceptance-rejection examination. The detection of laminar indications shall be recorded on the Ultrasonic Weld Examination Sheet (Figure 2), and considered when conducting the angle beam scans.

NOTE: If it can be proven (previous data) that this examination was conducted and laminar reflectors were not found, then this specific examination need not be performed.

The Weld Required Volume (WRV) shall be examined with a 0° search unit in order to detect planar reflectors (a reflector that lies in a plane which is more than 10° from a plane parallel to the scanning surface of the component). This examination shall be performed on the entire volume of weld and adjacent base material to the extent required in Figures 4 or 5.

8.5 SCANNING (ANGLE BEAM)

8.5.1 Scanning for Reflectors Oriented Parallel to the Weld

1. The angle beam search units shall be aimed at right angles to the weld axis, with the search unit manipulated so that the ultrasonic beams pass through all of the weld metal.
2. The weld shall be completely scanned using two angles in both directions.
3. The adjacent base metal in the examination volume must be completely scanned from one direction. Refer to Figures 4 and 5.
4. Where the ultrasonic beams are directed essentially normal to the plane of the weld (parallel to the surface of the material, as when the examination is conducted from the nozzle bore or flange face), beam angles sufficient to provide complete coverage of the weld from one direction shall be acceptable.
5. Record all obstructions or other conditions that interfere with the examination.

8.5.2 Scanning for Reflectors Oriented Transverse to the Weld

1. The angle beam search units shall be aimed parallel to the axis of longitudinal and circumferential welds.
2. The search unit shall be manipulated so that the ultrasonic beams pass through all of the examination volume.
3. Scanning shall be done in two directions 180° to each other to the extent possible, using two different angles.
4. Obstructed areas shall be examined from at least one direction.

9. RECORDING**9.1 PREREQUISITES**

- A. All indications shall be recorded at reference sensitivity.
- B. The determination that an indication is from a flaw or is of geometric or metallurgical origin shall be made by one or more of the following methods:
 - 1) Plot the indication per paragraph 9.3.C.
 - 2) Use of other NDE methods or techniques.
 - 3) Comparison with fabrication drawings or weld preparation drawings.
- C. When an indication is required to be recorded, the data required in Figure 3 shall be completed.
- D. Terminology used in this procedure:
 - Flaw – a residual fabrication or serviced-induced reflector (e.g., slag, crack, etc.)
 - Geometric reflector – a weld root, counterbore, weld crown, etc.
 - Metallurgical reflector – a weld to base metal interface, grain structure, etc.

9.2 RECORDING CRITERIA FOR INTERFERING LAMINAR REFLECTORS

- A. Record all laminar reflectors interfering with angle beam examination by recording all areas giving signal amplitudes equal to or greater than the remaining back reflection.

- B. The location, size and depth of the laminar reflector(s) shall be plotted on a sketch. This sketch shall be attached to the Ultrasonic Indication Report Sheet (Figure 3) for use during the angle beam examinations.

9.3 RECORDING CRITERIA FOR GEOMETRIC AND METALLURGICAL REFLECTORS

- A. Geometric and metallurgical reflectors shall be recorded at a representative location (maximum amplitude point) when the amplitude equals or exceeds 50% DAC.
- B. Previously recorded geometric and metallurgical reflectors shall be verified at the previous recording level and coordinates. Indications need not be re-plotted but shall be referenced on the new data sheet by previous data sheet number and date or by attaching the previous data sheet to the new data package.
- C. Plot and verify the indications as follows:
- 1) Record maximum amplitudes as:
 - a) a percent of the DAC curve,
 - b) sweep readings to the reflector,
 - c) search unit locations and,
 - d) sound beam direction.
 - 2) Plot location of reflector at a representative position on a full scale cross-section profile drawing showing the source of the indication and all other relative geometric conditions.

9.4 RECORDING CRITERIA FOR NON-GEOMETRIC INDICATIONS

- A. Indications shall be recorded when the amplitude equals or exceeds 50% DAC.
- B. All indications that produce a response greater than 100% of DAC will require evaluation in terms of the acceptance-rejection standards of IWA-3000. (Reference 3.1)
- C. The length of recordable indications shall be measured between points which yields amplitudes at 100% DAC.
- D. The through-wall dimension of recordable indications shall be measured between points which yield amplitudes at 100% DAC.

- E. Other techniques should be attempted to provide a comparison for establishing the most accurate throughwall dimension.
- F. When the ultrasonic signal response(s) being obtained from a reflector is, in the judgment of the examiner, indicative of a crack, then the reflector shall be recorded regardless of maximum amplitude obtained.

NOTE: Evaluation of flaw indications shall be performed by personnel with a minimum certification of UT Level II.

9.5 ACCEPTANCE CRITERIA

Acceptance of indications shall be determined by evaluation to the requirements of ASME Boiler and Pressure Vessel Code, Section XI, Article IWA- 3000.

10. EXAMINATION RECORDS

- 10.1 NES shall be responsible for submitting to the Plant Owner, or his Agent, a complete set of examination records.
- 10.2 Figure 1 shall be completed by examiner(s) at the time of calibration. Figures 2 and 3 shall be completed by the examiner(s) as required.
- 10.3 The Examiner(s) shall sign the completed data sheet(s), noting applicable NDE Certification Level(s).
- 10.4 NES record retention shall be limited to that time until the Final Report and/or the examination data is delivered to the Plant Owner or his Agent.

11. ATTACHMENTS

- 11.1 FIGURE 1 – Ultrasonic Calibration Data Sheet
- 11.2 FIGURE 2 – Ultrasonic Weld examination sheet
- 11.3 FIGURE 3 – Ultrasonic Indication Report Sheet
- 11.4 FIGURE 4 – Class 1 Examination Volume and Scan path Calculations
- 11.5 FIGURE 5 – Class 2 Examination Volume and Scan Path Calculations

- 11.6 FIGURE 6 – Table 1 (Metal Path Calculations)
- 11.7 FIGURE 7 – Angle beam Verification Block – 1.0 inch presentation
- 11.8 FIGURE 8 – Angle beam Verification Block – 2.5 inch presentation
- 11.9 FIGURE 9 – Angle beam Verification Block – 5.0 inch presentation
- 11.10 FIGURE 10 – Angle beam Verification Block – 10.0 inch presentation

DATA SHEET NO. _____
PAGE _____ OF _____

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. _____
REV. _____
CHANGE NO. _____

INSTRUMENT	
Model	_____
Serial No.	_____
Sweep Length	_____ Delay _____
Range	_____
Gain (coarse)	_____ dB
Gain (fine)	_____ dB
Reference Sensitivity	_____ dB
Remarks:	_____
_____	_____
_____	_____

SEARCH UNIT	
Serial No.	_____
Size	_____
Frequency	_____ MHz
Mode	_____
Nom. Angle	_____ °
Measured Angle	_____ °
Cable Type	_____
Cable Length	_____
Remarks:	_____
_____	_____
_____	_____

CALIBRATION BLOCK	
No.	_____
T	_____ Dia. _____
Temperature	_____ ° F
Thermometer S/N	_____

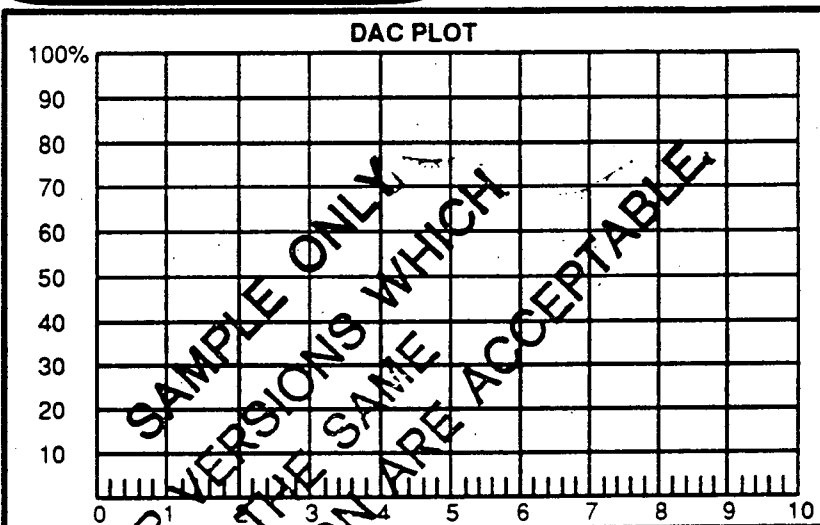
CALIBRATION	
0°	<input type="checkbox"/> Axial <input type="checkbox"/> Circ. <input type="checkbox"/>
Metal Path	<input type="checkbox"/> Depth <input type="checkbox"/>
Each Major Screen Div. =	_____
Remarks	_____
_____	_____
_____	_____

VERTICAL LINEARITY					
AMPLITUDE % FSH					
	HIGH	LOW		HIGH	LOW
1			6		
2			7		
3			8		
4			9		
5			10		

AMPL. CONTROL LINEARITY		
INITIAL	dB	RESULT
80	-6	
80	-12	
40	+6	
20	+12	

CAL CHECKS	TIME
INITIAL CAL	
INTERMEDIATE	
INTERMEDIATE	
INTERMEDIATE	
FINAL CAL	

COUPLANT	
Brand	_____
Batch No.	_____



REMARKS: _____

EXAMINERS 1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____
REVIEWERS 1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____
3 _____ LEVEL _____ DATE _____

ULTRASONIC CALIBRATION DATA SHEET
FIGURE 1

DATA SHEET NO. _____

PAGE _____ OF _____

EXAM ITEM

ULTRASONIC EXAMINATION DATA SHEET

COMPONENT/SYSTEM _____

ISO/DWG. NO. _____ REV. _____

THERMOMETER S/N _____

COMPONENT TEMP. _____ ° F

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.

REMARKS:

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.

REMARKS:

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.

REMARKS:

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	I	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.

REMARKS:

EXAMINERS:

1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____

REVIEWERS:

1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____
3 _____ LEVEL _____ DATE _____

EXAM ITEM

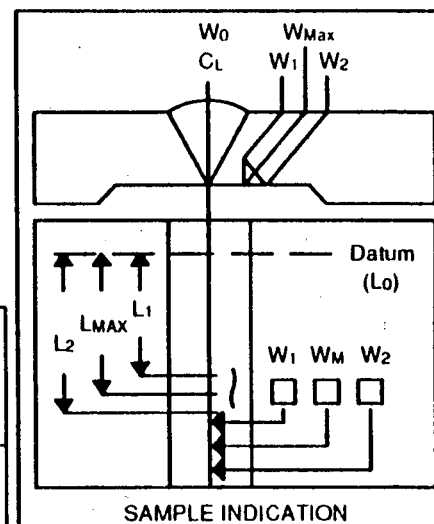
ISO/DWG. NO.

ULTRASONIC INDICATION REPORT SHEET

- ☐ PIPING WELDS
- ☐ FERRITIC VESSELS $\geq 2" T$
- ☐ OTHER _____

DATA SHEET NO. _____

PAGE _____ OF _____



SEARCH UNIT ANGLE

W₀ LOCATION _____

L₀ LOCATION _____

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	_____	LEVEL	_____	DATE	_____
	2	_____	LEVEL	_____	DATE	_____
REVIEWERS	1	_____	LEVEL	_____	DATE	_____
	2	_____	LEVEL	_____	DATE	_____
	3	_____	LEVEL	_____	DATE	_____

nes NUCLEAR ENERGY SERVICES, INC.

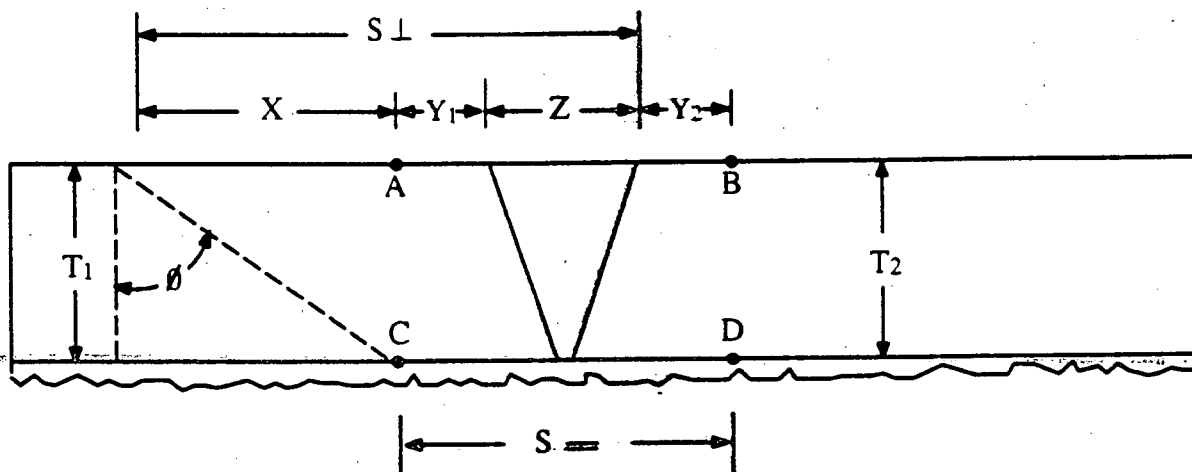
三

NUCLEAR ENERGY SERVICES

DOCUMENT NO. 85A0131

PAGE 25 OF 32

ASME B&PV SECTION XI REQUIRED EXAMINATION VOLUME CLASS 1 COMPONENTS



Scan area as required to examine volume A-B-C-D
Scan Path Calculations

Perpendicular Coverage:

$$\begin{aligned} S_{\perp} &= X + Y_1 + Z \\ X &= T_1 \times \tan \theta \\ Y_1 &= 1/2 \text{ Material Thickness} \\ Z &= \text{Width of Weld Crown} \\ \theta &= \text{Examination Angle} \end{aligned}$$

Example:

$$\begin{aligned} T_1 &= 2'' \\ \theta &= 60 \text{ degrees} \\ X &= 2'' \times \tan 60 = 3.47'' \\ Y_1 &= 1 \\ Z &= 1.25 \\ S_{\perp} &= 3.47 + 1 + 1.25 = 5.72'' \end{aligned}$$

Drawing shows one sided \perp scan only. Weld must be examined from both sides.

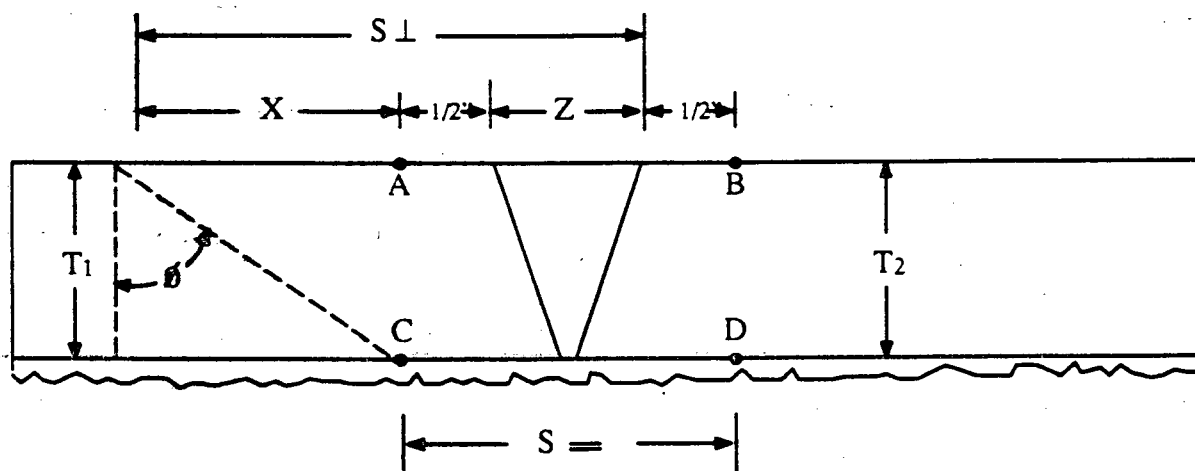
Parallel Coverage:

$$\begin{aligned} S_{\parallel} &= Y_1 + Z + Y_2 \\ Y_1 &= 1/2 T_1 \\ Z &= \text{Width of Weld Crown} \\ Y_2 &= 1/2 T_2 \end{aligned}$$

For examination volumes not depicted here refer to the referencing code.

EXAMINATION VOLUME CLASS 1 VESSELS FIGURE 4

ASME B&PV SECTION XI
REQUIRED EXAMINATION VOLUME
CLASS 2 COMPONENTS



Scan area as required to examine volume A-B-C-D
Scan Path Calculations

Perpendicular Coverage:

$$\begin{aligned} S_{\perp} &= X + \frac{1}{2}'' + Z \\ X &= T_1 \times \tan \theta \\ Z &= \text{Width of Weld Crown} \\ \theta &= \text{Examination Angle} \end{aligned}$$

Example:

$$\begin{aligned} T_1 &= 2'' \\ \theta &= 60 \text{ degrees} \\ X &= 2'' \times \tan 60 = 3.47'' \\ Z &= 1.25 \\ S_{\perp} &= 3.47 + .5'' + 1.25'' = 5.22'' \end{aligned}$$

Drawing shows one sided \perp scan only. Weld must be examined from both sides.

Parallel Coverage:

$$\begin{aligned} S_{\parallel} &= \frac{1}{2}'' + Z + \frac{1}{2}'' \\ Z &= \text{Width of Weld Crown} \end{aligned}$$

For examination volumes not depicted here refer to the referencing code.

EXAMINATION VOLUME CLASS 2 VESSELS
FIGURE 5

FORMULA FOR DETERMINING METAL PATH

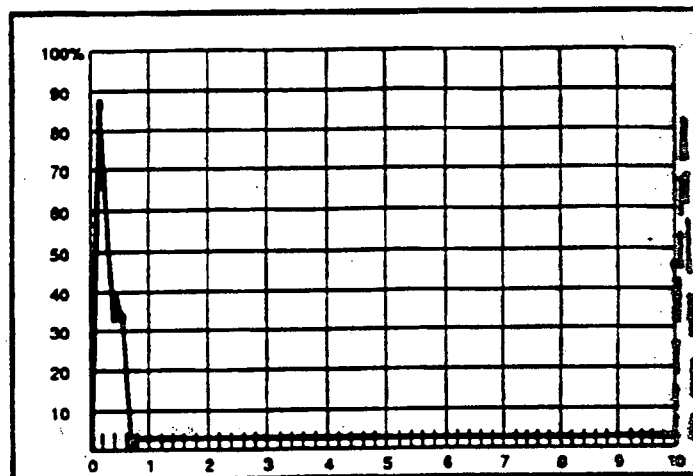
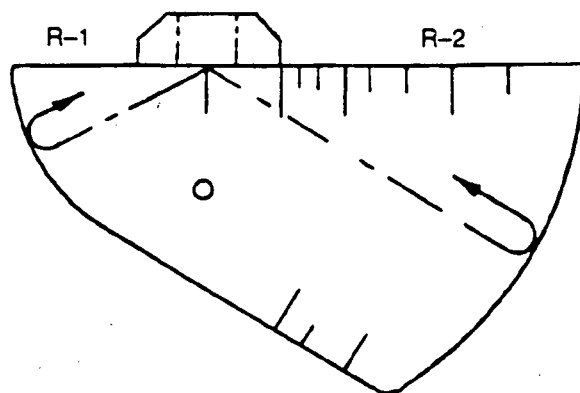
VEE PATH	<u>45°</u>	<u>60°</u>	<u>70°</u>
1/2	T X 1.414	T X 2.0	T X 2.923
3/4	T X 2.121	T X 3.0	T X 4.386
1, 1/2	T X 4.242	T X 6.0	T X 8.769

For determining other metal paths when using other angles, calculate as follows:

- 1/2 Vee Constant = $1/\cos$ angle
- 3/4 Vee Constant = $1/\cos$ angle x 1.5
- 1, 1/2 Vee Constant = $1/\cos$ angle x 3.0

Constant x "T" = Metal Path for appropriate Vee path.

TABLE 1 (METAL PATH CALCULATION)
FIGURE 6



R-1 Reflection before delaying
to CRT position 10

R-2
reflection

METAL PATH CALIBRATION FOR A 1" CRT PRESENTATION

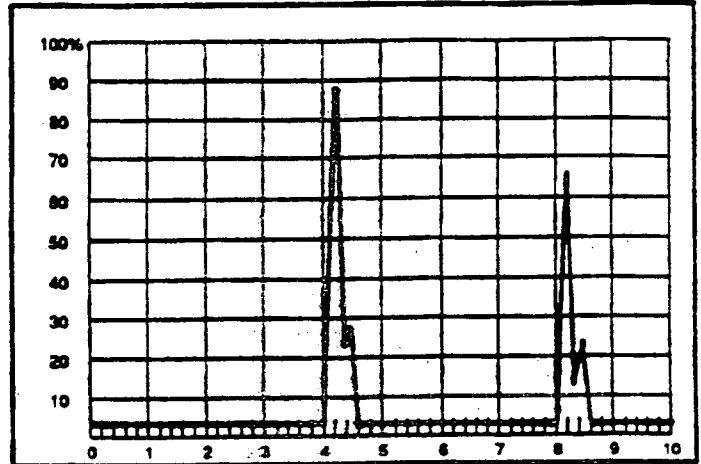
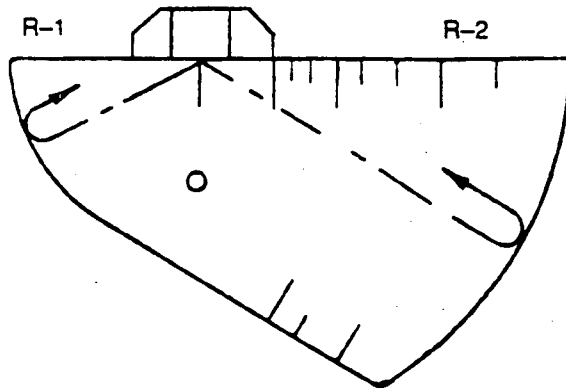
With the search unit coupled to the Miniature IIW Block:

- 1) Maximize the signal from the 1" radius (R-1).
- 2) With the Sweep and Delay controls, align this signal at position 10 on the CRT (CRT 10).
- 3) With the Delay control, move this signal to CRT 0.
- 4) Maximize the signal from the 2" radius (R-2).
- 5) With the Sweep control, align this signal at CRT 10.
- 6) Repeat steps 1 thru 5 until the respective signals are aligned at CRT 0 and CRT 10.
- 7) With the Delay control only, move the R-1 signal across the screen to position CRT 10.
- 8) Make no further adjustments to sweep or delay controls.

The instrument is now calibrated for 1" metal path. Each Major Division = 0.10".

ANGLE BEAM VERIFICATION BLOCK 1.0" PRESENTATION

FIGURE 7



METAL PATH CALIBRATION FOR A 2.5" CRT PRESENTATION

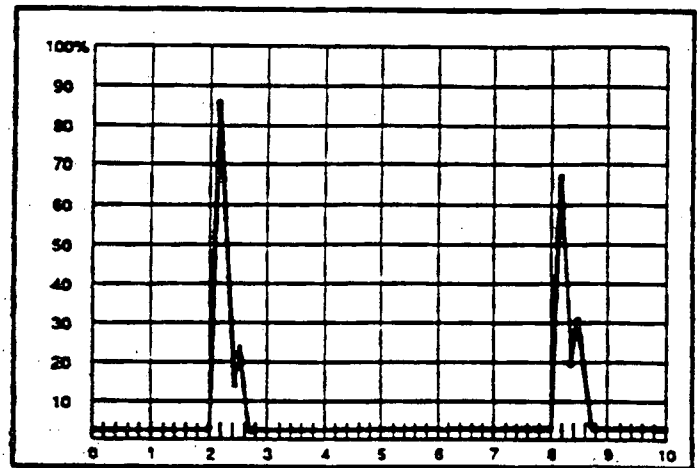
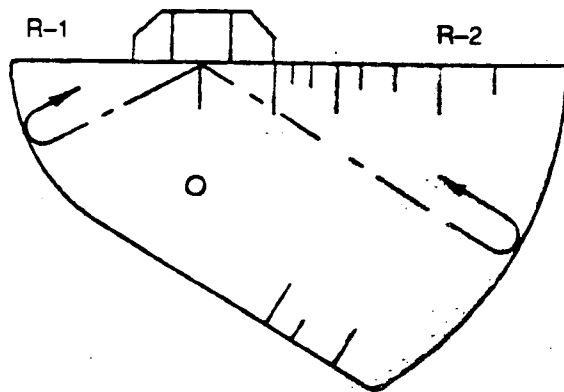
With the search unit coupled to the Miniature IIW Block:

- 9) Maximize the signal from the 1" radius (R-1).
- 10) With the Sweep and Delay controls, align this signal at position 4 on the CRT (CRT 4).
- 11) Maximize the signal from the 2" radius (R-2).
- 12) With the Sweep and Delay controls, align this signal at CRT position 8.
- 13) Repeat steps 2 and 4 until the respective signals are aligned at CRT position 4 and CRT position 8.

The instrument is now calibrated for 2.5" metal path. Each Major Division = 0.25".

ANGLE BEAM VERIFICATION BLOCK 2.5" PRESENTATION

FIGURE 8



METAL PATH CALIBRATION FOR A 5" CRT PRESENTATION

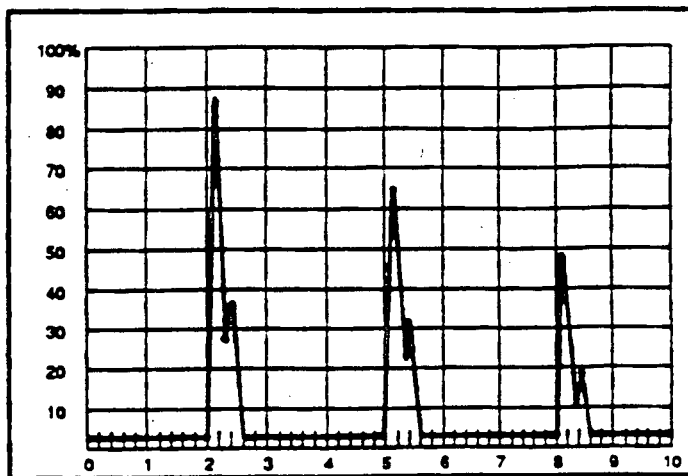
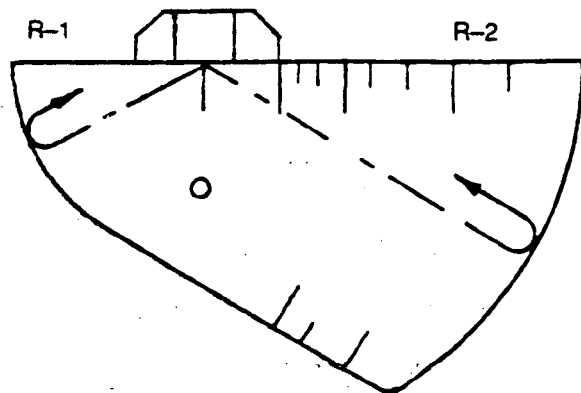
With the search unit coupled to the Miniature IIW Block and:

- 14) With the transducer facing the 1" radius, maximize the signals from the 1" (R-1) and 2" radius (R-2).
- 15) With the Sweep and Delay controls, align these signals at positions 2 and 8 respectively.
- 16) Face the transducer at the 2" radius (R-2), the signal from R-2 should appear at position 4 on the CRT.

The instrument is now calibrated for 5.0" metal path. Each Major Division = 0.50".

ANGLE BEAM VERIFICATION BLOCK 5.0" PRESENTATION

FIGURE 9



METAL PATH CALIBRATION FOR A 10" CRT PRESENTATION

With the search unit coupled to the Miniature IIW Block and:

- 17) With the transducer facing the 2" radius, maximize the signal from the 2" radius (R-2) and align this signal at CRT position 2.
- 18) Adjust the gain control if necessary and observe the signals that appear from the 5" and 8" metal paths. (These metal pats and signals result from the sound making successive "round trips" from each radius).
- 19) With the Sweep and Delay controls, align these signals at CRT positions 5 and 8 respectively.

The instrument is now calibrated for 10.0" metal path. Each Major Division = 1.0".

ANGLE BEAM VERIFICATION BLOCK 10.0" PRESENTATION

FIGURE 10

12.0

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY
H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE
SP-1091
MAGNETIC PARTICLE EXAMINATION
FOR H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:

Dave Sam

Engineering Manager - Programs

3/27/92

Date

APPROVED BY:

M. Page

Manager - Technical Support

3/29/92

Date

CONTROLLED
RECIPIENT

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 30	0

MAGNETIC PARTICLE EXAMINATION FOR

H.B. ROBINSON STEAM ELECTRIC PLANT
UNIT 2

CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED

Project Application 2454		Copy No.	Assigned To		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	LEVEL III	PROJECT MGR.	GENERAL MGR.	
0	Scott Larson	<i>[Signature]</i>	<i>[Signature]</i> 2/20/92	<i>[Signature]</i> 2/20/92	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

NUCLEAR ENERGY SERVICES, INC.

[illegible]

1. PURPOSE

- 1.1 The purpose of this procedure is to establish the requirements for magnetic particle (MT) examination and to describe the techniques for wet (visible or fluorescent) and dry powder applications, including circular and longitudinal magnetization by prods, yoke, coil and central conductor.

2. SCOPE

- 2.1 This procedure incorporates the methodology and requirements of the Codes and Standards referenced in Section 3.0 and may be used for the detection of discontinuities at or near the surface in ferromagnetic materials of all product forms.
- 2.2 This procedure meets the requirements of the referenced documents to the extent specified in this procedure. When project specifications invoke or modify these requirements, the project specifications shall govern. Project requirements or modified requirements may be addended to this procedure as necessary.

3. REFERENCES

- 3.1 ASME B & PV Code, Section III Edition as applicable.
- 3.2 ASME B & PV Code, Section V 1986 Edition.
- 3.3 ASME B & PV Code, Section XI 1986 Edition.
- 3.4 80A9068, NES Procedure for Certifying Nondestructive Examination Personnel (Latest Revision).
- 3.5 80A9054, NES Procedure for Check of Magnetic Particle Inspection Equipment (Latest Revision).
- 3.6 83A6091, NES Procedure PSI/ISI Examination Areas and Volumes for H.B. Robinson (Latest Revision).

4. PERSONNEL REQUIREMENTS

- 4.1 Personnel performing examinations to this procedure shall be certified in accordance with reference 3.4.
- 4.2 A copy of each examiner's certification summary and eye test shall be made available to the plant owner or his agent prior to performing examinations per this procedure.
- 4.3 A copy of each examiner's certification summary and eye test shall be maintained on site.
- 4.4 Interpretation of examination results shall be conducted by personnel with a minimum certification of Level II MT.

5. SAFETY PRECAUTIONS

NOTE: This procedure may involve hazardous materials, operations, and equipment. The procedure does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this procedure to observe good safety and health practices.

Some MT equipment employs electrical potential of significant magnitude and should be used with consideration to at least the following precautions:

- 5.1 Equipment electrical grounding should not be defeated.
- 5.2 Electrical connections should be secure and cable insulation should be in good condition.
- 5.3 Personnel should avoid standing on wet or damp surfaces while operating equipment.
- 5.4 UV protective glasses should be worn when conducting fluorescent MT.
- 5.5 Eye protection should be worn during examinations.
- 5.6 Some examination media may cause skin irritation. Precautions should be taken to avoid prolonged skin contact.

6. DEFINITIONS

- 6.1 Area of Interest – Area of part or component on which surface examinations will be conducted.

- 6.2 Nonrelevant Indications – These are indications produced by particle gravitation, part geometry, surface condition or leakage fields that are unrelated to the discontinuities that may constitute defects. Also known as “False Indications”
- 6.3 Continuous Method – The magnetizing current remains on while the examination medium is being applied, and in the case of dry powder, while the excess examination medium is being removed.
- 6.4 Recordable indication – any relevant indication.

7. EQUIPMENT AND MATERIAL REQUIREMENTS

7.1 MAGNETIC APPARATUS

7.1.1 The magnetizing apparatus shall be capable of inducing a magnetic flux of suitable intensity and direction in the part. The following Equipment or its equivalent shall be used contingent upon the application:

- a) Magnetic Yokes: Magnaflux, Parker Research or equivalent.
- b) Other Equipment: Magnaflux, or other magnetizing units that are capable of producing both AC and DC magnetizing currents.
- c) Cables: 4/0 or larger cables shall be used. Minimum cable length will maximize amperage output.

NOTE: Prod devices shall be equipped with a remote control switch to permit the current to be turned on after the contacts have been properly positioned and to be turned off before contacts are removed.

- 7.1.2 Magnetic Particle Field Indicator. (pie gage)
- 7.1.3 Appropriate “Lift Test” weights (10lbs – AC, 40lbs – DC)
- 7.1.4 Ultraviolet Lighting (where required).
- 7.1.5 Light Meter(s) (as required) with valid calibration.
- 7.1.6 18% Neutral Gray Card (as required).

7.1.7 Temperature measuring device with the ability to measure the appropriate temperature range.

7.1.8 Magnetic Particle applicators and blowers as necessary.

7.1.9 Residual Field Indicator. (where necessary)

7.1.10 Other Suggested Equipment:

- a) Mirror
- b) Flashlight
- c) UV glasses/goggles
- d) Magnifying Lens
- e) Camera

7.2 MATERIALS

7.2.1 Dry Particles:

The magnetic particles shall be non-toxic, finely divided, ferromagnetic material of high permeability and low retentivity, free from extraneous material which might interfere with their proper functioning. The particles shall be of a color, size, and shape that will provide adequate sensitivity and contrast against the examination surface. The following particles or their equivalent shall be used.

- a) Magnaflux No. 8A.
- b) Parker Research GP-5 or RP-6

7.2.2 Wet Particles:

Wet Magnetic Particles may be color contrast or fluorescent. Particles used for examination shall be contained in an aerosol spray cans. Concentrations shall be certified to meet the requirements of ASME Section V, Article 25, SE-138. The following or their equivalent shall be used:

- a) Magnaflux Red 9C
- b) Magnaglo - 14 AM

8. GENERAL PREREQUISITES

8.1 EXAMINATION ITEM(S)

- 8.1.1 The components to be examined shall be identified/determined by the plant owner.
- 8.1.2 The component shall be prepared for examination by the plant owner, i.e. the examination surface shall be free of foreign matter which may interfere with the examination. See Paragraph 11.0.
- 8.1.3 In order to preclude the entry of magnetic particles into system openings, suitable precautions such as plugging of openings, shall be taken.

8.2 EQUIPMENT AND CONDITIONS

- 8.2.1 A valid Calibration Sticker shall be attached to all Magnetizing equipment being used for examinations.
- 8.2.2 Yoke Magnetizing equipment "Lift Test" verification shall be conducted at the beginning of each shift. See Paragraph 9.1.
- 8.2.3 Magnetizing units equipped with ammeters shall meet the calibration requirements of reference 3.5.

8.3 LIGHTING

- 8.3.1 Light intensity shall be verified as described in Paragraph 12.0.

9. EQUIPMENT PERFORMANCE VERIFICATION

9.1 MAGNETIC YOKES

- 9.1.1 Alternating Current (AC) electromagnetic yokes shall be capable of lifting at least a ten (10) lb weight.

The lifting capacity of yokes with adjustable poles shall be verified at a pole spacing of six inches, or at least the maximum spacing at which the unit will be used during examinations. Daily verifications are recommended.

- 9.1.2 Direct Current (DC) electromagnetic and/or Permanent magnetic yokes shall be capable of lifting at least a forty (40) lb weight. The lifting capacity of yokes with adjustable poles shall be verified at a pole spacing of six inches, or at least the maximum spacing at which the unit will be used during examinations. Daily verifications are recommended.

NOTE: A calibration sticker shall be applied annually as required by reference 3.5. Daily verifications (when performed) shall be documented on the examination data sheet. (Exhibit 1).

9.2 PRODS

- 9.2.1 Each piece of magnetizing equipment with an ammeter shall be calibrated at least once per year as per reference 3.5
- 9.2.2 Prod type equipment. Care shall be taken to avoid arc strikes. A "built in" remote control switch that enables the current to be turned on after the proper positioning of the prods shall be used. Lead, steel or aluminum tips are recommended.

10. EXAMINATION AREAS

- 10.1 For ASME Section XI code examinations see the specific requirements in ASME Section XI (Ref 3.6)
- 10.2 For codes other than reference 10.1, the areas of interest shall be as follows unless instructed otherwise by the plant owner. This instruction shall be documented on the "Magnetic Particle Examination" report form:

10.2.1 Welds

The area of interest shall be the weld area and at least 1" on all accessible sides measured from the edge of the weld.

10.2.2 Weld Preparations

The area of interest shall be the bevel area and at least 1" on all sides.

10.2.3 Other Components:

As specified.

11. SURFACE CONDITIONS

- 11.1 Satisfactory results are usually obtained when the surfaces are in the as-welded, as-rolled, as-cast, or as-forged condition. However, where surface irregularities could mask relevant indications, preparation may be accomplished by wire brushing, grinding, machining or grit blasting. Vapor degreasing and solvents intended for use with liquid penetrant examination are also recommended where necessary.

NOTE: The owner shall authorize and be responsible for any surface preparation that involves the removal of metal.

- 11.2 The surface to be examined and any adjacent area within one inch of the area to be examined, shall be dry and free of any dirt, grease, lint, scale or any extraneous matter that would interfere with the examination. Additionally, the surface area(s) to be examined shall be free of paint.

NOTE: The examiner shall notify the NES "lead individual" or other designated contact when surface preparation is not suitable for the magnetic particle examination.

11.3 SURFACE TEMPERATURES

11.3.1 Dry magnetic particle examination shall not be performed if the surface of the part exceeds 600 degrees Fahrenheit.

11.3.2 Wet magnetic particle examination shall not be performed if the surface of the part or the wet particle suspension exceeds 135 degrees Fahrenheit.

12. LIGHTING REQUIREMENTS

- 12.1 Visible magnetic particle indications can be viewed in either natural light or artificial white light. Adequate light intensity is required to maintain sensitivity in the examination. A minimum light intensity at the examination surface shall be indicated by either:

- a) The resolution of a 1/32-inch wide (maximum) black line on an 18 percent neutral gray card placed on or near the surface to be examined, or
- b) A minimum reading of light intensity of 50 footcandles (360 lx) on a meter sensitive to white light placed on or near the surface to be examined.

12.1.1 Black Light (UV)

- a) The UV lamp shall be capable of producing a measured intensity of 800 uW/cm² minimum, at a distance of at least 15 inches from the lens to the examination surface.
- b) The black light intensity shall be determined at least once every 8 hours and whenever the work location is changed.
- c) Intensity at the surface to be examined shall be determined using a meter which is sensitive to light in the ultraviolet spectrum centered on 365 nm (3650A).
- d) The UV lamp shall be allowed to warm up for at least five minutes before being measured for intensity and/or usage.
- e) The lamp should be left on. Turning it off and on severely reduces the life of the bulb.
- f) Lamps with cracked or scratched filters should not be used.

13. EXAMINATION PREREQUISITES:

13.1 Prior to performing any magnetic particle examination, assure that the equipment has a current calibration as required by Paragraph 3.5.

13.2 The magnetizing force and direction shall be verified as required in Paragraph 14.0

13.3 FLUORESCENT MT EXAMINATIONS

13.3.1 The requirements for viewing the surface in order to perform the interpretation are as follows:

- a) The Examination shall be performed in a darkened area.
- b) The examiner shall be in the darkened area for at least 5 minutes prior to interpretation to enable the eyes to adapt to dark viewing.
- c) If the examiner wears glasses or contact lenses, they shall not be photo sensitive. (They could darken under the influence of the UV lighting and reduce sensitivity).

13.4 VISIBLE MT EXAMINATIONS

13.4.1 The requirements for viewing the surface in order to perform the interpretation are as per Paragraph 12.0.

13.5 MAGNETIC FIELD VERIFICATION

13.5.1 Where required, the magnetic particle field indicator (Exhibit 2) shall be used by positioning the indicator (copper side up) on the surface to be examined. In using this indicator, a suitable field strength is indicated when a clearly defined line of magnetic particles forms across the copper face of the indicator when the magnetic particles are applied simultaneously with the magnetizing force. Care shall be taken to ensure that oversaturation of the part (causing "banding" of the particles) does not occur.

13.5.2 The use of the magnetic particle field indicator is not required for each item examined: its use is required at the initial examination of a specific technique and when the following changes are made:

- Amperage settings
- Type of Magnetic Field
- Type of Current
- In Distance Between Pole Placement using a yoke
- Test piece configuration

NOTE: When the particles do not accumulate on the Magnetic Particle Field Indicator in the desired direction or do not accumulate at all, the magnetizing technique shall be changed or adjusted to establish the necessary magnetic field.

14. EXAMINATION PROCEDURES**14.1 YOKE METHOD**

NOTE: This method shall be applied to detect discontinuities that are open to the surface only.

14.1.1 Magnetic flux is induced using AC, DC or permanent magnet yokes.

14.1.2 AC is the recommended current type for the detection of surface breaking discontinuities. AC yokes are superior to DC or permanent magnet yokes of equal lifting power. (Except for materials < 1/4" Thick).

14.1.3 At least two separate examinations shall be conducted on each area examined. The second examination shall be with the lines of magnetic flux approximately perpendicular to the direction used for the first examination in that area.

14.1.4 The test surface shall be magnetized by inducing a magnetic field into the part as follows, using the continuous method:

- a) Using a pole spacing of 3 – 6 inches, place the poles on the surface of the test component. (spacing is measured linearly along the examination surface when examining a curved surface in the circumferential direction).
- b) With the current flowing, apply the magnetic particles (wet or dry) lightly to the surface.

NOTE: Do not saturate the surface with particles. This practice could mask relevant indications.

- c) Dry Particles – With the current flowing, remove the particles from the surface using the air bulb. Take care not to apply the air at too high a pressure, as this could remove lightly held particles from shallow discontinuities.
- d) Wet Particles – Allow the current to flow for approximately ten seconds after application of the particles.
- e) Inspect the area for indications using the appropriate illumination.

NOTE: For maximum sensitivity, the lines of force should be essentially perpendicular to the axis of the suspected discontinuity.

14.1.5 The inspection area shall be: limited to an area that can be qualified as in 13.5.

14.1.6 Overlapping of the examination area shall be at least 1 inch (see Exhibit 3). The examination area shall be inspected with sufficient overlap to ensure 100 percent coverage at the established test sensitivity.

14.1.7 Where the area of interest does not include the entire surface, the pole location shall extend at least 1 inch beyond the area of interest.

NOTE: Prolonged energizing cycles may overheat and damage the magnetizing equipment.

14.2 PROD METHOD

14.2.1 Magnetization shall be accomplished by the use of portable prod type electrical contacts pressed against the surface in the area to be examined.

14.2.2 At least two separate examinations shall be carried out on each area, with prods placed so the lines of flux in one examination are approximately perpendicular to the lines of force in the other.

14.2.3 Prod spacing shall be a minimum of three (3) inches and a maximum of eight (8) inches.

14.2.4 The inspection area shall be limited to an area that can be qualified as in 13.5. Overlapping of the examination area shall be at least one (1) inch (see Exhibit 3). The examination area shall be inspected with sufficient overlap to ensure 100 percent coverage at the established test sensitivity.

14.2.5 Direct or rectified magnetizing current shall be used. The current shall be 100 amperes per inch minimum to 125 amperes per inch maximum of prod spacing, for sections 3/4 inch thick or greater. For sections less than 3/4 inch thick, amperage shall be 90-110 amperes per inch of prod spacing.

14.2.6 Care shall be taken to avoid arc strikes. To avoid arc strikes, turn on the current only AFTER the prod tips have been placed firmly in contact with the test surface. Turn off the current to the prods BEFORE removing them from the test surface.

14.2.7 Any accidental arc strikes shall be noted on the examination data sheet and immediately brought to the attention of the site supervisor/NES lead.

NOTE: Prolonged energizing cycles may cause undesirable local overheating of the surface. Extreme care should be taken to maintain clean prod tips in order to minimize heating at the point of contact.

In addition to the above, prolonged energizing cycles may overheat and damage the magnetizing equipment.

14.3 COIL TECHNIQUE

NOTE: The following formulas are the requirements of ASME Section V, for determining the strength of the magnetic field. Where the part being examined does not entirely fill the coil (low "Fill Factor"), the formulas in Paragraph 14.3.2(b) or 14.3.2(d) should be considered. The field strength shall be verified using the Magnetic Field Indicator as per Paragraph 13.5.

14.3.1 Magnetization shall be accomplished by passing current through a multiturn coil looped through or around the part, or section of the part, to be examined. This produces a Longitudinal magnetic field parallel to the axis of the coil. (See Exhibit 4).

14.3.2 Magnetic Field Strength: Direct or rectified current shall be used to magnetize parts examined using this technique. The required field strength shall be calculated based on the Length (L) and the Diameter (D) of the part in accordance with (a), (b) or as established in (c) below. Long parts shall be examined in sections not to exceed 18 inches, and 18 inches shall be used for the part L in calculating the required field strength. Parts greater than 18 inches in length shall be examined in increments of 18 inches or less. For noncylindrical parts, D shall be the maximum cross sectional diagonal.

a) Parts with L/D ratios equal to or greater than 4.

The magnetizing current shall be within + 10% of the ampere-turns' value determined as follows:

$$\text{Ampere-turns} = \frac{35,000}{(L/D)+2}$$

EXAMPLE: A part 10" long x 2" diameter will have an L/D ratio of 5, therefore:

$$\text{Ampere-turns} = \frac{35,000}{(5 + 2)} = 5000 \text{ ampere-turns}$$

$$\frac{5,000}{5} = 1000 \text{ (turns)}$$

Using a five turn coil, the magnetizing current will be 1000 amperes.

b) Parts with L/D ratios less than 4 but not less than 2, and for LOW FILL FACTOR coils (eccentrically positioned parts less than 10% coil inside diameter):

The magnetizing current shall be within + 10% of the ampere-turns' value determined as follows:

$$\text{Ampere-turns} = \frac{45,000}{(L/D)}$$

EXAMPLE: A part 12" long x 4" diameter will have an L/D ratio of 3, therefore:

$$\text{Ampere-turns} = \frac{45,000}{3} = 15,000 \text{ ampere-turns}$$

$$\frac{15,000}{5} = 3000 \text{ (turns)}$$

Using a five turn coil, the magnetizing current will be 3000 amperes.

NOTE: For L/D ratios less than 2, alternate magnetizing methods shall be used.

c) Low Fill-Factor Coils. (Parts Positioned in Center of Coil)

$$NI = \frac{KR}{(6L/D)-5} \quad (\pm 10\%)$$

where:

K = 43,000 (empirically derived constant).

R = coil radius in inches

Other factors as above.

14.3.3 If the area to be magnetized extends beyond 6 in. on either side of the coils or for large parts, the field adequacy shall be demonstrated using the magnetic field indicator per paragraph 13.5.

14.3.4 At least two separate examinations shall be carried out on each area. The second examination shall be with the lines of magnetic flux approximately perpendicular to those used for the first examination in that area. A different means of magnetizing may be used for the second examination.

NOTE: If the above paragraphs are not applicable because of part size or shape, adequate magnetizing amperage shall be established by using the magnetic Particle Field Indicator in accordance with paragraph 13.5. Care shall be taken to ensure that oversaturation of the part (causing "banding" of the particles) does not occur.

14.4 DIRECT CONTACT TECHNIQUE

14.4.1 Magnetization shall be accomplished by passing current the part to be examined. This produces a "circular" magnetic field perpendicular to the current flow through the part.

14.4.2 Magnetizing Current: Direct or rectified current shall be used. The required current shall be determined using the following guidelines:

- a) For parts with outer diameters up to 5 inches, 700–900 amperes per inch of diameter shall be used.
- b) For parts with outer diameters over 5 inches up to 10 inches diameter, 500–700 amperes per inch of diameter shall be used.
- c) For parts with outer diameters over 10 inches up to 15 inches diameter, 300–500 amperes per inch of diameter shall be used.
- d) For parts with outer diameters over 15 inches diameter, 100–330 amperes per inch of diameter shall be used.
- e) For parts with geometric shapes other than round, the greatest cross sectional diagonal in a plane at right angles to the current flow shall determine the inches to be used in the above computations.

NOTE: If the current levels required in any of the above cannot be obtained, the maximum current obtainable shall be used and the field adequacy shall be demonstrated as per Paragraph 13.5.

14.4.3 At least two separate examinations shall be carried out on each area: in the secondary examination, the lines of magnetic flux shall be approximately perpendicular to those used for the first examination in that area. A different means of magnetizing may be used for the second examination.

14.5 CENTRAL CONDUCTOR TECHNIQUE

For this technique, a central conductor is used to examine the internal surfaces of ring or cylindrically shaped parts. This technique may also be used to examine the outside surfaces of these shapes. Where large diameter cylinders are to be examined, the conductor shall be

positioned close to the internal surface of the cylinder. When the conductor is not centered, the circumference of the cylinder shall be examined in increments and a magnetic field indicator applied in accordance with Paragraph 13.5. to determine the extent of the arc that may be examined for each conductor position. Bars or cables may be used to induce circular magnetization.

14.5.1 Magnetizing current: The field strength required shall be equal to that determined in Paragraph 14.4.2 for a sin turn central conductor. The magnetic field will increase in proportion to the number of times the conductor passes through a hollow part.

NOTE: A central conductor of as large a diameter as practical shall be used in all cases where inspections of the inside surfaces of cylindrically shaped parts is required. A central conductor shall also be used for circular magnetization of other shapes, when applicable.

Example: If 6000 amps are required to examine a part using a single central conductor, then 3000 amps are required when 2 turns of the through cable are used; and 1200 amps are required if five turns are used. Magnetic field adequacy shall be verified in accordance with Paragraph 13.5.

15. EVALUATION/RECORDING/REPORTING

15.1 Discontinuities on or near the surface are indicated by retention of the examination medium (particles). Localized surface irregularities such as machining marks, material transitions, splines, keyways, and other geometric conditions which may cause a magnetic leakage field. Any indication which is believed to be false or nonrelevant shall be re-examined to verify whether or not actual discontinuities are present.

15.2 Relevant indications are those which result from mechanical discontinuities.

NOTE: Unless otherwise defined by the referencing Code or specification, the following parameters are to be used for the purposes of evaluation:

15.2.1 Linear indications are those indications in which the length is equal to or greater than three times the width.

15.2.2 Rounded indications are indications which are circular or elliptical with the length less than three times the width.

15.2.3 All indications that cannot be interpreted as false or nonrelevant and whose major dimension is greater than 1/16th inch shall be considered relevant. If it is necessary to identify additional characteristics of the indication such as the type, linear, rounded, etc., these characteristics shall be recorded on the data sheet.

15.3 All relevant indications shall be reported by recording on the Magnetic Particle Examination Data Sheet (Exhibit 1), and shall include:

- size (i.e., dimensions) of indications
- shape of indication(s)
- locations(s) on test part or the examination area(s) orientation
- sketch or photograph

15.4 All relevant indications recorded on the Magnetic Particle Examination Data Sheet shall be evaluated by comparison with the applicable acceptance standards of the referencing Code section or other specification to which the examination relates. When project or other applicable, written specifications modify the Code, the modified specifications shall govern.

NOTE: Refer to Exhibit 5 and 6 (as appropriate).

16. DEMAGNETIZATION

16.1 All ferromagnetic material will retain some residual magnetism, the strength of which is dependent on the retentivity of the part. Residual magnetism does not affect the mechanical properties of the part. Residual magnetism may affect subsequent machining, plating and welding. Demagnetization is required only if specified in the drawings or specification, or by the plant owner.

16.2 Alternating current yokes may be used for local demagnetization by placing the poles on surface, moving them around the area, and slowly withdrawing the AC yoke while it is still energized.

16.3 Care should be exercised to assure that the part is entirely removed from the influence of AC yoke before the demagnetizing force is discontinued, otherwise the demagnetizer may have the reverse effect of magnetizing the part.

16.4 The part should be checked for residual magnetism using a residual field indicator.

16.5 Other means of demagnetization may be used as approved by a Level III MT.

17. FINAL CLEANING

Magnetic particles should be removed from accessible surfaces

DATA SHEET NO. _____
THERMOMETER S/N _____
TEMPERATURE ° _____ ° F
NOMINAL THICKNESS _____ INCHES
MATERIAL _____
CLASS _____

MAGNETIC PARTICLE EXAMINATION

PROCEDURE _____
 REVISION _____ F C. NO. _____
 PAGE _____ OF _____

SYSTEM EXAMINED _____ ISO/DWG/SK. # _____ REVISION _____

DATUM POINT REFERENCE _____

* REQUIRED FOR WET METHODS ONLY

MAGNETIC PARTICLES

Dry ☐ Wet ☐

Make _____

Type _____

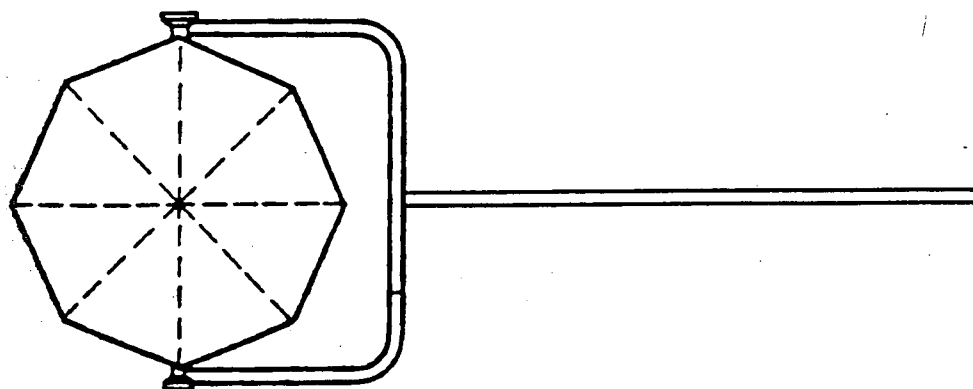
Batch No. _____

Color _____

EQUIPMENT	
Yoke <input type="checkbox"/>	Coil <input type="checkbox"/> Prod <input type="checkbox"/>
Make _____	
Serial No. _____	
AC <input type="checkbox"/>	DC <input type="checkbox"/>
AMP Turns _____	
AMPS _____	
Pole Spacing _____	
Yoke Lift Test	
Yes <input type="checkbox"/>	No <input type="checkbox"/>

[illegible]

EXAMINER _____ LEVEL _____ DATE _____
EXAMINER _____ LEVEL _____ DATE _____
REVIEWER _____ LEVEL _____ DATE _____
REVIEWER _____ DATE _____
REVIEWER _____ DATE _____



MAGNETIC PARTICLE FIELD INDICATOR

EXHIBIT 2

For complete inspection the entire area will have to be covered in this manner and then the process must be repeated with yoke positions at 90° to the first direction.

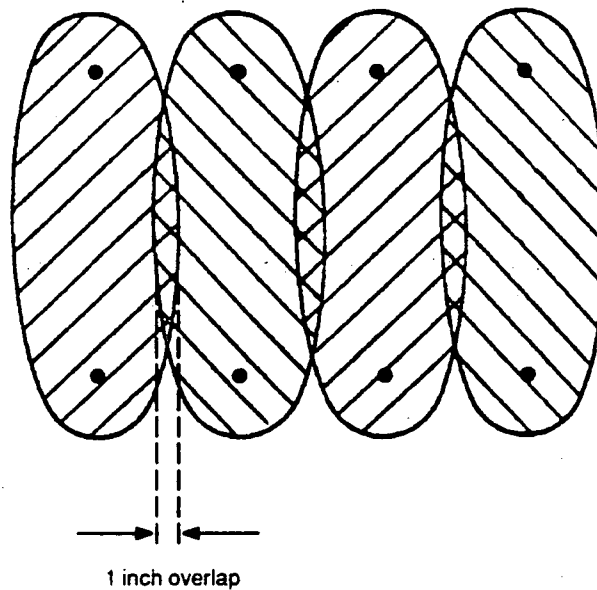


EXHIBIT 3

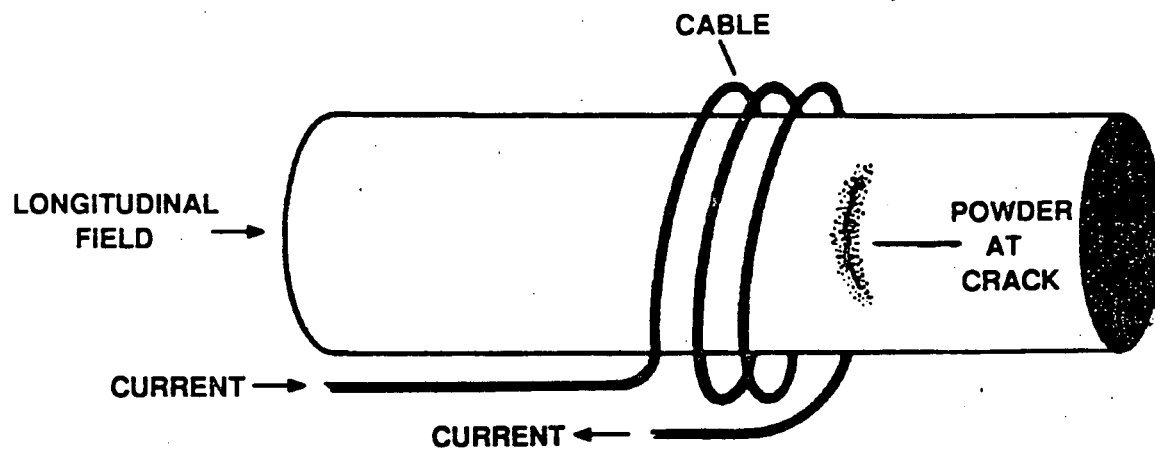


EXHIBIT 4

ASME SECTION XI ACCEPTANCE STANDARDS

Magnetic Particle Recording/Reporting Levels

- A. Recording Levels:
1. Any cracks and linear indications.
 2. Rounded indications with dimensions greater than 1/16".
 3. Four or more rounded indications in a line separated by 1/16" or less edge to edge.
 4. Ten or more rounded indications in any 6 square inches of surface with the major dimension of this area not to exceed 6" with the area taken in the most unfavorable location relative to the indications being evaluated.

Applicability to

Section XI Categories: B-F, B-G-1, B-H, B-J, B-K-1, B-L-1, B-M-1, B-O, C-B, C-C, C-E, C-F, C-G.

- B. Reporting Levels:
1. Any cracks.
 2. Linear or rounded indications greater than 1/8".
 3. Four or more rounded indications in a line separated by 1/16" or less edge to edge.
 4. Ten or more rounded indications in any 6 square inches of surface with the major dimension of this area not to exceed 6" with the area taken in the most unfavorable location relative to the indications being evaluated.

Applicability to

Section XI Categories: B-F, B-G-1, B-H, B-J, B-K-1, B-L-1, B-M-1, B-O, C-B, C-C, C-E, C-F, C-G.

EXHIBIT 5

ASME SECTION III ACCEPTANCE STANDARDS

Acceptance Criteria vary with the manufacturing process and the applicable subsection of ASME Section III.

The following relevant indications are unacceptable and only indications whose major dimensions are greater than 1/16 inch shall be considered relevant:

Any cracks or linear indication.

Rounded indications with dimension greater than 3/16 inch.

Four or more rounded indications in a line separated by 1/16 inch or less edge to edge.

Ten or more rounded indications in any 6 square inches of surface with the major dimension of this area not to exceed 6 inches with the area taken in the most unfavorable location relative to the indications being evaluated.

The following relevant indications are unacceptable except where the specification for the material establishes different requirements:

Cracks and linear indication. (Linear indications are those indications in which the length is equal to or greater than three times the width).

Four or more rounded indications in a line separated by 1/16 inch or less edge to edge.

Weld edge preparation surfaces in joint categories A, B, C, D and similar joints in material 2 inches or more in thickness shall be evaluated to the following acceptance standard. The following relevant indications are unacceptable and only indications with major dimensions greater than 1/16 inch shall be considered relevant:

Laminar type discontinuities greater than 1 inch in length.

Linear indications greater than 3/16 inch long.

Rounded indications with dimensions greater than 3/16 inch.

Four or more indications, in a line separated by 1/16 inch or less, edge to edge.

Welds and weld edge preparation surfaces in material 1 inch and greater shall be evaluated as required below.

EXHIBIT 6

The following relevant indications are unacceptable and only indications with major dimensions greater than 1/16 inch shall be considered relevant:

Any linear indication greater than 1/8 inch long for materials 1 inch thick to under 2 inches thick and 3/16 inch long for materials 2 inches thick and greater.

Rounded indications with dimensions greater than 3/16 inch.

Four or more indications greater than 1/16 inch long in a line separated by 1/16 inch or less edge to edge.

Ten or more indications greater than 1/16 inch long in any 6 square inches of area whose major dimension is no more than 6 inches with the dimension taken in the most unfavorable location relative to the indications being evaluated.

Laminar type discontinuities greater than 1/2 inch.

The following relevant indications are unacceptable and only indications with major dimensions greater than 1/16 inch shall be considered relevant:

Linear indications greater than 1/16 inch long for material less than 5/8 inch in thickness.

Linear indications having a length greater than 1/8 inch for thickness from 5/8 inch to under 2 inches.

Linear indications having a length 3/16 inch for material thickness 2 inches or greater.

Rounded indications greater than 1/8 inch for thickness less than 5/8 inch.

Rounded indications greater than 3/16 inch for thickness 5/8 inch or greater.

Four or more indications in a line separated by 1/16 inch or less edge to edge.

Ten or more indications in any 6 square inches of area whose major dimension is no more than 6 inches with the dimensions taken in the most unfavorable location relative to the indications being evaluated.

Bolting:

The following indications are unacceptable for bolting 1 inch and greater in nominal size for Class 1 NB and 2 inches and greater for bolting and rods in nominal size for Class 1 component supports:

EXHIBIT 6-1

Linear nonaxial indications.

Linear axial indications greater than 1 inch in length.

The following relevant indications are unacceptable and only indications with major dimensions greater than 1/16 inch shall be considered relevant, threaded fasteners greater than 3/8 inch and nuts greater than 1 inch shall be evaluated as follows:

On threaded surfaces no relevant indications.

All other accessible surfaces; no linear or rounded indications greater than 1/16 inch, except that linear axial indications the smaller of 1 diameter or 1 inch in length are permitted.

Acceptance Criteria for Non-ISI Examinations

General Requirements

Examinations being performed to codes other than that of ASME Section XI where accept/reject criteria is delineated, relevant indications in welds, base material and bolting materials which exceed the applicable acceptance criteria shall be documented as follows:

Maximum length

Location of Test Part

Orientation of Indication

Sketch or Photograph if deemed necessary

The technician performing the test shall apply the acceptance criteria as specified in the engineering/work authorizing document associated with the job. The acceptance criteria of this procedure may be used if the exact specific code by year and date are referenced in the work authorizing document.

EXHIBIT 6-2

18.0

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1092

ULTRASONIC EXAMINATION OF VESSEL WELDS GREATER THAN
TWO INCHES IN THICKNESS

FOR H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:  3/27/92
Engineering Manager - Programs Date

APPROVED BY:  3/29/92
Manager - Technical Support Date

CONTROLLED
RECIPIENT

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 35	0

ULTRASONIC EXAMINATION

OF VESSEL WELDS

GREATER THAN

TWO INCHES IN THICKNESS

FOR

H.B. ROBINSON STEAM ELECTRIC PLANT

UNIT 2

Project Application		Copy No.	Assigned To		
2454					
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	LEVEL III	PROJECT MGR.	GENERAL MGR.	
0	Scott Larson	<i>[Signature]</i> 2/20/92	<i>[Signature]</i> 2/20/92	<i>[Signature]</i> 2/20/92	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					



DOCUMENT NO. 83A6031
PAGE 2 OF 32

FORM # NES 206 3.9C

1. PURPOSE

The purpose of this procedure is to define the technique, recording criteria and equipment for the Ultrasonic (UT) examination of vessel welds in ferritic material greater than 2 inches in thickness.

2. SCOPE

This procedure is limited to the manual UT examination of welds in ferritic steel vessels greater than 2 inches thick, including nozzle to shell welds. Reactor Pressure Vessels are excluded.

3. REFERENCES

- 3.1 ASME B&PV Code, Section XI; -1986 Edition
- 3.2 ASME B&PV Code, Section V, Article 4; -1986 Edition
- 3.3 80A9053, NES Procedure for Ultrasonic Instrument Linearity Verification
- 3.4 80A9068, NES Procedure for Certifying Nondestructive Examination Personnel

4. PERSONNEL REQUIREMENTS

- 4.1 Personnel performing examinations to this procedure shall be certified in accordance with references 3.1 and 3.4.
- 4.2 It is recommended that examination crews consist of at least two members. At least one member of each crew shall have a minimum certification of Level II. Evaluations shall be conducted by an examiner with a minimum certification of Level II.
- 4.3 A copy of each examiner's certification summary and current eye test shall be maintained on-site.
- 4.4 A copy of each examiner's certification summary and current eye test shall be submitted to the Plant Owner or his Agent, prior to performing examinations in accordance with this procedure.

5. EQUIPMENT AND MATERIAL REQUIREMENTS

5.1 ULTRASONIC INSTRUMENT

A pulse echo ultrasonic flaw detection instrument with current linearity which operates within the minimum frequency ranges of 1.0 MHz to 5.0 MHz shall be used. This shall be equipped with a stepped gain control calibrated in units of 2dB or less.

5.2 SEARCH UNITS

A. Prerequisites

- 1) Search units may contain either single or dual transducer elements. Units with contoured wedges may be used.
- 2) Angle beam and 0° search unit sizes will be dependent on the size of the area to be scanned, surface configuration, and component geometry.

B. Size

- 1) Angle beam search unit size shall not exceed 1" diameter or 1"x1".
- 2) 0° search unit element size shall not exceed 1" diameter or 1"x1".

NOTE: For dual element search units the dimension applies to one of the two elements.

C. Frequency

2.25 MHz is the recommended frequency. Other frequencies may be used if necessary to improve signal to noise ratio.

D. Beam Angle

1. The examination shall generally be performed using a 0° and nominal 45° and 60° angle beam search units. Other pairs of angles are permitted provided the measured difference between the angles is at least 10°, the UT Level III is notified, and the notification documented on the Ultrasonic Calibration Data Sheet (Figure 1).
2. The beam angle in the production material shall be within the range of 35° to 70° perpendicular to the contact surface.

5.3 CABLE

Cables shall have appropriate connectors and may be any convenient length. Examinations shall be performed using the same cable as that used during the calibration.

5.4 COUPLANT

Ultragel - or couplant supplied by the Plant owner.

5.5 CALIBRATION BLOCK(S)

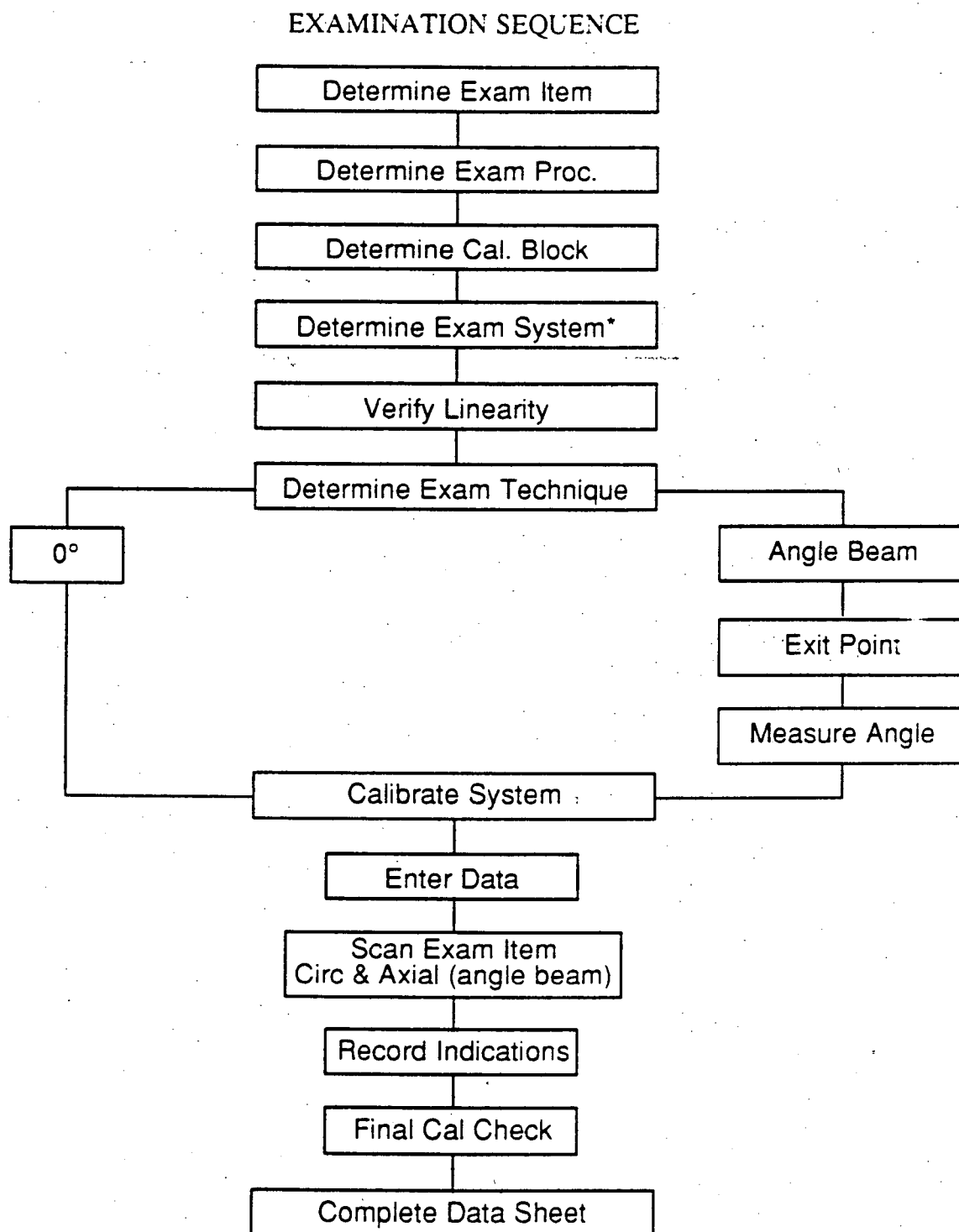
A. Calibration blocks shall be selected and provided by the Plant Owner and shall as a minimum, contain reflectors that enable calibration as required in Section 7 of this procedure.

B. IIW Calibration Standards

These may be either full size or miniature IIW standards and shall be fabricated from Carbon Steel.

6. GENERAL PREREQUISITES

The following flow chart describes a typical examination sequence:



*System = Instrument, Transducer, Wedges, and Cable.

- 6.1 The components to be examined shall be identified/determined by the plant owner.
- 6.2 Calibration blocks shall be selected and provided by the Plant Owner.
- 6.3 The component shall be prepared for examination by the Plant Owner, e.g. the examination surface shall be free of foreign matter which may interfere with Ultrasonic transmission.
- 6.4 Each weld to be examined shall be identified by the Plant Owner with reference points sufficient to locate the search unit along the weld seam.

NOTE: The examiner shall notify the NES "lead individual" or other designated contact individual when preparation of the scanning surface(s) and identification of reference points are not suitable for the ultrasonic examination.

- 6.5 Previous examination data provided by the Owner, shall be reviewed by the examiner and the following items should be identified:
 - (A) Interfering conditions
 - (B) Weld configuration
 - (C) Obstructions
 - (D) Recordable indications
 - (E) Previous examination technique
 - (F) Previously measured angle in the component
- 6.6 The required angle beam method of examination is the 1/2 Vee technique. Where conditions exist that interfere with the scanning of required examination volumes the examination technique shall be modified to examine the maximum volume possible.

NOTE: Modifications to any technique in this procedure shall be approved by a UT Level III. Documentation of this shall be attached to the Ultrasonic Calibration Data Sheet.

- 6.7 Linearity checks shall be performed in accordance with Reference 3.3 and shall be scheduled as follows:
 - (1) Screen height, amplitude control and horizontal linearities shall be verified at the beginning and end of each outage or every three months (while in use), whichever is less.
 - (2) Screen height and amplitude control linearities should be performed daily (while in use).
- 6.8 The calibration block surface temperature shall be within 25° F of the component to be examined.

7. CALIBRATION PROCEDURE

7.1 PREREQUISITES

- A. Verify that the designated calibration block is correct for the specific item to be examined. Notify the NES "lead" or other designated individual, if a discrepancy is noted.
- B. If the calibration block does not contain the reflectors required to perform the calibration techniques identified in this section, the Plant Owner shall be notified and the examination not performed.
- C. Calibration shall be performed from the surface of the calibration block which corresponds to the component surface to be scanned.
- D. The calibration shall be performed with the contoured or contact wedges used during the examination.
- E. Dual Search Units
 - (1) When using dual search units, component thickness and focal distance shall be compatible. Compatibility is determined by the existence of a signal to noise ratio of at least 10:1 when scanning the ID notch in the component calibration block. Where this is not achievable, the UT LIII shall be notified and an explanation documented on the Ultrasonic Calibration Data Sheet (Figure 1).
 - (2) Half Vee techniques only, shall be used.
- F. The search unit actual sound beam exit point shall be determined and marked on the wedge.
- G. Measure the wedge exit point to-front-edge dimension and record in the Search Unit Remarks section on the Ultrasonic Calibration Data Sheet (Figure 1). Record as Exit Point to Front Edge: _____".
- H. Maximum response from calibration reflectors shall be obtained with the sound beam essentially perpendicular to the axis of the calibration reflector. The center line of the search unit shall be at least 3/4" from the nearest side of the block or pipe. Rotation of the beam into a corner formed by the reflector and the side of the block may produce a higher-amplitude signal at a longer beam path; this beam path shall not be used for calibration.

- I. Measured beam angle shall be determined by using a Carbon Steel IIW Block or using the reflectors in the component calibration block. Note in the Search Unit Remarks section on the Ultrasonic Calibration Data Sheet when a component calibration block and its identification number is used for search unit angle check(s).
- J. Beam spread measurement shall be performed in accordance with Reference 3.2.
- K. The examiner should avoid using a sweep calibration that uses only a small portion of the CRT presentation.

7.2 0° CALIBRATION FOR DETECTING LAMINAR REFLECTORS IN UNCLAD MATERIAL.

NOTE: In the event that the material under examination contains clad on the opposite surface or where material properties cause calibration to be inadequate or unreliable, calibration shall be performed as stated on Section 7.3.

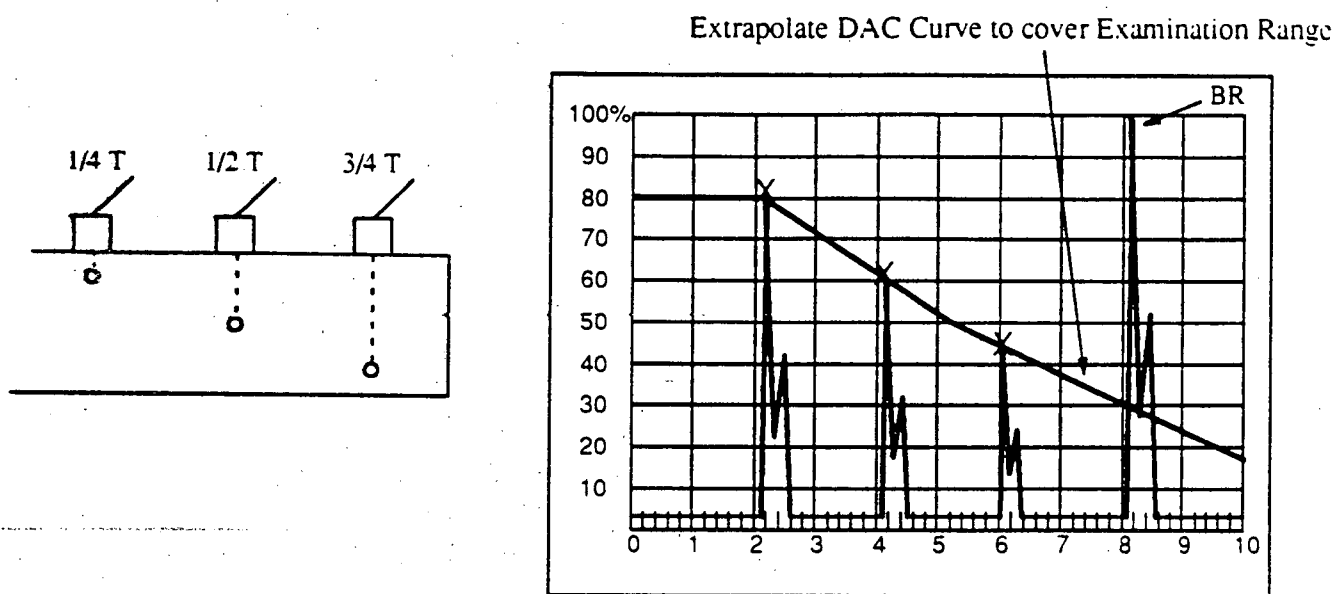
- A. Sweep range calibration should be performed using a metal path calibration that will display at least the maximum wall thickness.
- B. The 0° search unit shall be coupled to the examination material. The initial back reflection shall be adjusted to and maintained at $80\% \pm 5\%$ FSH. When the opposing surfaces are non-parallel and a back reflection is unobtainable, calibration shall be performed as in Section 7.3.

7.3 0° CALIBRATION FOR THE EXAMINATION OF WELD REQUIRED VOLUME

- A. Sweep range calibration should be performed using a metal path calibration that will display at least the maximum wall thickness.
- B. Distance Amplitude Correction (DAC) calibration shall be performed by obtaining the maximum response from the side drilled hole (SDH) which yields the highest amplitude.
- C. Set this signal at $80\% \pm 5\%$ FSH and mark the peak on the CRT screen. This establishes reference sensitivity. Position the search unit for maximum response from the two remaining reflectors and mark their peaks on the CRT screen. Connect the marks and extend the line to cover the required thickness. Record all settings on the Ultrasonic Calibration Data Sheet (Figure 1).

NOTE: The use of an electronic DAC is not permitted.

- D. Refer to para 7.7 for verification of scanning speed and pulse repetition rate.



0° CALIBRATION FOR WRV

7.4 1/2 VEE ANGLE BEAM CALIBRATION (REQUIRED TECHNIQUE)

7.4.1 Unclad Material Calibration

- A. Establish sweep range calibration as appropriate using the metal path formulas found in Figure 6.
- B. DAC calibration shall be established by using the 1/4T, 1/2T 3/4T and 5/4T SDH.
- C. Maximize the signal from the reflector which yields the highest amplitude.
- D. Adjust the gain control(s) to provide a signal amplitude of $80\% \pm 5\%$ FSH and mark its peak on the CRT screen. **This establishes reference sensitivity.**
- E. Position the search unit for maximum response from the 3 remaining reflectors and mark their peaks on the CRT screen.
- F. Maximize the signal from the opposite surface notch. Mark its position and amplitude on the CRT Screen.

NOTE: This notch will be used only when evaluating indications at the opposite surface.

G. Connect all the signal amplitude peaks (except for the opposite side notch) marked on the CRT screen. This establishes the DAC. Record all settings on the Ultrasonic Calibration Data Sheet (Figure 1).

H. Refer to para 7.7 for verification of scanning speed and pulse repetition rate.

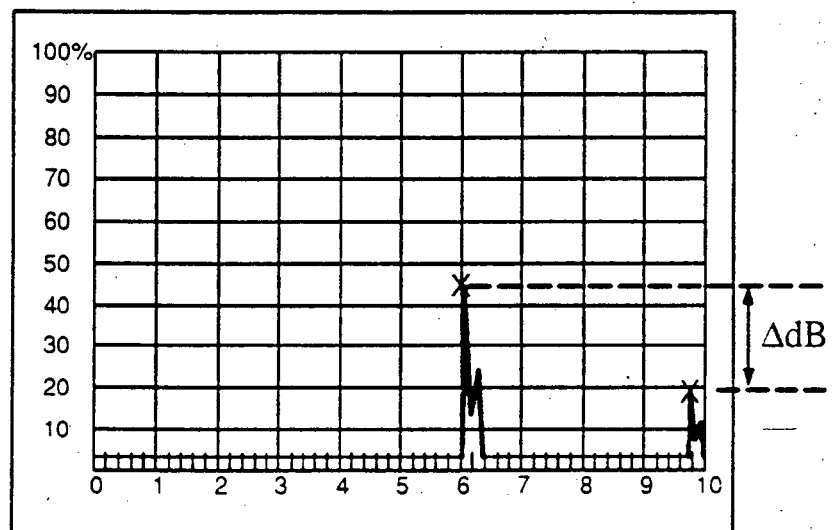
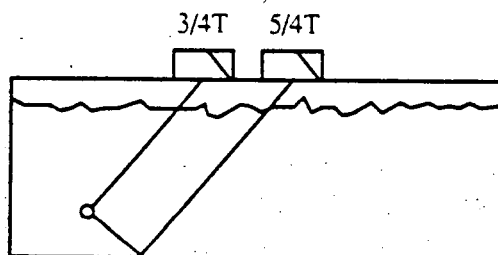
7.4.2 Cladded Material Calibration

NOTE: When calibrating on clad calibration blocks with the transducer on the UNCLAD surface, anomalies due to acoustic impedance at the clad to base metal interface as well as sound redirection from the clad itself may occur. This condition can affect the shape and slope of the DAC curve after the sound enters and exits the clad. In order to eliminate this condition follow the directions below.

A. Establish sweep range calibration as appropriate, using the metal path formulas found in Figure 6.

B. Place the transducer on the CLAD side of the calibration block and note the Δ dB (difference in dB) between the responses from the 3/4 and the 5/4T holes.

C. Mark the position of the 5/4T hole on the CRT.

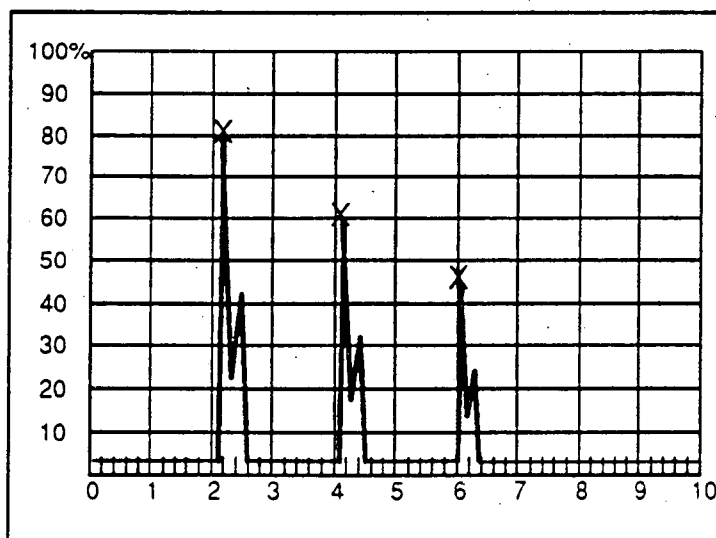
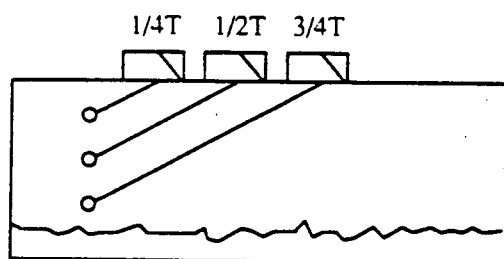


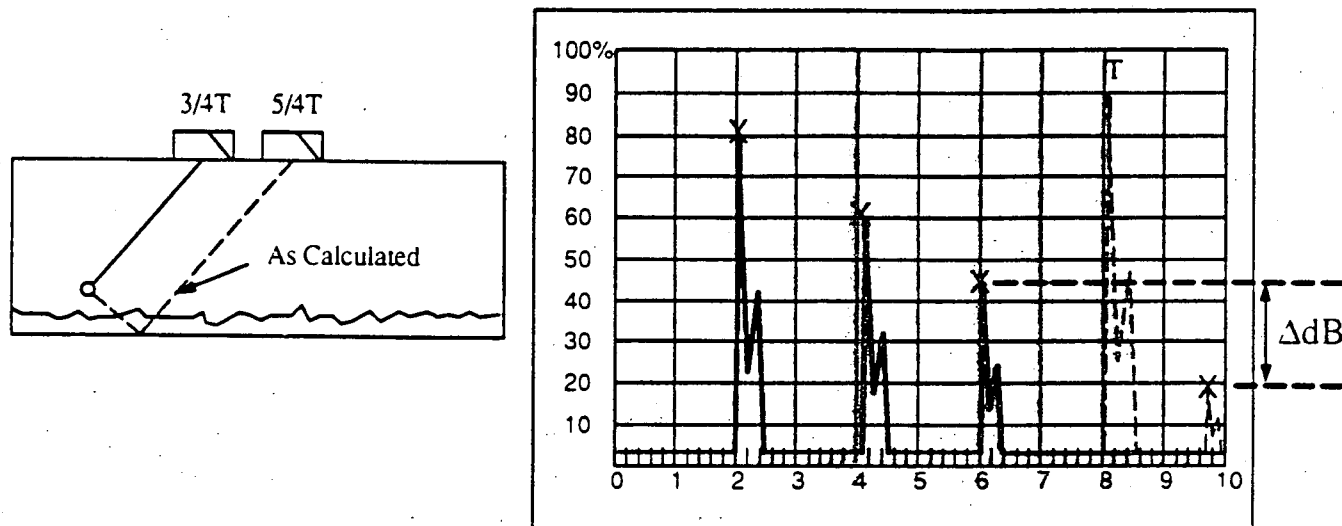
D. Place the transducer on the unclad side of the block and construct the DAC curve as instructed below: (E thru H)

E. At this point, DAC calibration shall be established by using the 1/4T, 1/2T and 3/4T holes only.

- F. Maximize the signal from the reflector that yields the highest amplitude.
- G. Adjust the gain control(s) to provide a signal amplitude of $80\% \pm 5\%$ FSH and mark its peak on the CRT screen. **This establishes reference sensitivity.**
- H. Position the search unit for maximum response from the 1/2T and 3/4T holes and mark their peaks on the CRT screen.
- I. Determine the amplitude for the 5/4T hole by positioning the transducer for the 3/4T hole at the maximum amplitude position, then decrease the gain by the Δ dB determined in B above.
- J. Mark the height of this signal amplitude on the CRT, at the 5/4T position as established in C above.
- K. Maximize the signal from the opposite surface notch. Mark its position and amplitude on the CRT screen.
- L. Connect all the signal amplitude peaks (except for the opposite surface match) marked on the CRT screen. This establishes the DAC curve.
- M. Record all settings on the Ultrasonic Calibration Data Sheet (Figure 1).
- N. Refer to para 7.7 for verification of scanning speed and pulse repetition rate.

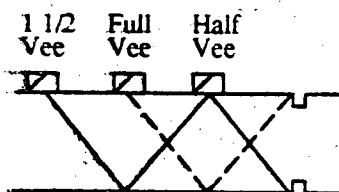
NOTE: This notch referenced in (K) above will be used only as a comparison when evaluating indications at the opposite surface.



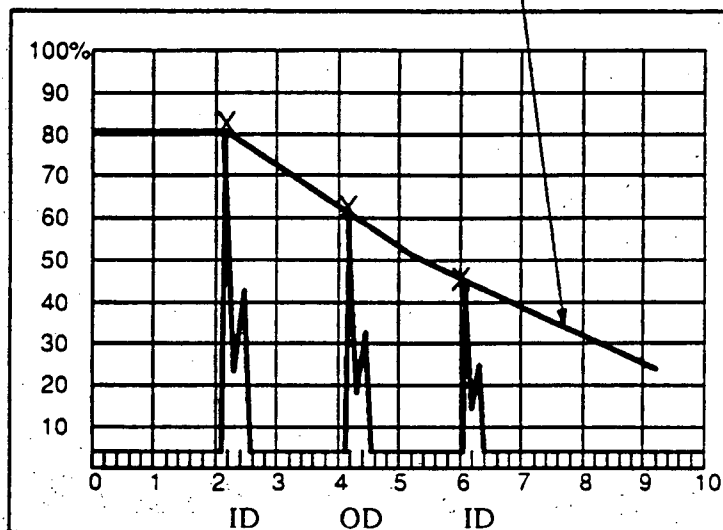


7.5 FULL VEE AND 1-1/2 VEE ANGLE BEAM CALIBRATION (SUPPLEMENTAL TECHNIQUE FOR UNCLAD MATERIAL)

- A. Establish sweep calibration.
- B. Obtain maximized signal responses from the notches and mark the signal response positions on the instrument's CRT screen.
- C. Maximize the signal from the notch producing the highest response and set its amplitude to 80% FSH. This establishes reference sensitivity.
- D. Without changing sensitivity settings, maximize the remaining notch response(s) and mark the peak amplitudes on the CRT screen, and on the Calibration Data Sheet.
- E. Plot a DAC curve by connecting the locations (marked on the CRT) with a continuous line extended to cover the full examination range.
- F. Upon completion of calibration, ensure that all data and instrument settings are recorded on the Calibration Data Sheet.



Extrapolate DAC Curve to cover Examination Range



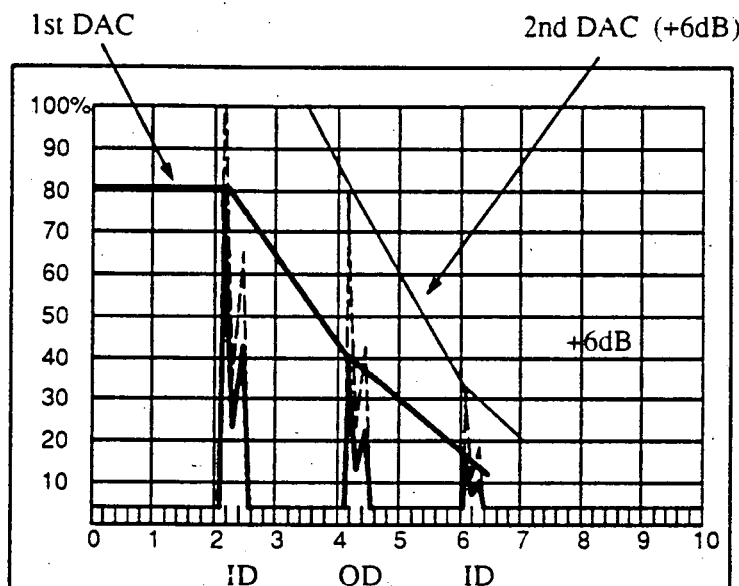
1 1/2 VEE CALIBRATION

7.6 DOUBLE DAC

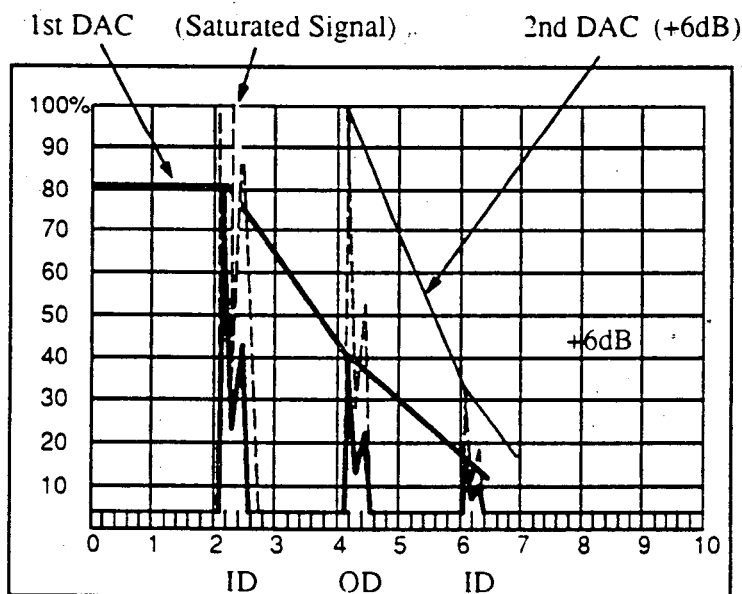
High attenuation, too high a transducer frequency or too small a transducer, may cause the slope of the DAC to fall below 20% FSH within the calibration area of the CRT screen. If this condition is still apparent after changing the size and/or frequency of the transducer, the following correction shall be made:

- Note the point where the DAC curve drops below the 20% line.
- Mark this point on the CRT screen and increase the gain by +6db.
- Mark the new location of the reflector that previously appeared below the 20% line.
- Return to the previous reflector that was originally above 20% and mark its new amplitude on the CRT screen.
- Connect the two new points established in 7.6.C and 7.6.D to establish the second DAC curve.
- Extend the curve if necessary to cover the examination area.
- Record the new positions and settings on the calibration data sheet.
- Refer to para 7.7 for verification of scanning speed and pulse repetition rate.

NOTE: Where the amplitude of the reflector referenced in "D" above increases to a level that exceeds FSH, set this signal amplitude at 100% FSH and create the second DAC using the signal from this reflector as the starting point and the signal from the next reflector as the second point on the DAC. Connect the two points. This is now the second DAC. Record data as in "G" above. (See Example 2 below.)



DOUBLE DAC EXAMPLE 1



DOUBLE DAC EXAMPLE 2

7.7 PULSE REPETITION RATE AND SCANNING SPEED

- A. To verify an acceptable pulse repetition rate and scanning speed a dynamic calibration at maximum scanning speed (not to exceed 6 inches per second) shall be used.
- B. Verify that at least 3 of the basic calibration reflectors in the appropriate calibration block are within ± 2 dB of the static calibration response when scanned at scanning speed.
- C. If the instrument to be used has an operator selectable/adjustable pulse repetition rate feature, then the repetition rate used shall be noted in the Instrument Remarks section on the Ultrasonic Calibration Data Sheet (Figure 1).

8. EXAMINATION PROCEDURE

NOTE: "System" = Instrument, Transducer, Wedges and same Cable type and length.

8.1 SYSTEM CALIBRATION

Perform the complete ultrasonic examination system calibration, establishing the DAC curve, within one day prior to use of the system for examination of those welds for which the calibration is applicable, and at least once each week during the examination, or at any time that any part of the system is changed.

NOTE: When necessary to replace a cable (even one of the same type and length) system calibration shall be verified. The verification may be delayed until after completion of the examination(s) in progress. However, the requirements of paragraph 8.2 concerning variations in DAC amplitude, sweep and reexamination shall apply.

8.2 SYSTEM CHECK

- A. Verify the system calibration (instrument sensitivity and sweep range calibration) at the following intervals:
 - (1) At the start and finish of examinations for which the calibration applies.
 - (2) At intervals not to exceed 12 hours. (Recommended 4 hour intervals)

- (3) With every change of examination personnel.
- (4) If the examiner suspects any malfunction of the UT system.
- B. If any point on the DAC curve has decreased 20% or 2db of its amplitude, all data sheets since the last calibration shall be made and recorded invalid. A new calibration shall be made and recorded and the affected examination areas re-examined.
- C. If any point on the DAC curve has increased more than 20% or 2db of its amplitude, recorded indications taken since the last valid calibration shall be re-examined with the correct calibration and their values changed on the data sheets. The reason for the changed values shall be noted on the data sheet. No action is required where no recordable indications exist.
- D. If any point on the DAC curve has moved on the sweep line more than ± 2 minor divisions of the sweep division reading, correct the sweep range calibration and note the correction on the calibration data sheet. If recordable reflectors are noted on the data sheets, those data sheets shall be considered invalid. A new calibration shall be established and recorded, and the affected areas re-examined.
- E. The use of simulators to verify 8.2.A is allowed if used in accordance with the following:
 - 1) Simulator checks must be correlated with the original calibration block during the original calibration.
 - 2) Simulator check shall be made with the entire system.
 - 3) Simulator used shall be completely identifiable on the Calibration Data Sheet (Figure 1).

NOTE: A simulator may be any one or combination of the following:

- 1) A suitable reflector from an IIW Block
- 2) A suitable reflector from a Mini IIW Block

8.3 SCANNING - GENERAL REQUIREMENTS

- A. Calibrate the system as described in Section 7 as appropriate.
- B. Scanning shall be conducted at the primary reference level +6db minimum except when performing 0° for laminar reflectors. (refer to Para. 7.2B)

- C. Locate the weld on the component.
- D. Verify that the surface finish on the component is similar to that of the calibration block used to calibrate the system.
- E. Establish a search unit scan path that provides 100% code required volume coverage (or maximizes coverage if 100% coverage is not achievable). Refer to Figures 4, 5 and 6 as appropriate, for examination coverage.
- F. Each scan shall be overlapped a minimum of 10% of the element dimension.
- G. The rate of search unit movement shall not exceed 6 inches per second.
- H. Record all indications as required by Section 10.0. If examination volume is free of recordable indications, this shall be noted on the data sheet.
- I. Record all obstructions or other conditions that interfered with the examination.
- J. Remove couplant from examination surface.

8.4 SCANNING (0°)

- A. The base material in the area through which the angle beam will pass shall be 0° scanned prior to the initial angle beam examination. The detection of laminar indications shall be recorded on the Ultrasonic Weld Examination Sheet (Figure 2), and considered when conducting the angle beam scans.

NOTE: This examination is not required if previous data provides the required information.

The Weld Required Volume (WRV) shall be examined with a 0° search unit in order to detect planar reflectors (a reflector that lies in a plane which is more than 10° from a plane parallel to the scanning surface of the component). This examination shall be performed on the entire volume of weld and adjacent base material to the extent required in Figures 4 or 5.

8.5 SCANNING (ANGLE BEAM)

8.5.1 Scanning for Reflectors Oriented Parallel to the Weld

- I. The angle beam search units shall be aimed at right angles to the weld axis, with the search unit manipulated so that the ultrasonic beams pass through all of the weld metal.

2. The weld shall be completely scanned using two angles in both directions.
3. The adjacent base metal in the examination volume must be completely scanned by two angle beams, e.g. 45° and 60°, but need not be completely scanned by both angle beams from both directions. (Any combination of two angle beams will satisfy the requirements).
4. Where the ultrasonic beams are directed essentially normal to the plane of the weld (parallel to the surface of the material, as when the examination is conducted from the nozzle bore or flange face), beam angles sufficient to provide complete coverage of the weld from one direction shall be acceptable.
5. Record all obstructions or other conditions that interfere with the examination.

8.5.2 Scanning for Reflectors Oriented Transverse to the Weld

1. The angle beam search units shall be aimed parallel to the axis of longitudinal and circumferential welds.
2. The search unit shall be manipulated so that the ultrasonic beams pass through all of the examination volume.
3. Scanning shall be done in two directions 180° to each other to the extent possible, using two different angles.
4. Obstructed areas shall be examined from at least one direction.

9. RECORDING

9.1 PREREQUISITES

- A. All indications shall be recorded at reference sensitivity.
- B. The determination that an ultrasonic indication is from a flaw or is of geometric or metallurgical origin shall be made by one or more of the following methods:
 - 1) Plot the indication per paragraph 9.3.C.
 - 2) Use of other NDE methods or techniques.
 - 3) Comparison with fabrication drawings or weld preparation drawings.

- C. When an indication is required to be recorded, the data required in Figure 3 shall be completed.
- D. Terminology used in this procedure:
- Flaw – A residual fabrication or serviced-induced reflector (e.g., slag, crack, etc.)
 - Geometric reflector – A weld root, counterbore, weld crown, etc.
 - Metallurgical reflector – A weld to base metal interface, grain structure, etc.

9.2 RECORDING CRITERIA FOR INTERFERING LAMINAR REFLECTORS

- A. Record all laminar reflectors interfering with angle beam examination by recording all areas giving signal amplitudes equal to or greater than the remaining back reflection.
- B. The location, size and depth of the laminar reflector(s) shall be plotted on a sketch. This sketch shall be attached to the Ultrasonic Indication Report Sheet (Figure 3) for use during the angle beam examinations.

9.3 RECORDING CRITERIA FOR GEOMETRIC AND METALLURGICAL REFLECTORS

- A. Geometric and metallurgical reflectors shall be recorded at a representative location (maximum amplitude point) when the amplitude equals or exceeds 50% DAC.
- B. Previously recorded geometric and metallurgical reflectors shall be verified at the previous recording level and coordinates. Indications need not be re-plotted but shall be referenced on the new data sheet by previous data sheet number and date or by attaching the previous data sheet to the new data package.
- C. Plot and verify the indications as follows:
- 1) Record maximum amplitudes as:
 - a) a percent of the DAC curve,
 - b) sweep readings to the reflector,
 - c) search unit locations and,
 - d) sound beam direction.

- 2) Plot location of reflector at a representative position on a full scale cross-section profile drawing showing the source of the indication and all other relative geometric conditions.

9.4 RECORDING CRITERIA FOR NON-GEOMETRIC INDICATIONS

- A. 0° and Angle Beam. The length dimension of a recordable indication regardless of its amplitude shall be measured between 50% DAC positions.
- B. For determining the through-wall dimension of a recordable indication, measure between points which yield amplitudes of 50% of the maximum amplitude of the indication.
- C. Other techniques should be attempted to provide a comparison for establishing the most accurate throughwall dimension.
- D. When the ultrasonic signal response(s) being obtained from a reflector is, in the judgment of the examiner, indicative of a crack, the reflector shall be recorded regardless of maximum amplitude obtained.

NOTE: Evaluation of indications shall be performed by personnel with a minimum certification of UT Level II.

9.5 ACCEPTANCE CRITERIA

Acceptance of indications shall be determined by evaluation to the requirements of ASME Boiler and Pressure Vessel Code, Section XI, Article IWA- 3000.

10. EXAMINATION RECORDS

- 10.1 NES shall be responsible for submitting to the Plant Owner, or his Agent, a complete set of examination records.
- 10.2 Figure 1 shall be completed by examiner(s) at the time of calibration. Figures 2 and 3 shall be completed by the examiner(s) as required.
- 10.3 The Examiner(s) shall sign the completed data sheet(s), noting applicable NDE Certification Level(s).
- 10.4 NES record retention shall be limited to that time until the Final Report and/or the examination data is delivered to the Plant Owner or his Agent.

11. ATTACHMENTS

- 11.1 FIGURE 1 – Ultrasonic Calibration Data Sheet
- 11.2 FIGURE 2 – Ultrasonic Weld examination sheet
- 11.3 FIGURE 3 – Ultrasonic Indication Report Sheet
- 11.4 FIGURE 4 – Class 1 Examination Volume and Scan path Calculations
- 11.5 FIGURE 5 – Class 2 Examination Volume and Scan Path Calculations
- 11.6 FIGURE 6 – Table 1 (Metal Path Calculations)
- 11.7 FIGURE 7 – Angle beam Verification Block – 2.5 inch presentation
- 11.8 FIGURE 8 – Angle beam Verification Block – 5.0 inch presentation
- 11.9 FIGURE 9 – Angle beam Verification Block – 10.0 inch presentation
- 11.10 FIGURE 10 – Angle beam Verification Block – 20.0 inch presentation

DATA SHEET NO. _____
PAGE _____ OF _____

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. _____
REV. _____
CHANGE NO. _____

INSTRUMENT	
Model	_____
Serial No.	_____
Sweep Length	_____ Delay _____
Range	_____
Gain (coarse)	_____ dB
Gain (fine)	_____ dB
Reference Sensitivity	_____ dB
Remarks	_____

SEARCH UNIT	
Serial No.	_____
Size	_____
Frequency	_____ MHz
Mode	_____
Nom. Angle	_____ °
Measured Angle	_____ °
Cable Type	_____
Cable Length	_____
Remarks	_____

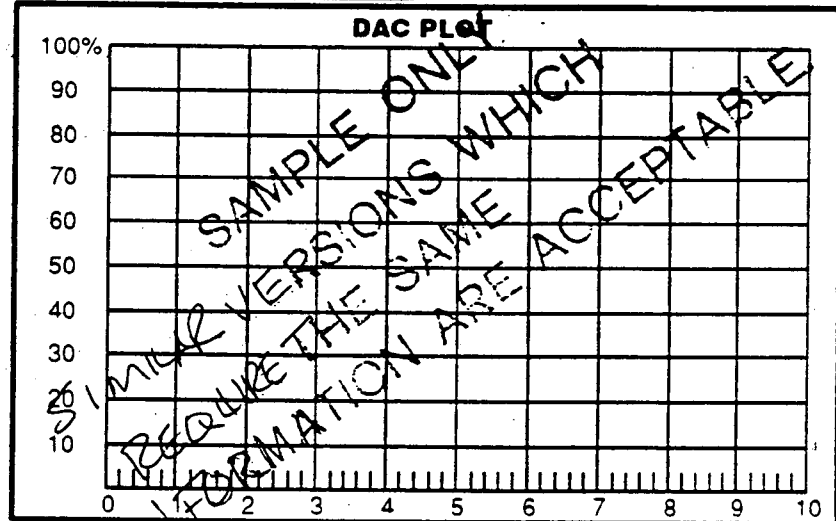
CALIBRATION BLOCK	
No.	_____
"T" _____	Dia. _____
Temperature	_____ ° F
Thermometer S/N	_____

VERTICAL LINEARITY					
AMPLITUDE % FSH					
	HIGH	LOW		HIGH	LOW
1			6		
2			7		
3			8		
4			9		
5			10		

COUPLANT	
Brand	_____
Batch No.	_____

CALIBRATION			
0°	<input type="checkbox"/>	Axial	<input type="checkbox"/> Circ <input type="checkbox"/>
Metal Path	<input type="checkbox"/>	Depth	<input type="checkbox"/>
Each Major Screen Div.	= _____		
Remarks	_____		

AMPL. CONTROL LINEARITY		
INITIAL	dB	RESULT
80	-6	
80	-12	
40	-6	
20	+12	



CAL. CHECKS	TIME
INITIAL CAL.	
INTERMEDIATE	
INTERMEDIATE	
INTERMEDIATE	
FINAL CAL.	

REMARKS _____

EXAMINERS 1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____
REVIEWERS 1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____
3 _____ LEVEL _____ DATE _____

DATA SHEET NO. _____

PAGE _____ OF _____

EXAM ITEM

ULTRASONIC EXAMINATION DATA SHEET

COMPONENT/SYSTEM _____

ISO/DWG. NO. _____ REV. _____

THERMOMETER S/N _____

COMPONENT TEMP _____ °F

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.

REMARKS:

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.

REMARKS:

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.

REMARKS:

SCAN _____ ° SCAN dB _____				EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	YES	NO	YES	NO	ACC.	REJ.

REMARKS:

EXAMINERS:

1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____

REVIEWERS:

1 _____ LEVEL _____ DATE _____
2 _____ LEVEL _____ DATE _____
3 _____ LEVEL _____ DATE _____

ULTRASONIC EXAMINATION SHEET
FIGURE 2

EXAM ITEM

--

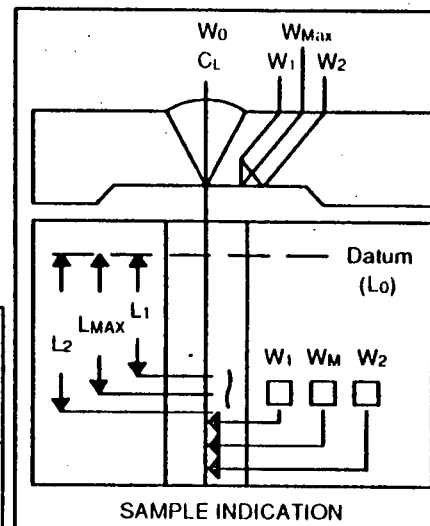
ISO/DWG NO

ULTRASONIC INDICATION REPORT SHEET

- ☐ PIPING WELDS
- ☐ FERRITIC VESSELS $\geq 2"$ T
- ☐ OTHER _____

DATA SHEET NO _____

PAGE _____ OF _____



SEARCH UNIT ANGLE _____° W₀ LOCATION _____ L₀ LOCATION _____

MP	Metal Path	W max	Distance from W ₀ to S.U. at maximum response.
RBR	Remaining Back Reflection	W ₁	Distance from W ₀ at 50% of DAC (fwd)
L	Distance from Datum	W ₂	Distance from W ₀ at 50% of DAC (backward)

[illegible]

* Ferritic vessels $\geq 2"$ T: record 50% of maximum response for indications over 100% DAC.

EXAMINERS	1	LEVEL	DATE
	2	LEVEL	DATE
REVIEWERS	1	LEVEL	DATE
	2	LEVEL	DATE
	3	LEVEL	DATE

1125 NUCLEAR ENERGY SERVICES, INC.

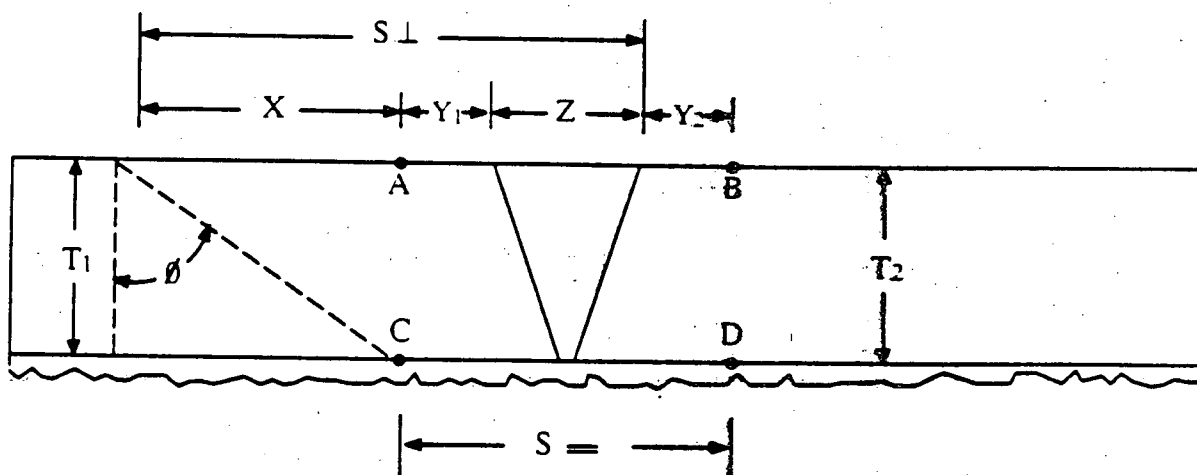
世

NUCLEAR ENERGY SERVICES

DOCUMENT NO. 83A6031

PAGE 25 OF 33

ASME B&PV SECTION XI REQUIRED
EXAMINATION VOLUME CLASS 1 VESSELS
GREATER THAN 2 INCHES



Scan area as required to examine volume A-B-C-D
Scan Path Calculations

Perpendicular Coverage:

$$\begin{aligned} S_{\perp} &= X + Y_1 + Z \\ X &= T_1 \times \tan \theta \\ Y_1 &= 1/2 \text{ Material Thickness} \\ Z &= \text{Width of Weld Crown} \\ \theta &= \text{Examination Angle} \end{aligned}$$

Example:

$$\begin{aligned} T_1 &= 2'' \\ \theta &= 60 \text{ degrees} \\ X &= 2'' \times \tan 60 = 3.47'' \\ Y_1 &= 1 \\ Z &= 1.25 \\ S_{\perp} &= 3.47 + 1 + 1.25 = 5.72'' \end{aligned}$$

Drawing shows one sided \perp scan only. Weld must be examined from both sides.

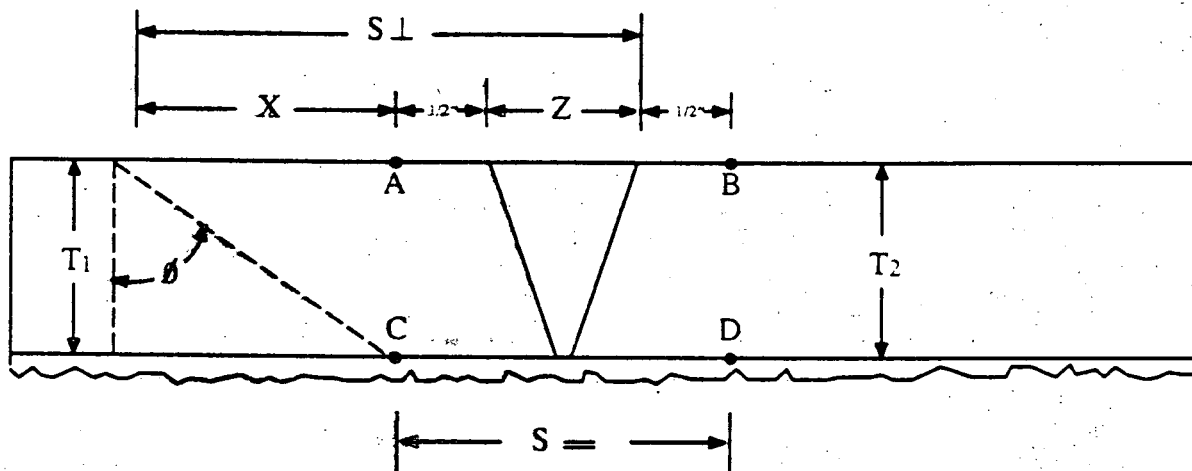
Parallel Coverage:

$$\begin{aligned} S_{\parallel} &= Y_1 + Z + Y_2 \\ Y_1 &= 1/2 T_1 \\ Z &= \text{Width of Weld Crown} \\ Y_2 &= 1/2 T_2 \end{aligned}$$

For examination volumes not depicted here refer to the referencing code.

EXAMINATION VOLUME CLASS 1 VESSELS
FIGURE 4

ASME B&PV SECTION XI REQUIRED
EXAMINATION VOLUME CLASS 2 VESSELS
GREATER THAN 2 INCHES



Scan area as required to examine volume A-B-C-D
Scan Path Calculations

Perpendicular Coverage:

- $S_{\perp} = X + 1/2" + Z$
- $X = T_1 \times \tan \theta$
- $Z = \text{Width of Weld Crown}$
- $\theta = \text{Examination Angle}$

Example:

- $T_1 = 2"$
- $\theta = 60 \text{ degrees}$
- $X = 2" \times \tan 60 = 3.47"$
- $Z = 1.25$
- $S_{\perp} = 3.47 + .5" + 1.25" = 5.22"$

Drawing shows one sided \perp scan only. Weld must be examined from both sides.

Parallel Coverage:

- $S_{\parallel} = 1/2" + Z + 1/2"$
- $Z = \text{Width of Weld Crown}$

For examination volumes not depicted here refer to the referencing code.

EXAMINATION VOLUME CLASS 2 VESSELS
FIGURE 5

FORMULA FOR DETERMINING METAL PATH

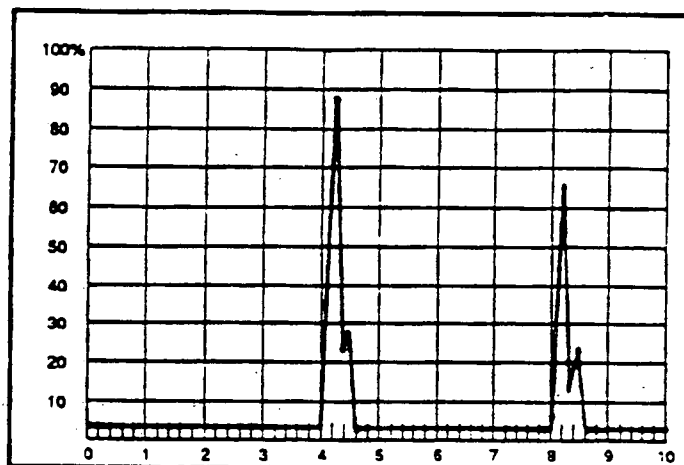
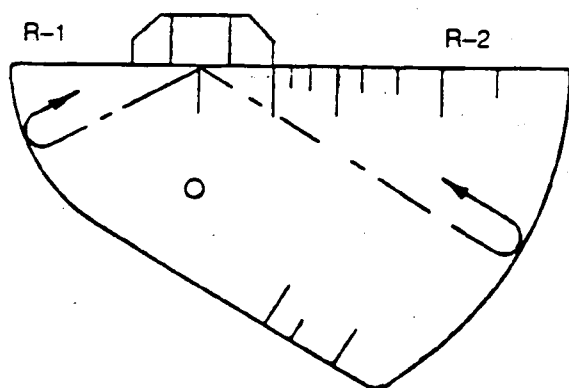
VEE PATH	<u>45°</u>	<u>60°</u>	<u>70°</u>
1/2	T X 1.414	T X 2.0	T X 2.923
3/4	T X 2.121	T X 3.0	T X 4.386
1, 1/2	T X 4.242	T X 6.0	T X 8.769

For determining other metal paths when using other angles, calculate as follows:

- (1) 1/2 Vee Constant = 1/cos angle
- (2) 3/4 Vee Constant = 1/cos angle x 1.5
- (3) 1, 1/2 Vee Constant = 1/cos angle x 3.0

Constant x "T" = Metal Path for appropriate Vee path.

TABLE 1 (METAL PATH CALCULATION)
FIGURE 6



METAL PATH CALIBRATION FOR A 2.5" CRT PRESENTATION

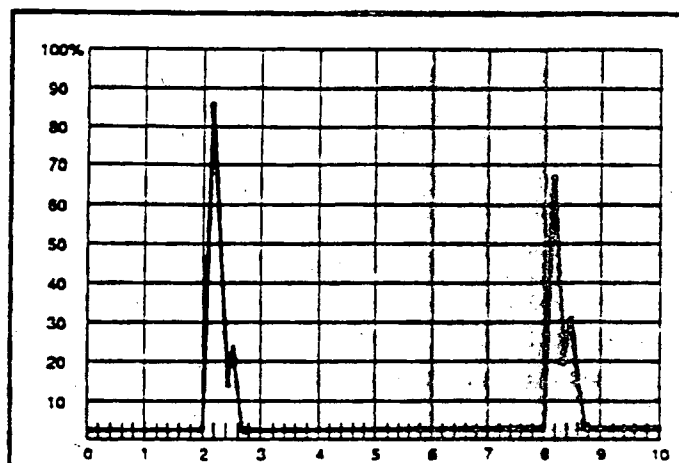
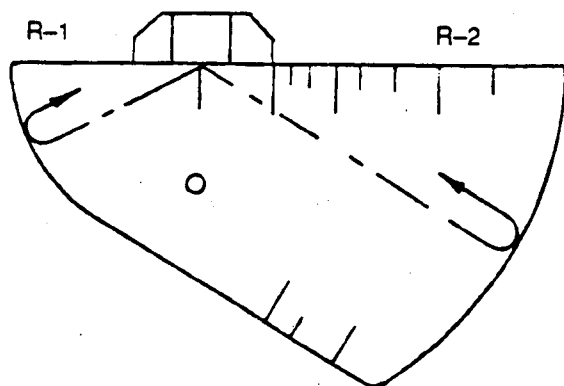
With the search unit coupled to the Miniature IIW Block:

- 1) Maximize the signal from the 1" radius (R-1).
- 2) With the Sweep and Delay controls, align this signal at position 4 on the CRT (CRT 4).
- 3) Maximize the signal from the 2" radius (R-2).
- 4) With the Sweep and Delay controls, align this signal at CRT position 8.
- 5) Repeat steps 2 and 4 until the respective signals are aligned at CRT position 4 and CRT position 8.

The instrument is now calibrated for 2.5" metal path. Each Major Division = 0.25".

ANGLE BEAM VERIFICATION BLOCK 2.5" PRESENTATION

FIGURE 7



METAL PATH CALIBRATION FOR A 5" CRT PRESENTATION

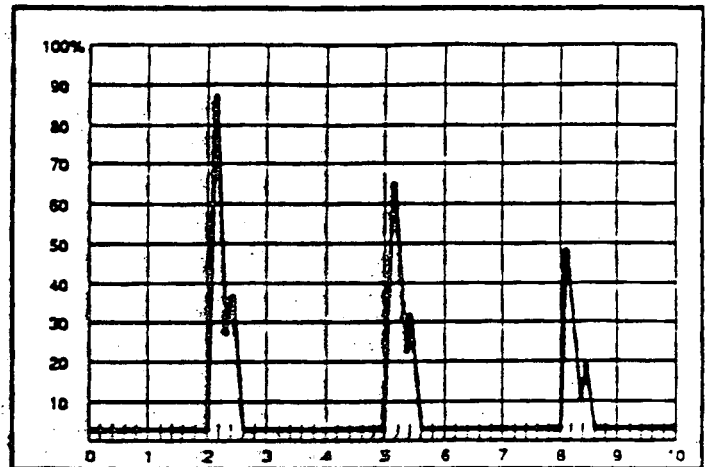
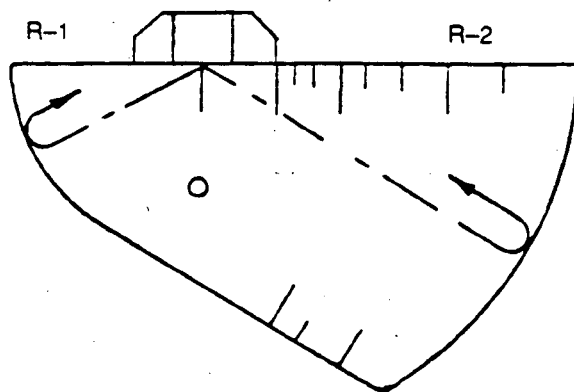
With the search unit coupled to the Miniature IIW Block and:

- 6) With the transducer facing the 1" radius, maximize the signals from the 1" (R-1) and 2" radius (R-2).
- 7) With the Sweep and Delay controls, align these signals at positions 2 and 8 respectively.
- 8) Face the transducer at the 2" radius (R-2), the signal from R-2 should appear at position 4 on the CRT.

The instrument is now calibrated for 5.0" metal path. Each Major Division = 0.50".

ANGLE BEAM VERIFICATION BLOCK 5.0" PRESENTATION

FIGURE 8



METAL PATH CALIBRATION FOR A 10" CRT PRESENTATION

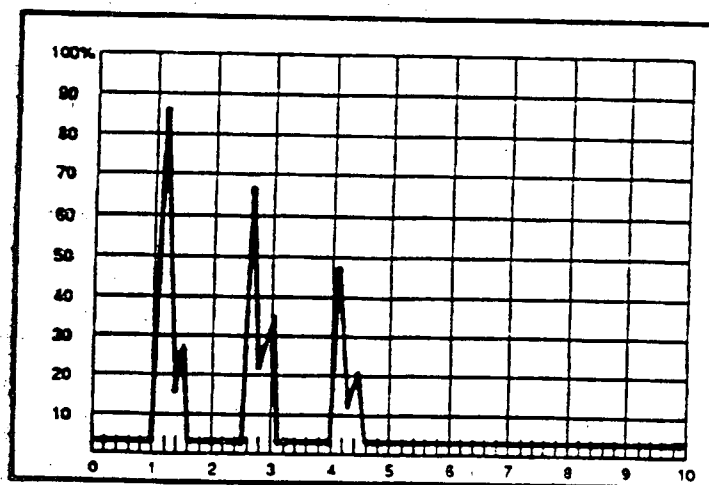
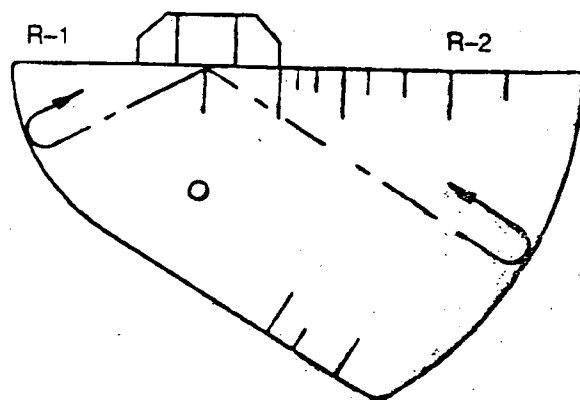
With the search unit coupled to the Miniature IIW Block and:

- 9) With the transducer facing the 2" radius, maximize the signal from the 2" radius (R-2) and align this signal at CRT position 2.
- 10) Adjust the gain control if necessary and observe the signals that appear from the 5" and 8" metal paths. (These metal pats and signals result from the sound making successive "round trips" from each radius).
- 11) With the Sweep and Delay controls, align these signals at CRT positions 5 and 8 respectively.

The instrument is now calibrated for 10.0" metal path. Each Major Division = 1.0".

ANGLE BEAM VERIFICATION BLOCK 10.0" PRESENTATION

FIGURE 9



METAL PATH CALIBRATION FOR A 20" CRT PRESENTATION

With the search unit coupled to the Miniature IIW Block and:

- 12) With the transducer facing the 2" radius, maximize the signal from the 2" radius (R-2) at CRT position 1.
- 13) Adjust the gain control if necessary and observe the signals that appear from the 5" and 8" metal paths. (These metal paths and signals result from the sound making successive "round trips" from each radius).
- 14) With the Sweep and Delay controls, align these signals at CRT positions 2.5 and 4 respectively.

The instrument is now calibrated for 20.0" metal path. Each Major Division = 2.0".

ANGLE BEAM VERIFICATION BLOCK 20.0" PRESENTATION

FIGURE 10

12.0

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY
H. B. ROBINSON SEG PLANT

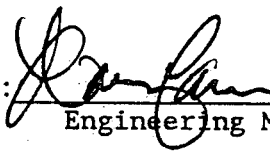
SPECIAL PROCEDURE
SP-1093
ULTRASONIC THICKNESS MEASUREMENT
FOR H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:



Engineering Manager - Programs

3/29/92
Date

APPROVED BY:



Manager - Technical Support

3/29/92
Date

CONTROLLED
RECIPIENT
ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 12	0

ULTRASONIC THICKNESS MEASUREMENT
FOR
H.B. ROBINSON STEAM ELECTRIC PLANT
UNIT 2

CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED

Object Application 2454		Copy No.	Assigned To		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	LEVEL III	PROJECT MGR.	GENERAL MGR.	
0	Scott Larson	<i>Shalinsky</i> 2/20/92	<i>Smith</i> 2.20.92	<i>Smith</i> 2.20.92	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

[illegible]

1. PURPOSE

The purpose of this procedure is to define the techniques and equipment as used to make ultrasonic thickness measurements.

2. SCOPE

This procedure is limited to manual; digital and analog ultrasonic thickness measurement of ferritic and non-ferritic materials up to and including 6" in thickness. The measurements are made from the accessible surface of the component.

3. REFERENCES

- 3.1 Document 80A9068. NES Procedure for Certifying Nondestructive Examination Personnel.

4. PERSONNEL REQUIREMENTS

- 4.1 Personnel performing thickness measurements to this procedure shall be certified in accordance with reference 3.1
- 4.2 At least one member of each crew shall have a minimum certification of Level II (Thickness)
- 4.3 A copy of each examiner's certification summary and current eye test shall be maintained on site.
- 4.4 A copy of each examiner's certification summary and current eye test shall be made available to the plant owner or his agent prior to performing examinations per this procedure.

5. EQUIPMENT AND MATERIAL REQUIREMENTS

5.1 INSTRUMENTATION

Ultrasonic pulse echo instrumentation that operates within a frequency range of 1.0 MHz to 5.0 Mhz. The instrumentation may include analog and/or digital display(s). (Analog = instrumentation using a Cathode Ray Tube (CRT) display).

5.2 SEARCH UNITS

Search units may contain either single or dual transducer elements. Search units with delay lines (stand off) may be used providing that satisfactory calibration can be achieved.

5.3 CABLES

Cables, where not integrally attached to the search unit, may be any convenient length. Examinations shall be conducted using the same cable as that used during the calibration.

5.4 COUPLANT

Ultragel – or couplant supplied by the plant owner

5.5 CALIBRATION SAMPLES

Calibration shall be performed using samples selected and provided by the plant owner. Where these do not exist, samples fabricated from similar material to the component being measured shall be used.

CAUTION:

Stainless steels are prone to sound velocity changes. This should be considered when selecting calibration samples.

6. GENERAL PREREQUISITES

- 6.1 The components to be examined shall be identified / determined by the plant owner.
- 6.2 The component shall be prepared for examination by the plant owner, e.g. the examination surface shall be free of foreign matter which may interfere with ultrasonic transmission.
- 6.3 The examiner shall notify the NES lead individual or other designated contact individual when component surface conditions are not suitable for the ultrasonic thickness measurement.

7. CALIBRATION PROCEDURE

7.1 PREREQUISITES

NOTE: At least two samples of known thickness should be available for all thickness measurement calibration. One reference thickness should be of greater thickness and the other, of lesser thickness than the nominal thickness of the component to be measured. Step wedges of appropriate material and thickness range are acceptable for calibration.

- A. Calibration shall be performed using the same search units and cables that are to be used for thickness measurement.
- B. The temperature of the calibration samples shall be within 25°F of the component being measured.
- C. Ensure that the instrument cable and search unit (system) are functioning correctly.

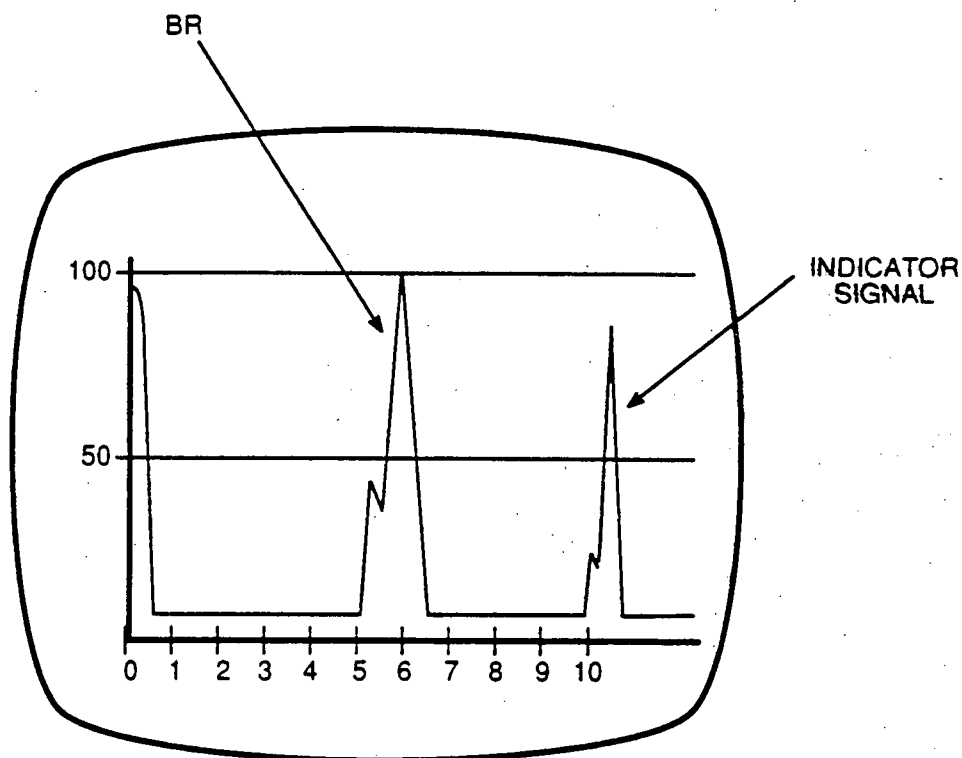
7.2 CALIBRATION

7.2.1 Analog Instruments

7.2.2 Analog instruments shall be calibrated in accordance with the following instructions. If other methods of calibration are required, they shall be approved by an NES UT L III

7.2.2.1 Single Element Search Unit

- a. Set the search unit on the thicker calibration sample and produce a back reflection (BR) at 100% (nominal) full screen height (FSH) and include at least one repeat BR
- b. Using the SWEEP and DELAY controls, align these signals with positions on the screen that correspond to the thickness of the sample and a multiple of this thickness. (e.g. for a 1" sample, the BR is aligned with position 5, and the repeat BR is aligned with position 10. See following figure).



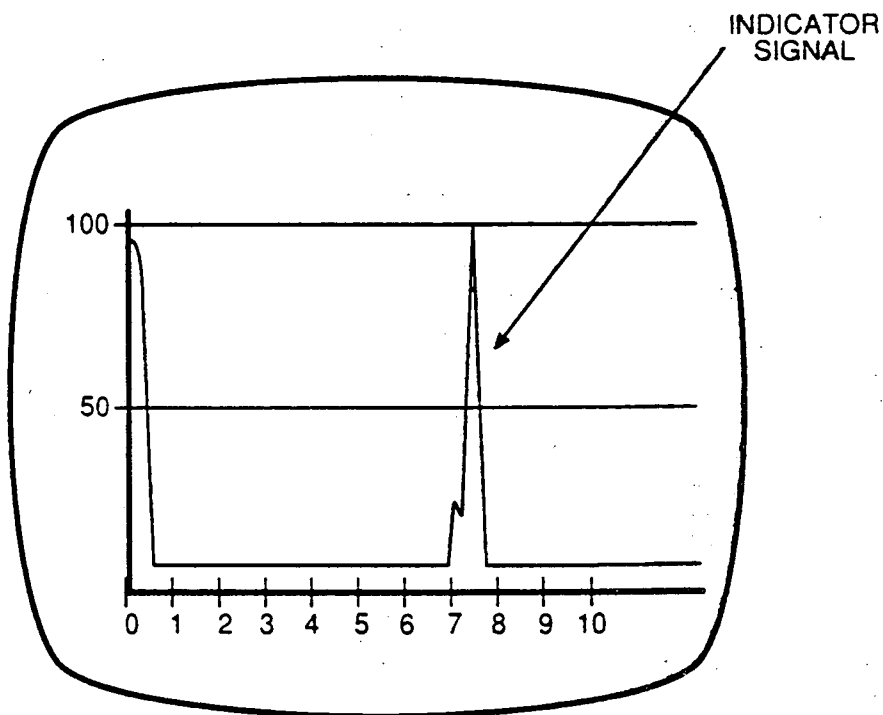
- c. The repeat BR that is aligned with the actual thickness position is the INDICATOR SIGNAL. (In the example above, the signal at position 10 is the INDICATOR SIGNAL. If readings are taken from the indicator signal, then full screen represents 1.0" and each major screen division equals 0.1").
- d. Check the accuracy – with the DELAY control only, move the signals to the left until the next set of signals appear. (Additional gain may be required). These signals should now appear at exactly the same positions as the first set of signals did prior to being delayed. If not, adjust the SWEEP and DELAY controls until there is alignment.
- e. Return the timebase to its original position using the DELAY control.
- f. The search unit is now placed on a sample of thinner dimension and the thickness is measured.
- g. Lock the controls. The system is now calibrated for measuring thickness of a specific material.

NOTE: It should not be necessary to adjust the controls at this point. If the measurement is inaccurate, check sample thicknesses with a Micrometer and make sure that the sample materials are similar to each other as well as to the component that you are about to measure.

7.2.2.2 Dual Element Search Unit

- a. Set the search unit on the calibration sample and produce a BR at 100% (nominal) FSH from a thickness that is greater than the nominal thickness of the component that is to be measured.
- b. Align this signal with the position on the graticule that corresponds to the thickness of the sample. This is the indicator signal.
- c. Place the search unit on a sample thickness that is less than the nominal thickness of the component to be measured and align this signal with the position on the graticule that corresponds to this sample thickness.
- d. Using the SWEEP and DELAY controls while moving from the sample in (a) above to the sample in (c) above, align the signals with their corresponding thicknesses until a LINEAR TIMEBASE is achieved.

See sketch below.



7.2.3 Digital Instruments

Digital instruments shall be calibrated in accordance with the manufacturers instructions. Some digital instruments use two controls for calibration. These generally function in a similar manner to the SWEEP and DELAY controls that exist on a conventional ultrasonic flaw detector. In this case, calibrate the instrument by balancing the two controls until the desired thickness readings are obtained between two or more thicknesses.

NOTE: Manufacturer's instructions where necessary, are attached to this procedure.

7.3 CALIBRATION CHECKS

- A. Calibration checks shall be conducted at the start and finish of measurements for which the calibration applies.
- B. These checks shall also be conducted as a minimum every two hours, however, it is recommended that where possible, checks be performed more frequently.
- C. Checks shall be made if any malfunction is suspected.

NOTE: In the event of a check revealing inaccuracies greater 2%, the instrument shall be recalibrated and all measurements made since the previous check or calibration, shall be remeasured.

8. EXAMINATION PROCEDURE

8.1 PREREQUISITES

8.1.1 System Calibration

- a. Perform the calibration as close as possible in time prior to performing the measurements, and at any time that any part of the system is changed.
(Search unit, cable or batteries)
- b. Calibration shall be performed with every change of personnel.



8.1.2 Gridding

- a. Gridding shall be accomplished as directed by the plant owner.
- b. Datum should be referenced from a permanent mark or appendage where possible.

8.2 MEASUREMENTS

NOTE: Measurements shall be made at positions determined by the plant owner. Where minimum wall thickness requirements are provided and if this condition is encountered, adjacent areas shall be scanned in order to locate the lowest reading.

- a. Place the couplant and search unit at the appropriate measurement site.
- b. Allow the signal or reading to stabilize.
- c. In the case of analog readings, note the appropriate position of the INDICATOR SIGNAL.
- d. In the case of direct digital readout equipment, note the thickness on the display

9. RECORDING

- A. Thickness readings shall be recorded either on a grid drawing or entered into an electronic data bank. Alternately, thickness measurements and corresponding calibration/equipment data may be recorded on forms provided by the plant owner.
- B. When using equipment with electronic data banks, refer to the instructions included with the equipment.

10. POST EXAMINATION CLEANUP

After obtaining all the necessary information, all couplant shall be removed from the component leaving the surface dry.

11.0

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY
H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE
SP-1094
ULTRASONIC INSTRUMENT
LINEARITY VERIFICATION

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY: *[Signature]* 3/27/92
Engineering Manager - Programs Date

APPROVED BY: *[Signature]* 3/29/92
Manager - Technical Support Date

CONTROLLED
RECIPIENT
ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 13	0

ULTRASONIC INSTRUMENT

LINEARITY VERIFICATION



CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED

Project Application		Copy No.	Assigned To		
Implementing		250	Mr. Carl Osman - Carolina Power & Light		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	LEVEL III	EXECUTIVE VICE PRESIDENT	QA MANAGER	
0					
1					
2					
3					
4					
5					
6					
7					
8					
9	M. Shakinovsky	<i>M. Shakinovsky</i> 12-6-91	<i>W. J. Thomas</i> 12-6-91	<i>P. B. [Signature]</i> 12-06-91	
10					
11					

1. OBJECTIVE

This document delineates the frequency of performance and the technique whereby ultrasonic instruments in active use may be evaluated for functional linearity.

2. GENERAL

Screen Height, Amplitude Control and Horizontal linearity shall be verified at the beginning and end of an outage and/or every 90 days as a minimum, while in use.

Screen Height and Amplitude control Linearity shall also be verified as specified by referencing examination procedures.

When special equipment is used, intermediate linearity will be verified by methods unique to each specific system as outlined in the specific systems governing procedure.

NOTE: In the event of damage to the equipment prior to performance of the "end of outage" verification, the verification conducted in accordance with specific examination procedures is acceptable documentation in lieu of the "end of outage" verification

3. RESPONSIBILITIES

The cognizant department manager shall ensure that appropriate personnel (e.g., Site Supervisor or Equipment Manager) implement this procedure.

4. REFERENCES

1. ASME Boiler and Pressure Vessel Code, Section V.
2. ASME Boiler and Pressure Vessel Code, Section XI.

5. DEFINITIONS

5.1 AMPLITUDE CONTROL LINEARITY VERIFICATION

The determination that the change in signal amplitude as selected with the "gain" control is consistent with the change noted on the Cathode Ray Tube (CRT).

5.2 SCREEN HEIGHT LINEARITY VERIFICATION

The determination that the signal amplitude difference between two signals observed on the CRT remains consistent throughout the dynamic range (in use) of the instrument.

5.3 HORIZONTAL LINEARITY VERIFICATION

The determination that the system responds in a proportional manner to a range of echo signals along the time base (sweep).

6. REQUIREMENTS

1. Linearity verifications shall be performed by a Level I, II, or III examiner certified in Ultrasonic Examination (UT). A Level I trainee may perform the linearity verification under the supervision of a Level II or III examiner.
2. For ultrasonic systems that utilize changeable pulser/receiver(s), a linearity check shall be performed for each pulser/receiver. The check shall be performed each time these components to the system are changed.

7. EQUIPMENT

1. The Pulse Echo ultrasonic instrument to be verified.
2. Calibration blocks – International Institute of Welding (IIW), miniature angle beam, or any convenient calibration block that will provide the necessary reflectors as follows:
 - A. For verification of amplitude control linearity, only one signal is required.
 - B. For Screen Height linearity, reflectors that will allow signals whose amplitudes may be adjusted by transducer placement to a ratio of 2:1.
 - C. For Horizontal linearity, a block that will provide clear back-surface reflections to enable the performance of the verification as required in paragraph 8.1.
 - D. Where applicable, an electronic signal generator capable of producing a display on the UT instrument of two signals whose amplitudes can be adjusted to a ratio of 2:1.

- Search unit, 0° (any convenient size and frequency).
4. Search unit, Angle beam any convenient size, frequency, and angle.

8. PROCEDURE

NOTE: Since linearity can be affected by the use of "REJECT" during the verifications, the reject control shall be in the "Off" or "Minimum" position as applicable.

All signal heights and horizontal positions shall be read and recorded to the nearest 1% of full screen height.

8.1 HORIZONTAL LINEARITY

The instrument's ability to provide a linear horizontal display may be verified as follows:

1. Place the 0° search unit on the appropriate surface of the calibration block and adjust the instrument controls to obtain clear multiple back surface reflections.
2. Adjust the "DELAY" control to align the leading edge of the first Back Reflection (BR) with the number 1 CRT graticule.
3. Adjust the "SWEEP" (fine range) control to align the leading edge of the tenth BR with the number 10 CRT graticule position.
4. Repeat steps 2 and 3 until the first BR is aligned at position "one", and the tenth BR multiple, with position "ten".
5. Record the position of the leading edge of each BR on the appropriate form (Exhibit 1).
6. To be considered acceptable, the signals should coincide with each of the ten numbered screen divisions within $\pm 5\%$ of nominal.

8.2 SCREEN HEIGHT LINEARITY

The instruments ability to provide a linear vertical display may be verified as follows:

1. Position a search unit (Angle Beam or 0°) on the calibration block so that two signals can be observed on the CRT.

2. Adjust the search unit position to display a 2:1 ratio of amplitudes between the two signals, with the larger at 80% of full screen height (FSH).
3. Without moving the search unit, adjust the "GAIN" (sensitivity) control to successively set the larger signal from 100% down to 20% of FSH, in 10% increments or in 2dB steps if a fine gain control is not available.
4. Record the amplitudes of both signals at each increment on the appropriate form (Exhibit 1) 9 points in all.
5. The smaller signal amplitude shall be half the amplitude of of the larger signal, within $\pm 5\%$ of FSH, to be considered linear.
6. The instrument shall provide a linear vertical presentation (within 5% FSH) for at least 80% of the screen height (sweep line to top of screen).

8.3 AMPLITUDE CONTROL LINEARITY

The accuracy of the calibrated amplitude control may be verified as follows:

1. Set any signal to 80% FSH.
2. Decrease amplitude by 6dB. The signal amplitude shall fall within the specified limits of 32% to 48% of FSH.
3. Decrease amplitude by an additional 6 dB. The signal amplitude shall fall within the specified limits of 16% to 24% of FSH.
4. Set the same (or any other) signal to 40% of FSH.
5. Increase the amplitude by 6dB. The signal amplitude shall fall within the specified limits of 64% to 96% of FSH.
6. Set the same (or any other) signal to 20% of FSH.
7. Increase amplitude by 12dB. The signal amplitude shall fall within the specified limits of 64% to 96% of FSH.
8. Record the signal responses on the appropriate form (Exhibit 1).

8.4 DYNAMIC RANGE

(For "90 day" or "beginning/end of outage" linearity checks only)

When conducting the following verification, the signal amplitude must fall within the specified limits of 64% and 96% FSH.

Instruments with coarse gain controls of 20 dB increments shall have the coarse gain control evaluated as follows:

- a) Place the search unit (Angle Beam or 0°) on the calibration block and set any signal to 80% FSH with the Coarse Gain set at 0 dB and the Fine Gain control set at 20 dB.
- b) Without changing the signal in step (a) set the Coarse Gain to 20 dB and the Fine Gain at 0 dB. Note the signal amplitude.
- c) Set any signal to 80% FSH with the Coarse Gain control at 0 dB and the fine Gain control at 40 dB.
- d) Without changing the signal in step (c), set the coarse Gain to 20 dB and the fine Gain to 20 dB. Set the Coarse Gain to 40 dB and the fine Gain to 0 dB. Note the signal amplitude.
- e) Set any signal to 80% FSH with the Coarse Gain set at 60 dB and the Fine Gain at 0 dB.
- f) Without changing the signal in step (e), set the Coarse Gain to 40 dB and the Fine Gain to 20 dB. Set the Coarse Gain to 20 dB and the Fine Gain to 40 dB and note the amplitude.
- g) Set any signal to 80% with the Coarse Gain at 80 dB and the Fine Gain at 0 dB.
- h) Without changing the signal in step (g), set the Coarse Gain to 60 dB and the Fine Gain to 20 dB. Set the Coarse Gain to 40 dB and the Fine Gain to 40 dB and note the amplitude.
- i) Set any signal to 80% FSH with the Coarse Gain set at 100 dB and the Fine Gain set at 0 dB.

- j) Without changing the signal in step (i), set the Coarse Gain to 80 dB and the Fine Gain to 20 dB. Set the Coarse Gain to 60 dB and the fine Gain to 40 dB and note the amplitude.
- k) The specific results of the measurements in 7.4 above need not be recorded on the Ultrasonic Instrument Linearity Record (Exhibit 1), however the appropriate box shall be checked, annotating that the measurements were performed.

NOTE: Some of the steps in 7.4 may be omitted if the instrument has a smaller dynamic range, and additional steps may be added if the instrument has a larger dynamic range. For instruments with Coarse Gain controls with 10 dB increments, conduct the above measurements substituting 20 dB with 10 dB.

9. REPORTS - REPORTING FORMS

- 1. For Quarterly and beginning/end of outage verifications, the appropriate form shall be completed by the examiner, with "acceptance" or "non-acceptance" indicated (see Exhibit 1).
- 2. For verification specified by other procedures, the data obtained shall be recorded in the appropriate space on a data sheet, or in other permanent data storage.
- 3. All forms must be signed by a certified individual annotating the certification level.

10. ACCEPTANCE

When the instrument performs within the prescribed limits, as indicated in this procedure, it shall be considered acceptable. A new "Linearity Verification" sticker shall be affixed to the instrument and shall indicate the date of linearity verification, the examiner's identity, and the due date for the next linearity verification (other than end of outage). A new sticker is not required for daily verifications.

11. NONACCEPTANCE

When the instrument is removed from service for extended periods or fails to perform within the prescribed limits, as indicated in this procedure, it shall be tagged as "Out of Service". The existing

"Linearity Verification Sticker" shall be removed and the instrument shall not be returned to service until it performs within the prescribed limits and a new "Linearity Verification Sticker" has been attached.

12. STORAGE

Ultrasonic instruments located at the NES off-site offices shall be stored in segregated areas clearly labeled "Hold – Do Not Use Until Linearity is Verified."

Ultrasonic Instrument Linearity Record

Ultrasonic Instrument:

Make _____ Model # _____ Serial # _____

Transducer: _____ ° Angle Beam _____

Freq. _____ Size _____ Serial # _____ Serial # _____

Calibration Standard: _____

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	
10	10	

Screen Height Linearity Signal Amplitude in % FSH

No.	Actual Higher Signal	(Calculate)		Actual Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	
2	90	45	(50) - (40)	
3	80	40	(45) - (35)	
4	70	35	(40) - (30)	
5	60	30	(35) - (25)	
6	50	25	(30) - (20)	
7	40	20	(25) - (15)	
8	30	15	(20) - (10)	
9	20	10	(15) - (05)	

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6		32% - 48%
80% FSH	Down 12		16% - 24%
40% FSH	Up 6		64% - 96%
20% FSH	Up 12		64% - 96%

Gain Control Full Range Checked: ☐ Yes ☐ No

This Instrument is Considered: ☐ Acceptable ☐ Not Acceptable

Examiner _____ ID _____ Level _____

Date _____

Reviewed by _____ ID _____ Level _____

Date _____

EXHIBIT 1



13.0

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY
H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE
SP-1095

LIQUID PENETRANT EXAMINATION PROCEDURE
FOR H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:

[Signature]
Engineering Manager - Programs

3/27/92
Date

APPROVED BY:

[Signature]
Manager - Technical Support

3/29/92
Date

CONTROLLED
RECIPIENT

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 29	0

LIQUID PENETRANT EXAMINATION PROCEDURE

FOR

H.B. ROBINSON STEAM ELECTRIC PLANT

UNIT 2

CONTROLLED COPY

VALID ONLY IF THIS STAMP IS RED

Project Application

Copy No.

Assigned To

APPROVALS

TITLE / DEPT. - SIGNATURE - DATE

REV NO	PREPARED BY	LEVEL III	PROJECT MGR.	GENERAL MGR.	
0	Scott Larson	<i>[Signature]</i> 4/20/92	<i>[Signature]</i> 2/20/92	<i>[Signature]</i> 2/20/92	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

REVISION LOG

NUCLEAR ENERGY SERVICES, INC.

DOCUMENT NO. 83A6101

PAGE 2 OF 26

[illegible]

LIQUID PENETRANT EXAMINATION

1. PURPOSE

- 1.1 The purpose of this procedure is to establish the requirements for Liquid Penetrant (PT) examination and to describe the techniques for Visible and Fluorescent examination of welds and components of all sizes in non porous material requiring surface examination.

2. SCOPE

- 2.1 This procedure incorporates the methodology and requirements of the Codes and Standards referenced in Section 3.0. This document describes the techniques necessary to conduct PT examinations using Visible and Fluorescent, Solvent removable and Water Washable PT testing methods.
- 2.2 This procedure meets the requirements of the referenced documents to the extent specified in this procedure. When project specifications invoke or modify these requirements, the project specifications shall govern. These project requirements may be addended to this procedure as necessary.

3. REFERENCES

- 3.1 ASME B & PV Code Section III. Edition as applicable.
- 3.2 ASME B & PV Code Section V 1986 Edition.
- 3.3 ASME B & PV Code, Section XI. 1986 Edition.
- 3.4 80A9068, NES Procedure for Certifying Nondestructive examination Personnel. Latest Revision.
- 3.5 83A0283, NES Procedure "PSI/ISI Examination Areas and Volumes.

4. PERSONNEL REQUIREMENTS

- 4.1 Personnel performing examinations to this procedure shall be certified in accordance with reference 3.4
- 4.2 A copy of each examiner's certification summary and eye test shall be made available to the plant owner or his agent prior to performing examinations to this procedure.

- 4.3 A copy of each examiner's certification summary, and eye test shall be maintained on site.
- 4.4 Interpretation of examination results shall be conducted by personnel with a minimum certification of Level II PT.

5. SAFETY PRECAUTIONS

NOTE: This procedure may involve hazardous materials, operations, and equipment. The procedure does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this procedure to observe good safety and health practices.

- 5.1 Personnel should avoid standing on wet or damp surfaces while operating equipment electrical equipment (e.g. UV Lamp).
- 5.2 UV filtering glasses should be worn when conducting fluorescent PT.
- 5.3 Eye protection should be worn during examinations.
- 5.4 Some examination media may cause skin irritation. Precautions should be taken to avoid prolonged skin contact.
- 5.5 Examinations should be conducted in well ventilated areas.
- 5.6 Smoking while performing PT examinations is prohibited.

6. DEFINITIONS

- 6.1 Area of Interest – Area of part or component on which surface examinations will be conducted.

Discontinuity – An interruption in the physical structure of a part. It may be intentional or unintentional.

Indication – Evidence of a discontinuity that requires interpretation to determine its significance

Interpretation – The determination whether indications are relevant or nonrelevant.

Nonrelevant indications – An indication caused by a condition that is not related to a discontinuity.

Recordable indication – Any relevant indication.

7. EQUIPMENT & MATERIAL REQUIREMENTS

7.1 The following equipment is required as necessary:

- a) Clean white lint-free cloth or absorbent paper
- b) Applicable illumination (UV, Flashlight, or other)
- c) Thermometer
- d) Timer or watch
- e) 18% Neutral gray card
- f) Calibrated UV light meter (as applicable)
- g) Hose(s), valve(s), pressure gage, appropriate for water-wash technique (as applicable)

7.2 The following materials or their equivalent are approved for use:

NOTE: Magnaflux SKC-NF/ZC-7B Cleaner may be used with all of the following:

Color Contrast Solvent Removable:

- a) Magnaflux SKL-HF Penetrant
- b) Magnaflux SKD-NF Developer

Color Contrast Water Washable:

- a) Magnaflux SKL-WP Water Washable Penetrant
- b) Magnaflux SKD-NF Developer (non-aqueous)
- c) Magnaflux ZP5B Developer (aqueous)

Fluorescent:

- a) Magnaflux ZL-67 Water Washable Penetrant
- b) Magnaflux ZP-9F Developer (non-aqueous)
- c) Magnaflux ZP5B Developer (aqueous)

NOTE: The mixing of penetrant "families" is prohibited. Site approved cleaners may be used as precleaning and post cleaning agents, but not as a substitute for the cleaner material required during the examination process.

8. GENERAL PREREQUISITES

8.1 EXAMINATION ITEM(S)

8.1.1 The components to be examined shall be identified/determined by the plant owner.

8.1.2 The component shall be prepared for examination by the plant owner, i.e. the examination surface shall be free of foreign matter which may interfere with the examination. See paragraph 8.5

8.2 MATERIALS CERTIFICATION

8.2.1 Each batch of materials referenced in 7.2 shall have been tested for residual amounts of Halogen and Sulfur in accordance with ASME B & PV Code Section V and its referenced documents. The amounts of Sulfur, and Chlorine plus Fluorine shall not exceed 1% of the residue, by weight. Certification of the above test results shall be submitted to the plant owner.

8.3 LIGHTING

8.3.1 Light intensity shall be verified as follows:

a) Color Contrast

Color Contrast PT indications can be inspected in either natural or artificial white light. Adequate illumination is required to ensure that there is no loss of the sensitivity during the inspection. The ability to resolve a 1/32 inch wide line on an 18% neutral gray card placed on or near the examination surface is proof of "adequate illumination".

b) Fluorescent

Inspect fluorescent PT indications in a darkened area. The intensity of UV or "black" lighting shall be measured using a suitable black light meter. The recommended minimum intensity at the examination surface is 800uW/cm².

The intensity shall be verified at least once after the light has been allowed to warm up, and once every consecutive eight hours during operation. (A four hourly check is recommended).

NOTE: The UV lamp should be left on. Turning it off and on severely reduces the life of the bulb.

8.3.2 The inspector shall remain in the darkened area for at least 5 minutes prior to conducting the inspection. This will enable the eyes to adapt to the darkened condition. If the examiner wears glasses or contact lenses they shall not be photosensitive.

8.4 EXAMINATION AREAS

The area to be examined shall be as follows unless otherwise specified in a referencing code or standard:

- a) Welds The weld area and at least 1/2" on all sides as measured from the weld edge.
- b) Weld Preps The bevel area and at least 1/2" on all sides.
- c) Other Components The areas of concern
- d) For ASME Section XI examinations, the examination areas shall be as specified for the particular component. (See Reference 3.5)

8.5 SURFACE CONDITIONS

8.5.1 Satisfactory results can usually be obtained on surfaces in the as-welded, as-rolled, as-cast or as-forged conditions. However, where surface irregularities could mask relevant indications, surface preparation may be accomplished by manual wire brushing, grinding or machining.

8.5.2 Prior to liquid penetrant examination, the surface(s) to be examined and all adjacent areas within 1 inch shall be dry and free of all dirt, grease, lint, scale, welding flux and spatter, oil or other extraneous matter that would interfere with the examination. Additionally, the surface area(s) to be examined shall be free of paint.

8.5.3 The examiner shall notify the NES "lead individual" or other designated contact when surface preparation of areas to be examined is not suitable for the penetrant examination.

NOTE: Metal removing process such as those mentioned in 8.4 above could decrease the effectiveness of the PT examination by smearing the metal surfaces and filling discontinuities that may be open to the surface. Special care should be taken when preparing a surface in this manner. If in doubt, a PT Level III should be consulted.

8.6 SURFACE TEMPERATURE REQUIREMENTS

The temperature of the PT chemicals and examination surface shall not be below 60°F or above 125°F throughout the examination. Local Heating or cooling is permitted, provided that the temperature remains within the above mentioned range.

Where it is not practical to comply with this requirement, other temperature ranges may be used provided that:

- a) The procedure is qualified as specified in Ref. 3.2.
- b) The qualification is documented on a PT Data Sheet (Exhibit 1) and a copy of this is attached to this procedure.
- c) Where required, the qualification should be demonstrated to the owner or Authorized Inspector. If not required, the qualification shall be conducted or witnessed by a PT Level III.

8.7 TECHNIQUE APPLICATION RESTRICTIONS

8.7.1 Fluorescent penetrant examination shall not follow a color contrast penetrant examination.

8.7.2 The examiner shall notify the NES "lead individual" or other designated contact when such a condition has happened or is about to happen.

9. PROCEDURE

9.1 SOLVENT REMOVABLE

The following general processing procedures apply to both the Color Contrast and the Fluorescent penetrant inspection methods:

9.1.1 Precleaning

- a) The area of interest and adjacent surfaces within one inch shall be cleaned with the approved cleaning solvent listed in 7.2. The cleaning shall be performed by heavy swabbing with lint free cloths or absorbent paper that has been saturated with the approved cleaner. Spraying the cleaner directly onto the part is allowed during the precleaning operation, if necessary. After final cleaning, the surface

shall be checked using a clean white lint free cloth or paper towel to confirm that the surface is clean.

- b) The clean surface shall be allowed to dry by normal evaporation for a minimum of five minutes, or by forced warm air from a blower. The temperature of the examination surface shall not be allowed to exceed 125°F (compressed air shall not be used).

9.1.2 Penetrant Application

- a) After the area has been cleaned, dried and cooled (if necessary) to within the allowable temperature range, the examination area shall be thoroughly coated with the penetrant. The penetrant shall be applied by brushing, dipping or spraying with aerosol spray cans. Application by brushing is an effective way to avoid aerosol "overspray" onto and subsequent clean-up of non-examination areas.

NOTE: Be sure to test compatibility of the brush bristles and the penetrant prior to production examination use.

- b) The areas shall remain wetted with the penetrant for a minimum of fifteen minutes (Dwell time). Any areas that become dry or areas where the penetrant withdraws leaving uncoated surfaces, shall be recleaned and the penetrant reapplied.

9.1.3 Penetrant Removal

After the required dwell time, the excess penetrant shall be removed as follows:

- a) Remove as much penetrant as possible with clean, dry lint free cloths or absorbent paper until most traces of penetrant have been removed. If penetrant has adhered to the surface, the examination area shall be recleaned and the penetrant reapplied.
- b) Lightly moisten with solvent, the lint free material and wipe the surface until the remaining traces of penetrant material have been removed.

NOTE: To minimize removal of penetrant from discontinuities, take care to avoid the use of excess solvent. Flushing the surface with solvent following the application of the penetrant and prior to developing is prohibited.

- c) After removal of the excess penetrant, the surface shall be allowed to dry by normal evaporation for a minimum of five minutes before applying the developer.

9.1.4 Developer Application

- a) While the part is being allowed to dry, agitate the aerosol can to ensure that the developer is consistent.
- b) After allowing the surface to dry, a thin coating of developer shall be uniformly applied.

NOTE: Insufficient coating thickness may not draw the penetrant out from potential discontinuities. Heavy coatings of developer may mask fine indications.

- c) The developer shall be allowed to dry for a minimum of seven minutes before interpretation. Interpretation shall be completed within thirty minutes after application. If the examination surface is sufficiently large to preclude complete examination within the prescribed time, the surface shall be examined in increments that allow compliance with the above time frames.

NOTE: The surface shall be closely observed during the application of the developer in order to monitor the behavior of indications that tend to bleed-out profusely.

9.1.5 Post Examination Cleaning

The developer is best removed in its dry state with the use of a soft dry brush, cloth or paper towel. The solvent cleaner described in 7.2 can then be applied. All remaining traces of developer shall be removed.

- 9.1.6 Remove penetrant materials which have "oversprayed" onto adjacent, non-examination surfaces, where applicable.

9.2 WATER WASHABLE

- 9.2.1 The precleaning, penetrant application and dwell time shall be as described in section 9.1. Penetrant removal shall be as follows:

- a) Water washable penetrant materials can be removed directly from the examination area with water rinsing. The degree and speed of removal will

depend on such processing parameters as water pressure, water temperature and duration of the rinse cycle. Therefore it is important that the water-rinsing operation be controlled.

- b) Water pressure should be constant and shall not exceed 50 psi. 30 psi is an average recommended value.
- c) A coarse spray is generally recommended.
- e) Maintain the temperature of the rinse water within the range of 60°F – 110°F
- f) The duration of the rinse cycle shall be sufficient to eliminate any background that will interfere with interpretation. This duration shall be determined initially on a test part, and shall be documented on the examination data sheet.

NOTE: Avoid over-rinsing. Excessive rinsing can cause the penetrant to be washed out of discontinuities.

- g) For Fluorescent water washable penetrant examinations, the rinsing shall take place in the darkened area under the UV lamp so that adequate removal can be determined.

9.2.2 Drying

- a) The part shall be dry prior to the application of the developer (unless aqueous developer is used, in which case it may be applied immediately after the rinse cycle).
- b) After the rinse, the part shall be thoroughly dried using the lint free material. Hot air may be used or the part may be dried by exposure to ambient temperature. The temperature of the examination surface shall not be allowed to exceed 125°F (compressed air shall not be used).
- c) Drying time will vary depending on air temperature. The examination surface can be considered dry when all traces of dampness have disappeared.

9.2.3 Developer Application

- a) Agitate the aerosol can to ensure that the developer is consistent.

- b) Aqueous developers may be applied to the examination surface prior to drying. Exercise caution when applying a wet developer in order to avoid possible loss of indications.
- c) Non-aqueous developer shall be applied after allowing the surface to dry. A thin coating of developer shall be uniformly sprayed over the examination surface.

NOTE: Insufficient coating thickness may not draw the penetrant out from potential discontinuities. Heavy coatings of developer may mask fine indications.

- d) Aqueous developer should be allowed to air dry, or may be dried using forced hot air. The temperature requirements of 9.2.1.e shall apply.
- e) Developing time begins immediately after the developer has dried.

NOTE: Precautions shall be taken to prevent any object from touching the dry developer film. It is easily damaged. When questionable results are obtained, the surfaces should be re-examined.

9.2.4 Interpretation of Indications

- a) Interpretation shall be completed within thirty minutes after developer application. If the examination surface is sufficiently large to preclude complete examination within the prescribed time, the surface shall be examined in increments that allow compliance with the above time frames.

NOTE: The surface shall be closely observed during the application of the developer in order to monitor the behavior of indications that tend to bleed-out profusely.

- b) Surface discontinuities are indicated by bleed-out of the penetrant which is normally a deep red color that stains the developer (color contrast) or a bright fluorescent green / yellow color when viewed under the influence of a UV lamp.

9.2.5 False indications

- a) Color Contrast

Indications with a light pink color may indicate excessive cleaning. Inadequate cleaning may leave an excessive background making interpretation difficult.

Broad areas of pigmentation which could mask indications of discontinuities are unacceptable. Where this condition exists, the affected examination areas shall be cleaned and re-examined.

b) Fluorescent

The most common source of false indications is poor washing or cleaning after removal of the penetrant material from the surface. This condition will normally show up background fluorescence. Where this is noted, the examination areas affected shall be cleaned and re-examined. Lint and hairs can easily be mistaken for real indications.

9.2.6 Post Examination Cleaning

The developer is best removed in its dry state with the use of a soft brush, cloth or paper towel. The solvent cleaner described in 7.2 can then be applied. All remaining traces of developer shall be removed.

10. RECORDING/REPORTING/EVALUATION

NOTE: Adequate illumination is required to assure sensitivity during the examination and evaluation of indications. (See 8.3)

- 10.1 When there is profuse bleed-out, the initial size of this indication shall be noted, as well as the final bleed-out size. Instances where bleed-out from two or more discontinuities merge, these shall also be noted.
- 10.2 Localized surface irregularities from machining or handling or other surface conditions may produce nonrelevant indications. The nonrelevant indications that may mask relevant indications shall be recorded and recommended for rework of the surface followed by re-examination.

NOTE: If re-examination reveals any indications, at the direction of the plant owner, resurfacing shall be continued or these indications shall be regarded as relevant until otherwise established.

9.3 All relevant indications shall be reported by recording on the Liquid Penetrant Examination data sheet (Exhibit 1), and shall include:

- size (i.e., dimensions) of indication(s)
- shape of indication(s)
- location(s) on test part or the examination area(s)
- orientation
- sketch or photograph

When project or other specifications modify the Code requirements, the modified specifications shall govern.

10.4 All relevant indications recorded on the Liquid Penetrant Examination data sheet shall be evaluated by comparison with the applicable acceptance standards (Section 12) of the referencing Code section or other specification to which the examination relates. When project or other applicable written specifications modify the Code requirements, the modified specifications shall govern.

11. EXAMINATION RECORDS

11.1 A Liquid Penetrant Data Sheet (Exhibit 1) shall be completed for each examination unless otherwise required. The information recorded shall include the following:

- a) Date of Examination
- b) Identification of item examined
- c) Identification of product
- d) Brand name and type of penetrant materials used
- e) Batch number of all penetrant materials
- f) All processing times (e.g. Dwell time etc.)
- g) Developing time before evaluation
- h) All relevant indications to be shown by sketch or photograph or described with respect to a convenient datum point on the component or surface being examined, and to the extent specified in 10.3.

- i) Any area(s) of the test part or examination zone not examined due to physical access limitations or other reasons.
- j) The signature and certification Level of the examiner
- k) Other information as required

11.2 Record Retention

NES record retention responsibility shall be limited to the time until the final report is transmitted.

12. ATTACHMENTS

- 12.1 Exhibit 1 Liquid Penetrant Data Sheet
- 12.2 Attachment A ASME B&PV Code Section XI, 1986 Edition
- 12.3 ASME B&PV Code Section III, Division 1 All editions and addenda from 1974 through Winter 1982.
- 12.4 Attachment B Examination of pressure retaining material and product form.
- 12.5 Attachment C Examination of weld-edge preparation surfaces.
- 12.6 Attachment D Examination of welds, areas of welds prepared for repair and repaired welds.
- 12.7 Attachment E ASME B&PV Code Section III, Division 2 All editions and addenda from 1974 through Winter 1982.

DATA SHEET NO. _____
THERMOMETER S/N _____
TEMPERATURE _____ ° F
NOMINAL THICKNESS _____ INCHES
MATERIAL _____
CLASS _____

LIQUID PENETRANT
EXAMINATION

PROCEDURE _____
REVISION _____ F.C. NO. _____
PAGE _____ OF _____

SYSTEM EXAMINED _____ ISO/DWG/SK. # _____ REVISION _____

DATUM POINT REFERENCE _____

	BRAND NAME	TYPE	BATCH NO.	DRYING/DWELL TIME
CLEANER				MINUTES
PENETRANT				MINUTES
REMOVER				MINUTES
DEVELOPER				MINUTES

[illegible]

EXAMINER _____ LEVEL _____ DATE _____
EXAMINER _____ LEVEL _____ DATE _____
REVIEWER _____ LEVEL _____ DATE _____
REVIEWER _____ DATE _____
REVIEWER _____ DATE _____

NES 9.90 - REV 1

125

nes NUCLEAR ENERGY SERVICES, INC.

EXHIBIT 1

ATTACHMENT A LIQUID PENETRANT EXAMINATION

ASME Boiler & Pressure Vessel Code Section XI 1986 Edition

Activity: Preservice and inservice inspections of nuclear power plant components.

Acceptance Criteria:

- A. Linear surface flaws detected by surface examination methods shall be considered as a single linear indication provided the separation distance between indications is equal to or less than the dimension "S", where "S" is determined as shown in Figure A-1.
- B. The overall length "Q" of a single and discontinuous surface indication shall be determined as shown in Figure A-1.
- C. Where an indication extends beyond the surface examination boundaries, or separate linear indications lie both within and beyond the boundaries but are characterized as a single indication by Figure A-1, the overall indication indication size shall be compared with the applicable standards.

D. **Reactor Vessel**

Nominal Section Thickness, (T) inches	Allowable Linear Indication Length, (l), l/T, %
2 1/2	17.4
4 through 12	10.4
- 16	8.0

E. **Nozzle to Shell/Head (Class II only)**

Nominal Section Thickness, $2t$, inches	Allowable Linear Flaw Length, (l), in.
5 1/2	3/16
2 1/2	1/4
≥ 4	3/8

F. Piping Welds
1. Austenitic Steels
Preservice

<u>Nominal Section Thickness, (T) inches</u>	<u>Allowable Linear Indication Length, (l), inches</u>
0.312 or less	1/8
1.0	3/16
2.0	1/4
3.0 and over	1/4

Inservice

0.312 or less	0.2
1.0	0.25
2.0	0.45
3.0 and over	0.65

2. Ferritic Steels
Preservice

<u>Nominal Section Thickness, (T) inches</u>	<u>Allowable Linear Indication Length, (l), inches</u>
less than 0.312	1/16
0.312	1/8
1.0	1/4
2.0	1/4
3.0	1/4
4.0	1/4

Inservice

less than 0.312	3/16
0.312	3/16
1.0	5/16
2.0	5/8
3.0	7/8
4.0	7/8

G. Dissimilar Metal Welds

In the case of dissimilar metal welds the Austenitic side of the weld is governed by Paragraph F.1 and the Ferritic side of the weld is governed by Paragraph F.2.

H. Pump Casings and Valve Bodies

1. Ferritic Material

Preservice

Nominal Wall Thickness, (T) inches	Surface Indication Length, (l), inches
2.0	1/4
3.0	1/4
4.0	1/4
5.0	1/4
6.0 and over	1/4

Inservice

2.0	0.3
3.0	0.45
4.0	0.6
5.0	0.75
6.0 and over	0.9

2. Austenitic Material

Preservice

Nominal Wall Thickness, (T) inches	Surface Indication Length, (l), inches
2.0	1/4
3.0 and over	1/4

Inservice

2.0	0.3
3.0 and over	0.45

3. Base material indications in castings that are permitted by the governing material specifications and accepted under the rules of ASME B&PV Code Section III are allowable.

I. Integral Attachments for Piping, Valves, Pumps and Vessels

1. The size of allowable indications shall not exceed the allowable indication standards of the applicable supported pressure retaining component to which the integral attachment is welded.
2. Laminar type indications found by the Liquid Penetrant method shall be examined by U.T. and acceptance based on the laminar acceptance standards of the supported pressure retaining component, unless otherwise directed by the Plant Owner.

J. Pressure Retaining Welds in Control Rod Drive Housings

The sizes of allowable indications shall not exceed:

1. 3/16" for preservice examination
2. 1/4" for inservice examination

K. Pressure retaining Bolting and Studs

The size of allowable indications shall not exceed:

1. nonaxial indications; 1/4 inch in length
2. axial indications; 1 inch in length

L. Notes pertaining to Paragraphs D, E, F and H

1. "T" is the nominal wall thickness or the actual wall thickness as determined by U.T. examination. If actual wall thickness is used as a basis for acceptance of an indication, note as such on this data sheet.
2. - For intermediate nominal wall thicknesses, linear interpolation is permissible.
3. At the Plant Owner's request, if indications on the outer surface of components reference in Paragraphs E, F, H and I detected by the Liquid Penetrant Examination method during an "Inservice" Examination exceed the allowable standards, the indications may be examined by the volumetric method. The acceptance of these indications shall be governed by the allowable indication standards for the volumetric examination method.

ATTACHMENT B
LIQUID PENETRANT EXAMINATION

ASME Boiler & Pressure Vessel Code
Section III, Division 1
All Editions and Addenda from 1974 through 1986

Activity: Examination of pressure-retaining material and product form (i.e., "base material").

Acceptance Criteria: NB-2000, NC-2000, ND-2000, NE-2000

- A. Only indications with major dimensions greater than 1/16 in. shall be considered relevant.
- B. The following relevant indications are unacceptable:
 - (1) Any linear indications greater than 1/16 in. long for materials less than 5/8 in. thick, greater than 1/8 in. long for materials from 5/8 in. thick to under 2 in. thick and 3/16 in. long for materials 2 in. thick and greater;
 - (2) Rounded indications with dimensions greater than 1/8 in. for thickness less than 5/8 in. and greater than 3/16 in. for thicknesses 5/8 in. and greater;
 - (3) Four or more indications in a line separated by 1/16 in. or less edge to edge;
 - (4) Ten or more indications in any 6 square inches of area whose major dimension is no more than 6 inches with the dimensions taken in the most unfavorable location relative to the indications being evaluated.

Note: Relevant indications are those which result from unacceptable mechanical discontinuities. Linear indications are those indications in which the length is equal to or greater than three times the width. Rounded indications are indications which are circular or elliptical with length less than three times the width.

ATTACHMENT C
LIQUID PENETRANT EXAMINATION

ASME Boiler & Pressure Vessel Code
Section III, Division 1
All Editions and Addenda from 1974 through 1986

Activity: Examination of weld-edge preparation surfaces.

Acceptance Criteria: NB-5000, NC-5000

- A. Only indications with major dimensions greater than 1/16 inch shall be considered relevant.
 - B. Laminar-type discontinuities are acceptable if they do not exceed 1 inch in length.
- Note: The extent of all laminar-type indications exceeding 1 inch in length shall be determined by ultrasonic examination.
- C. Other nonlaminar relevant indications which are unacceptable:
 - (1) Any linear indication greater than 3/16 inch long;
 - (2) Rounded indications with dimensions greater than 3/16 inch;
 - (3) Four or more indications, in a line separated by 1/16 inch or less, edge-to-edge.

**ATTACHMENT D
LIQUID PENETRANT EXAMINATION**

**ASME Boiler & Pressure Vessel Code
Section III, Division 1
All Editions and Addenda from 1974 through 1986**

Activity: Examination of welds, areas of welds prepared for repair and repaired welds.

Acceptance Criteria: NB-5350, NC-5350, ND-5350, NE-5350*, NF-5350, NG-5350

A. Unless otherwise specified, the following relevant indications are unacceptable:

- (1) Any cracks or linear indications
- (2) Rounded indications with dimensions greater than 3/16 inch;
- (3) Four or more rounded indications in a line separated by 1/16 inch or less, edge-to-edge;
- (4) Ten or more rounded indications in any 6 square inches of surface with the major dimension of this area not to exceed 6 inches with the area taken in the most unfavorable location relative to the indications being evaluated.

*B. Indications with major dimensions greater than 1/16 inch shall be considered relevant and evaluated according to the applicable acceptance criteria.

Note: Linear indications are those indications in which the length is more than three times the width. Rounded indications are circular or elliptical with length less than three times the width. Relevant indications are those which result from mechanical discontinuities.

* For examination to Article NE-5350, (B) above does not apply.

ATTACHMENT E
LIQUID PENETRANT EXAMINATION

ASME Boiler & Pressure Vessel Code
Section III, Division 2
All Editions and Addenda from 1974 through 1986

Activity: Examination of welds in all liner thicknesses.

Acceptance Criteria: CC-5000

- A. Unless otherwise specified, the following relevant indications are unacceptable:
- (1) Any cracks or linear indications
 - (2) Rounded indications with dimensions greater than 3/16 in. (4.8 mm)
 - (3) Four or more rounded indications in a line separated by 1/16 inch (1.6 mm) or less edge-to-edge
 - (4) Ten or more rounded indications in any 6 sq. in. (3870 mm) of surface with the major dimension of this area not to exceed 6 in. (152 mm) with the area taken in the most unfavorable location relative to the indications being evaluated.
- B. Relevant indications are those which result from unacceptable mechanical discontinuities.

Note: Linear indications are those indications in which the length is more than three times the width. Rounded indications are indications which are circular or elliptical with the length less than three times the width.

ATTACHMENT F
LIQUID PENETRANT EXAMINATION

ASME Boiler & Pressure Vessel Code
Section III, Divisions 1 & 2
All Editions and Addenda from 1974 through 1986

Activity: Examination of welds, areas of welds prepared for repair and repaired welds.

Acceptance Criteria:

Unless otherwise specified the following criteria applies:

All surfaces required to be examined shall be free of:

- C. Relevant linear indications,
- D. Four or more rounded indications in a line separated by 1/16 inch or less (edge-to-edge) except where the specifications for the material established different requirements for acceptance so far as defects are concerned.
- E. Relevant rounded indications greater than 3/16 inch.

Notes:

- (1) Relevant indications are those which result from mechanical discontinuities. Only indications with major dimensions greater than 1/16 inch shall be considered relevant.
- (2) Linear indications are those indications in which the length is more than - three times the width.
- (3) Rounded indications are indications which are circular or elliptical with the length less than three times the width.

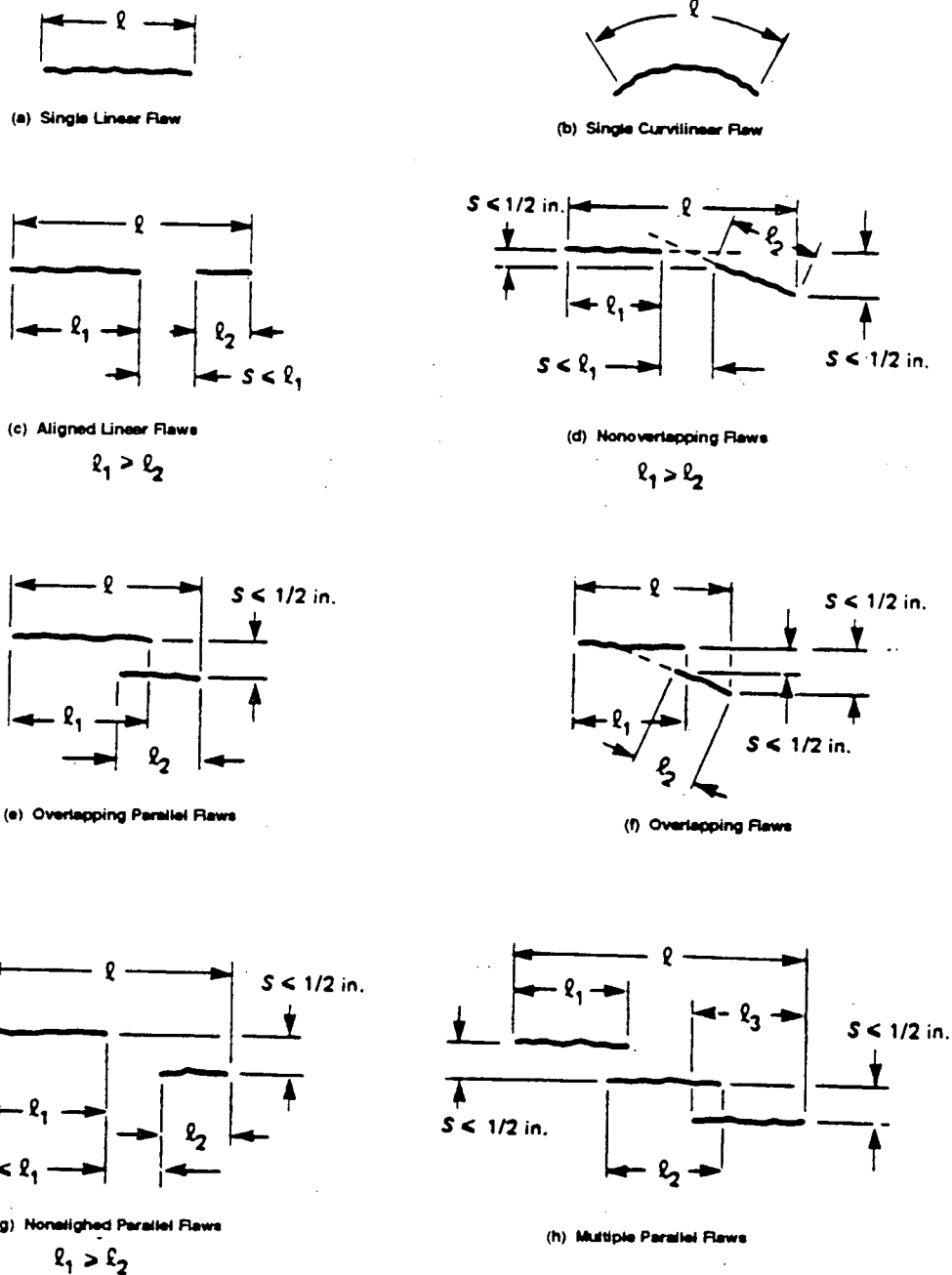


FIGURE A-1
LINEAR SURFACE INDICATIONS

Illustrative Flaw Configurations and Determination of Length

13.0

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1097

VT-3 VISUAL EXAMINATION

OF

NUCLEAR POWER PLANT COMPONENTS

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY: *[Signature]* 3/27/92
Engineering Manager - Programs Date

APPROVED BY: *[Signature]* 3/29/92
Manager - Technical Support Date

**CONTROLLED
RECIPIENT**

ID 296

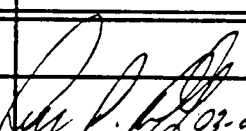
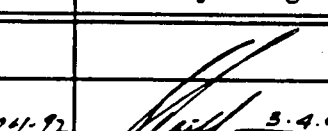
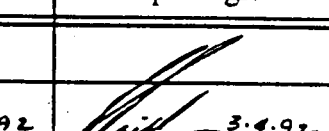
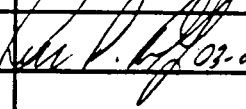
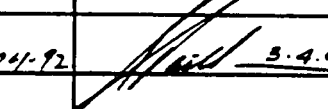
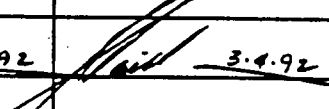
LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 18	0



VT-3 VISUAL EXAMINATION
OF
NUCLEAR POWER PLANT COMPONENTS

CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED

Project Application 2454		Copy No.	Assigned To		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	VT Level III	Project Mgr.	Dept. Mgr.	
0	Scott Larson				
1	Scott Larson	 03-04-92	 3-4-92	 3-4-92	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					



DOCUMENT NO. 83A6163


PAGE 2 OF 15

FORM # NES 206 3-90

1. PURPOSE

The purpose of this procedure is to delineate the VT-3 visual examination criteria specified by ASME Section XI, 1986 Edition, no addenda, for preservice and inservice visual examination of nuclear power plant components at the Robinson Nuclear Project.

2. SCOPE

- 2.1 This procedure defines the methods and requirements for a VT-3 visual examination as specified in Section XI of the ASME Code. The examination is to be performed to determine the general mechanical and structural conditions of components and their supports for conditions such as wear, erosion, corrosion, debris and the loss of integrity at bolted or welded connections. This examination may include requirements to determine structural integrity, measurement of clearances, detection of physical displacement, structural adequacy of supporting elements, connections between load carrying structural members, and tightness of bolting. Also the examination is to be performed to determine functional adequacy, verification of settings, or freedom of motion of mechanical and hydraulic snubbers, spring loaded and constant support hangers, and spring loaded supports.
- 2.2 Specific methods and details of examinations may be defined in specific plant special procedures and/or periodic test procedures. When such procedures are used, they shall be used in conjunction with this procedure in the performance of the examinations. Documentation shall be as specified in the special or periodic test procedure. 
- 2.3 When plant specifications or procedures require examinations to be performed in accordance with an approved VT-3 procedure (with no specific details of the examination provided in the specification or procedure), this procedure and associated documentation shall be used.

3. GENERAL

- 3.1 This procedure is applicable for the examination of components, their supports, and reactor pressure vessel interior surfaces for integrity and operability.

3.2 The examination area for component supports extends from the component attachment to and including the attachment connection to the supporting structure as defined below:

3.2.1 Component Attachment to the Support

3.2.1.1 Integral attachment boundaries on pressure retaining components are depicted on Figure 1.

3.2.1.2 Non integral attachment boundaries begin at the contact surface between the support and the component.

3.2.1.3 When non-integral connections between the support/snubber and the component are covered by insulation, the examination boundary for the support/snubber shall be determined by ISI and/or Engineering. When examining non-integral attachments to the pressure boundary, visual examination personnel should expect to encounter one of the following conditions, which has been predetermined and specified by ISI and/or Engineering.

- A. Insulation covering the pipe clamp and bolting of the support/snubber to the pressure boundary.
- B. Insulation covering the pipe clamp but removed from the bolting.
- C. Insulation removed completely from the bolting, pipe clamp and pressure retaining material. This latter condition will not be frequently encountered as it will be used only in the special cases.

When existing non-integral connections to pressure retaining materials are covered by insulation, the insulation shall be examined for damage one pipe diameter on either side of the connection. Damage could result from concealed broken or loose parts.

The visual examiner shall ensure that the extent of the insulation coverage or removal conforms to the conditions specified by ISI and/or Engineering.

3.2.2 The examination boundary for both integral and non integral attachment ends at the building structure surface or at the surface of intervening elements to which the support is connected.

NOTE: Generally the examination area for supports is defined as beginning: 1T (T being the thickness of the component) away from the component on integral attachments and the entire attachment end and bolting of the support for non integral attachments and extending to the face of the building steel or concrete. A typical sketch is provided in Figure 2 to aid in interpretation. This note is provided as general guidance to rules provided in 3.2.1 and 3.2.3.

- 3.2.3 Examination area may be defined by specific plant engineering drawings, procedures or instructions. When this occurs, the examination area shall be as defined by the plant.
- 3.2.4 The building, if structural steel was used solely for the support.
- 3.2.5 Structural steel for all other cases.
- 3.3 The examination area for the internal surfaces of the reactor pressure vessel includes the space above and below the reactor core that is made accessible for examination by the removal of components during normal refueling outages.
- 3.4 The following service facilities and equipment should be furnished by plant personnel to facilitate the performance of examinations in accordance with this procedure; prior agreement between plant and inspection unit should establish details:
 - 3.4.1 Scaffolding
 - 3.4.2 Air, electricity and water
 - 3.4.3 Adequate temporary lighting
 - 3.4.4 Moving or lifting devices
 - 3.4.5 Test surface preparation
 - 3.4.6 Pressure gauges and sensors, as required for system pressure tests
 - 3.4.7 Various tools, as required for disassembly of components
 - 3.4.8 Post-examination clean-up
- 3.5 Inspection personnel shall observe good health physics practices when inspection is required inside a radiation control area to maintain radiation exposure as low as reasonably achievable (ALARA).

4. REFERENCES

- 4.1 This procedure meets the requirements of ASME Section XI, 1986 Edition with no addenda.

5. PERSONNEL

- 5.1 Personnel performing the visual examination shall be certified as a Level II, VT-3 and 4 Examiner in accordance with NES Procedure 80A9069, Certification of Visual Examination personnel. In addition, the CP&L Level III may provide training to familiarize personnel with specific plant or periodic procedures.
- 5.2 In addition, the personnel performing the visual examination shall be knowledgeable regarding the function of the component being examined and be able to identify objectionable indications relative to that component or support.

6. EQUIPMENT

- 6.1 Illuminators, mirrors, and/or instruments meeting the requirements of paragraph 6.2, may be used to aid in performing examination.
- 6.2 When illuminators, mirrors or other instruments are used to improve the angle of vision and/or resolution, care must be taken to insure that the equipment does not shadow an area of interest or otherwise hinder the examination.

7. PROCESS

7.1 CLEANING

Visual examinations which require clean surfaces or decontamination for valid interpretation of results shall be preceded by a cleaning process performed in accordance with an approved procedure.

7.2 METHOD

- 7.2.1 Examination may be performed either remotely with optical aids or directly as access will allow.

7.2.1.1 Direct visual examination may be made when the combination of resolution, access and angles of vision can clearly resolve the smallest abnormal condition required to be reported for the given item, part and/or component being examined.

7.2.1.2 Remote visual examination may be substituted for direct visual examination where access does not permit direct visual examination. Remote visual examination may include aids such as telescopes, periscopes, boroscopes, fiberoptics, or TV cameras and monitoring systems, with or without attachments for permanent recording. Mirrors, movable lights or rotating optics, or any combination thereof, may be employed. Such systems shall have a resolution capability at least equivalent to that obtainable by direct visual examination. Remote underwater systems used to inspect RPV components must resolve a .001 inch diameter wire, both horizontally and vertically to a fixed camera position.

7.3 REPLICATIONS

7.3.1 Surface replication methods shall be considered acceptable provided the surface resolution is at least that obtainable by visual observation.

7.3.2 Replication materials and applicable procedures to be used shall be approved by a VT Level III.


8. SPECIFIC EXAMINATION ITEMS

8.1 Appendix A to this procedure provides specific examination items in accordance with ASME Section XI, 1986 Edition with no addenda.

9. DATA AND REPORTING

9.1 Conditions listed in Appendix A (as applicable) found during the examination which exceed the limits specified in specific plant procedures shall be recorded.

9.2 The data sheet contained in the periodic test (PT or EST) procedure shall be completed to record the results of the examinations and to identify the observed abnormalities. When the PT does not contain a data sheet, an examination report shall be completed.

- 9.3 Information recorded shall identify the component and area examined, nature of the observed abnormality, location of abnormality on component and its length, width and depth, if depth is determinable.
- 9.4 For areas where erosion, corrosion, or wear is observed, it may be prudent to supplement the recorded data with photographs and/or sketches. When photographs are used for documentation, a benchmark shall be included in the photograph to provide a scale of relative size.
- 9.5 When performing underwater remote visual examination of reactor pressure vessel internal areas, a videotape and accurate voice recording to supplement the documentation (if required by the plant) shall be made of abnormalities encountered during the examination.
- 9.6 Data shall be recorded on the following CP&L forms, or other approved CP&L forms: 
- 9.6.1 QA NDE ISI 1 – Visual Examination Data Sheet for Snubbers
 - 9.6.2 QA NDE ISI 2 – Visual Examination Data Sheet for Valves
 - 9.6.3 QA NDE ISI 3 – Visual Examination Data Sheet for Pumps
 - 9.6.4 QA NDE ISI 5 – Visual Examination Data Sheet for Components and Component Supports
 - 9.6.5 QA NDE ISI 7 – Visual Examination Data Sheet for External and Interior Surfaces
- 9.7 The examination report shall contain the following information as a minimum:
- 9.7.1 Unit identification
 - 9.7.2 Component identification
 - 9.7.3 Examination procedure and revision number
 - 9.7.4 Date of Examination
 - 9.7.5 Equipment used for visual aids, if any
 - 9.7.6 Replication materials used, if any
 - 9.7.7 Examination results including detailed location of observed indications

9.7.8 Signature of personnel who performed the examination

9.7.9 Comments, as required

9.7.10 Signature of reviewer (if required by plant procedures)

Note: Photographs can ultimately reduce radiation exposure (ALARA) and should be considered where practical in assisting documentation of a discontinuity. Remember to use a benchmark to show relative size in the photograph.

10. REVIEW OF DATA AND EVALUATION OF INDICATIONS

10.1 Final evaluation and disposition of the recorded abnormal conditions shall be evaluated on a case by case basis by plant engineering.

10.2 Visual examinations that detect surface flaws shall be supplemented by either surface or volumetric examinations.

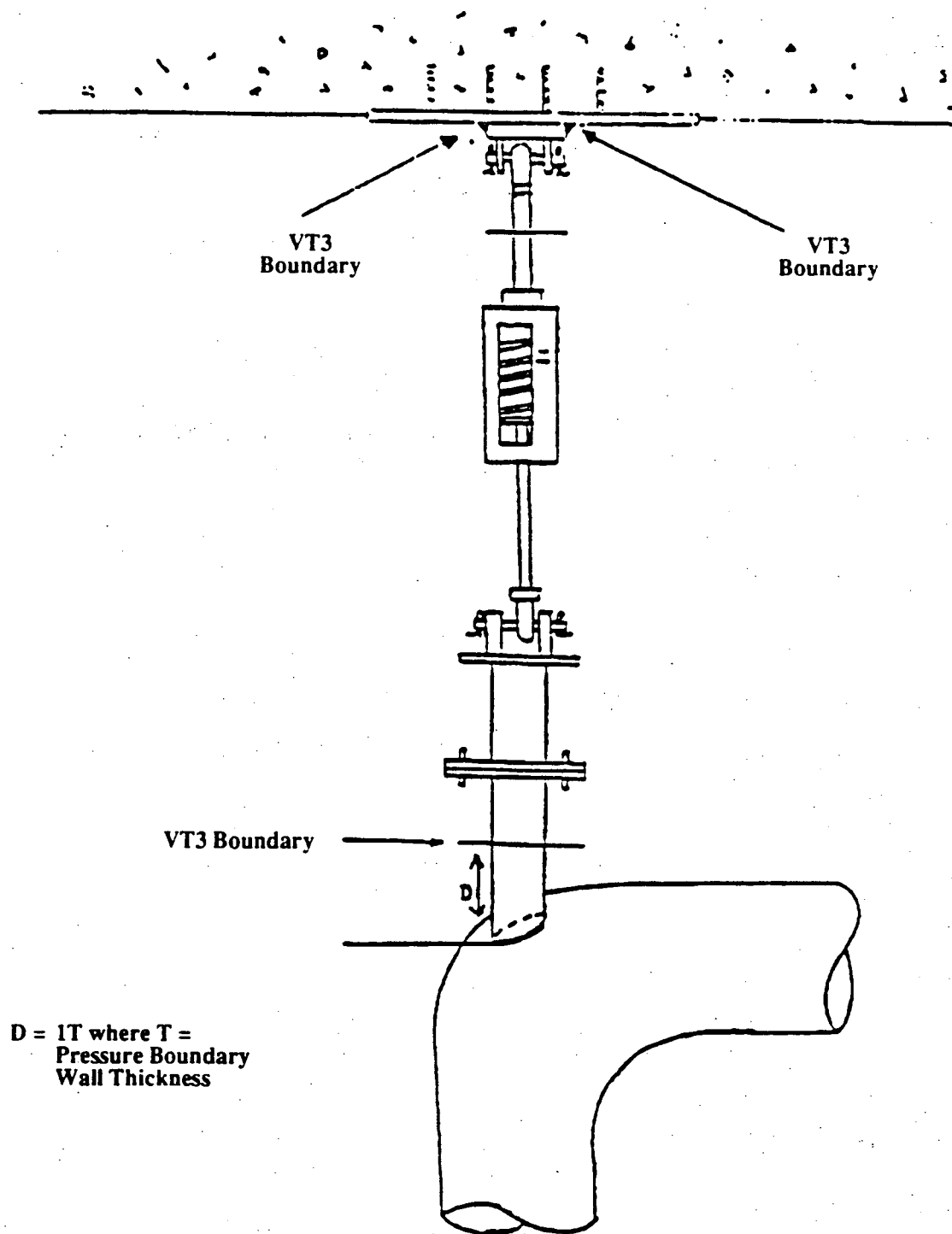


FIGURE 1
ILLUSTRATION OF TYPICAL SUPPORT EXAMINATION BOUNDARIES
FOR INTEGRAL ATTACHMENT 1

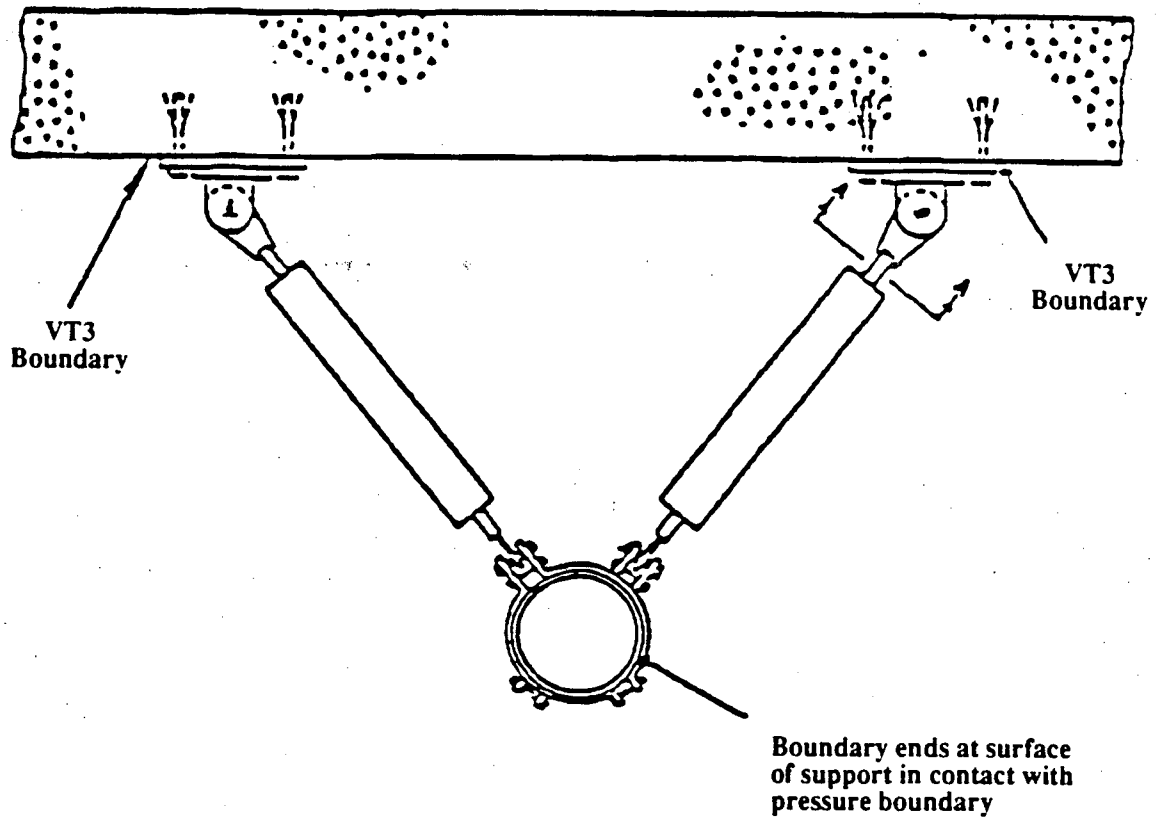


FIGURE 2

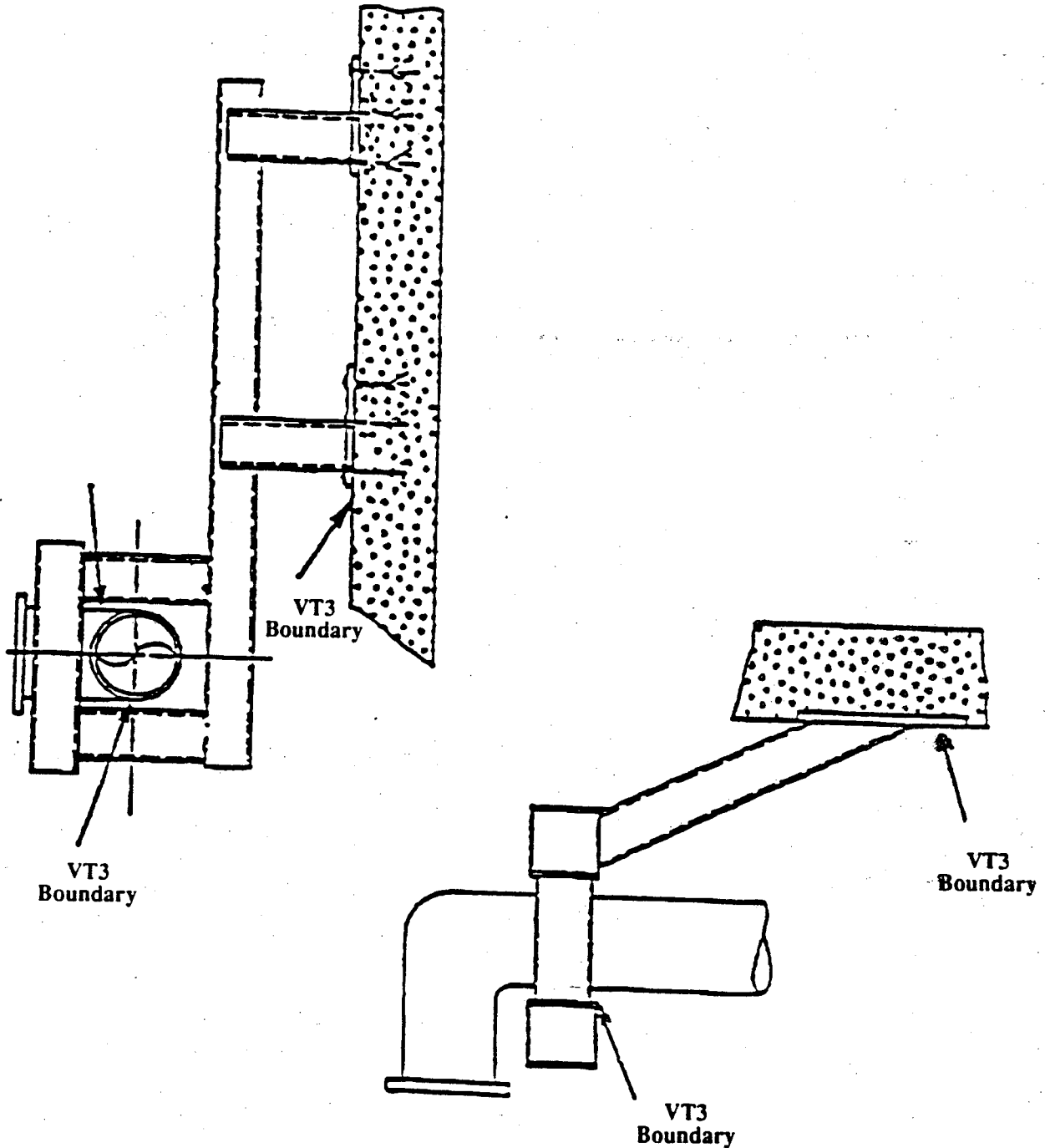


FIGURE 3

APPENDIX A

1. SCOPE

- 1.1 This appendix provides specific examination ~~items~~ in accordance with ASME Section XI, 1986 Edition with no addenda.

2. REFERENCES

- 2.1 This appendix meets the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, ~~Section~~ XI, 1986 Edition with no addenda.

3. SPECIFIC EXAMINATION ITEMS

3.1 COMPONENT SUPPORTS AND MECHANICAL/HYDRAULIC SNUBBERS

- 3.1.1 A general VT-3 examination shall be performed to determine the operability and the general mechanical and structural condition of the support. The following conditions shall be recorded:

- 3.1.1.1 Deformation or structural degradation of fasteners, springs, clamps, or other support items.
- 3.1.1.2 Missing, detached or loosened hardware support items.
- 3.1.1.3 Arc strikes, weld spatter, paint, scoring, roughness or general corrosion on close tolerance machined or sliding surfaces.
- 3.1.1.4 Improper hot or cold positions of spring supports and constant load hangers.
- 3.1.1.5 Improper clearances.
- 3.1.1.6 Misalignment of the support.
- 3.1.1.7 Incorrect assembly of support ~~items~~.

3.1.1.8 Hydraulic fluid in reservoir is inadequate.

3.1.1.9 Evidence of hydraulic fluid leakage.

3.1.1.10 Snubber shaft is bent and has conditions that could resist shaft stroking.

3.1.1.11 The swivel bearing is damaged, bound (i. e., does not exhibit freedom of motion) or is disengaged.

3.1.1.12 Damaged or missing insulation which covers or partially covers mechanical connections and pipe clamps (one pipe diameter up and down stream of support).

3.1.2 The following specific areas shall be examined by a VT-3 visual examination:

3.1.2.1 Welded or mechanical connections to the building structure.

3.1.2.2 Welded or mechanical connections at intermediate joints in multiconnected supports.

3.1.2.3 Welded or mechanical connections to pressure retaining components.

3.2 REACTOR VESSEL

3.2.1 The space above and below the reactor core that is made accessible by the removal of components during normal refueling outages shall be subjected to a VT-3 examination. Also, accessible welds of interior attachments beyond the beltline region shall be examined.

3.2.2 Accessible surfaces of the core support structure shall be examined.

3.2.3 All abnormal conditions listed in Appendix A, paragraph 3.1.1, as applicable, shall be recorded.

3.3 APPLICATIONS

3.3.1 Accessible surface includes examinations of the spaces above and below the reactor core that are made accessible for examination by removal of components during normal refueling outages.

3.3.2 The core support structure shall be removed from the reactor vessel for examination, as applicable.

3.3.3 The beltline region extends for the length of the vessel thermal shielding, or in the absence of a thermal shield, the effective length of reactor fuel elements.

3.3.4 Conditions listed in Appendix A, paragraph 3.1.1, as applicable, shall be recorded.

3.4 PUMPS

3.4.1 Internal surfaces of pump casings shall be examined.

3.4.2 Conditions listed in Appendix A, paragraph 3.1.1, indications of leakage and/or smoking, cavitation erosion, excessive frictional or vibrational noise as applicable, shall be recorded.

3.5 VALVES

3.5.1 Internal surfaces of valves bodies exceeding four inches nominal pipe size shall be examined.

3.5.2 Conditions listed in Appendix A, paragraph 3.1.1, indications of leakage, resistance to piston movement, displacement and other conditions interfering with valve operability, as applicable, shall be recorded.

4. DATA, RECORDING, REVIEW AND INDICATION EVALUATION

Examination results shall be documented and evaluated in accordance with paragraphs 9.0 and 10.0 of this procedure.



This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1098

CERTIFICATION

OF

VISUAL EXAMINATION PERSONNEL

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY: *[Signature]*
Engineering Manager - Programs

3/27/92
Date

APPROVED BY: *[Signature]*
Manager - Technical Support

3/29/92
Date

CONTROLLED
RECIPIENT
ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 31	0

CERTIFICATION
OF
VISUAL EXAMINATION PERSONNELCONTROLLED COPY
AND ONLY IF THE ORIGINAL ISProject Application
VariousCopy No.
250Assigned To
Mr. Carl Osman - Carolina Power & Light Co.

APPROVALS

TITLE / DEPT. - SIGNATURE - DATE

REV NO	PREPARED BY	Level III	Executive Vice President	QA Manager	
13					
14	<i>[Signature]</i> 03-02-92	<i>[Signature]</i> 03-02-92	<i>[Signature]</i> 3/2/92	<i>[Signature]</i> 03-02-92	
15					
16					
17					
18					
19					
20					
21	<i>[Signature]</i> 03-02-92				
22					
23					
24					

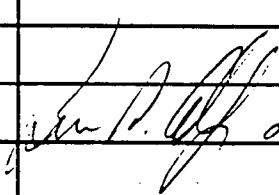


REVISION LOG

NUCLEAR ENERGY SERVICES, INC.

DOCUMENT NO. 80A9069

PAGE 2 OF 28

REV NO.	DATE	PAGE NO.	DESCRIPTION	APPROVAL
1	8/11/80		CRA No. 1418 – entire document was revised.	
2	10/20/80		CRA No. 1522 revised for clarification.	
3	1/29/81	4	CRA No. 1625 Revised for Clarification	
4	11/19/82	14	CRA 2938 – revised outside agency testing requirements	
5	3/31/83	All	CRA 3251 – General Revision	
6	6/20/84	3.5 7, 9	Changed as indicated per CRA 3767	
		11, 13 18, 19		
7	1/7/85	9	Para 4.1.2 Sentence reworded	
		12	Para 4.3 Revised. Refer to CRA 4968	
		12–14	Para. 4.3.1 thru 4.3.3 revised and renumbered	
			4.3.1 thru 4.3.4. Refer to CRA 4968.	
8	4/5/85	2–9	CRA 5211 – General Revision	
		12, 13	Para.'s 1.1, 1.4, 2.1(B)	
		16, 18	2.1(C), 3.1(A), 3.1(C), 3.1(D)	
		19	4.1, 3.3, 4.1.3, 4.1.1, 4.3.1, 4.3.4, 4.3.3, 4.4, 5.2 and 5.4	
9	5/21/85	All	CRA 5319 and Addendum 1 General Revision	
10	10/15/85	All	CRA 5652 – General Revision	
11	9/9/86	All	CRA 5803 Addendum – General Revision	
12	11/13/87	All	CRA 6658 – General Revision	
13		All	General Revision for Clarity. Refer to CRA 7963.	
14	03/02/92	3.6, 12 & 19	Added provisions for VT–3 per 1986 ASME Code. Refer to CRA 8288.	 03-02-92

1. OBJECTIVE

This document details the procedure Nuclear Energy Services, Inc. will follow to train, examine and certify Visual Examination personnel for Preservice Inspection (PSI) and Inservice Inspection (ISI).

2. GENERAL

- 2.1 This procedure provides direction for qualification and certification of Visual Examination Personnel in accordance with the ASME Code, Section XI, 1986 and earlier revisions. This procedure is based on the qualification and certification requirements of SNT-TC-1A, 1984, ANSI N45.2.6 and Regulatory Guide 1.58, Rev. 1, 1980.
- 2.2 The certification of visual examination personnel previously qualified in accordance with previous revisions of this procedure shall remain valid until recertification is required. Recertification shall be in accordance with the latest revision of this procedure.
- 2.3 The 1986 edition of the ASME Boiler and Pressure Vessel Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components redefined the VT-3 examination and deleted VT-4 examinations. Due to the commitments of clients to various editions of the Code, this procedure continues to use the earlier definitions of VT-3 and VT-4. Personnel qualified to both VT-3 and VT-4 in accordance with this procedure are qualified to conduct VT-3 examinations in accordance with the 1986 or later editions of the Code.

3. DEFINITIONS

The following operational definitions and terms shall apply in this procedure:

- | | | |
|-----|------------------------------|--|
| 3.1 | <u>Certification</u> | Written documentation of qualification. |
| 3.2 | <u>Qualification</u> | The skill, training, and experience required for personnel in compliance with the requirements for certification. |
| 3.3 | <u>Examination Authority</u> | An organization or individual authorized by NES to conduct personnel examinations in accordance with this procedure. |
| 3.4 | <u>Corporate Level III</u> | The individual within the NES organization responsible for administration of this procedure. |

- 3.5 Restricted Certification Certification limited to specific areas within any given examination category.

4. RESPONSIBILITY

- 4.1 The NES corporate Level III is responsible for administration of this procedure and may certify qualified Level II personnel.
- 4.2 Level III personnel are responsible for compliance with this procedure and may certify other qualified Level III and lower level personnel.
- 4.3 Examination Authority is the organization or individual authorized to develop, administer and grade qualification examinations in accordance with this procedure. Each Level III, qualified in accordance with this procedure is an Examination Authority. An Examination Authority may also provide training required by this procedure.

5. REQUIREMENTS

5.1 QUALIFICATION LEVELS

There are four basic levels of qualification. These are:

A. Trainee

An individual is considered a trainee while still in the process of being qualified and certified as a Level I. A trainee is an individual who has met the training requirements for Level I certification. A trainee works under the supervision of a certified visual examiner and does not independently conduct examinations, interpret results, or write evaluation reports.

B. Level I Examiner

Level I examiners are qualified to perform and record the results of specific examinations according to written instructions. They do not independently evaluate or accept the results of an examination, but receive the necessary guidance or supervision from a certified Level II or III.

C. Level II Examiner

Level II examiners are qualified to independently perform visual examinations. They are able to interpret and evaluate the results of an examination with respect to

applicable codes, procedures, and specifications. They are thoroughly familiar with the scope and limitations of the examination method, are able to prepare written instructions, and are able to accurately organize and report examination results. They provide on the job training and guidance of trainees and Level I examiners.

D. Level III Examiner

1. Level III examiners have the technical expertise and responsibility for reviewing and approving procedures, and for establishing techniques used in the performance of examinations. They interpret codes and specifications, designate necessary examination methods, are responsible for examination operations, and interpret and evaluate the examination results.
2. They have sufficient practical knowledge of materials, fabrication, product technology and other NDE methods to establish techniques and to assist other personnel in establishing acceptance criteria. They are responsible for the training and examination of Level I and II personnel for certification, whether the training and examination is performed personally or by an appointed designee.

5.2 VISUAL EXAMINATION CATEGORIES

Listed here are the visual examination categories within each level of qualification, including a description of each category's requirements.

- A. VT-1 visual examination is conducted to determine the condition of parts, component, or surface examined, including but not limited to such conditions as cracks, wear, erosion, corrosion, or physical damage.
- B. VT-2 visual examination is conducted to locate evidence of leakage from pressure retaining components, or abnormal leakage from components with or without leakage collection systems as required during the conduct of a system pressure or functional test.
- C. VT-3 visual examination is conducted to determine the general mechanical and structural condition of components and their supports. Conditions to be examined include but are not limited to, the presence of loose parts, debris, corrosion, wear,

erosion, and the loss of integrity at bolted or welded connections. This examination category is applicable in the examination of both component supports, component interiors and welded or mechanical connections. Examinations to the 1986 or later editions of the Code also include examinations for conditions that could affect operability or functional adequacy of snubbers and constant load and spring hangers.

- D. VT-4 visual examination relates to the operability of components or devices, including mechanical and hydraulic snubbers, component supports, pumps, valves, and spring loaded or constant weight hangers. The VT-4 examination also verifies functional adequacy, settings, and freedom of motion. This examination may require disassembly of components and an operability test.

5.3 LEVEL AND CATEGORY CERTIFICATION

Each level of qualification and visual testing category requires certification that the individual is capable of performing the duties and responsibilities of that level and those categories being implemented. Each certification clearly identifies level, categories, and restrictions. Level III individuals are certified in all four visual examination categories.

6. CERTIFICATION REQUIREMENTS

In order to be certified, a candidate must satisfy four sets of requirements for the applicable level. These include: (1) vision acuity (2) training, (3) education and experience, and (4) a technical examination.

6.1 VISION ACUITY EXAMINATION

The vision acuity examination is given prior to certification and annually thereafter. If a candidate is certified in other NDE methods, the previously required vision acuity examination is acceptable, provided it is dated within one year of the visual certification and that it meets the requirements of this paragraph. The personnel qualified to administer vision acuity examinations are:

1. Ophthalmologist
2. Optometrist

3. Qualified medical professionals
4. An individual instructed in the administration of a vision acuity examination.
5. A Level III examiner

6.1.1 Near Vision

Candidates are examined to assure natural or corrected near distance acuity in at least one eye so that they are capable of reading Jaeger No. 1 letters at a distance of not less than 12 inches on a standard Jaeger chart. An equivalent chart may be substituted for the Jaeger test, if approved by the certifying Level III examiner.

6.1.2 Color Vision

Candidates are capable of distinguishing and differentiating contrast between colors used in the method. This is evidenced by a normal reading of Ishihara Plates 1 – 14 or successful completion of the practical examination administered for certification.

6.1.3 Far Field (Distance) Vision

Candidates are tested for far distance acuity. Minimum acceptable natural or corrected far distance acuity shall be a Snellen fraction of 20/30 or equivalent at a distance of 20 ft. (6.1 M).

6.2 TRAINING

- A. Candidates for each level of certification have sufficient training to be thoroughly familiar with the principles and practices of the examination method being implemented and the defects and discontinuities normally found in the material or product being examined. The hours of training required for initial certification are listed in Table 1.
- B. This document includes typical instruction outlines in Appendix A. Training may be conducted in a classroom, laboratory, or on the job site, but is conducted in accordance with similar outlines. Modifications may be made to the outline to reflect the application for the intended certification. Instruction outlines and training materials are approved by a Level III examiner or the examination authority.

Training administered by NES is conducted by a Level III examiner, a certified Level II examiner designated by the Level III examiner, or an individual who has functioned in a capacity equivalent to Level II, as determined by the Level III examiner.

- C. Training courses conducted by recognized schools or organizations such as ASNT, EPRI, equipment manufacturers, or branches of the military may be used in lieu of NES training, provided that such documented training meets or exceeds NES requirements.
- D. Forty (40) hours of Level II training administered by EPRI satisfies the Level I and Level II training requirements of this procedure if the individual passes the EPRI Level I and Level II examinations.
- E. Any prior training claimed by the candidate and utilized for certification is verified by an individual selected by the Corporate Level III, documented, and placed on file. If all reasonable attempts to secure written verification are unsuccessful, a statement signed by the candidate may be acceptable if approved by the certifying Level III examiner or the Corporate Level III.

6.3 EDUCATION AND EXPERIENCE

- A. The education and experience requirements for initial certification are listed in Table 2.
- B. Experience completed during employment with NES is documented on a detailed resume. The candidate shall sign a statement attesting to the accuracy of the information contained in the resume. This experience is verified by an individual selected by the Corporate Level III, as evidenced by the verifiers signature on the resume.
- C. Any prior experience claimed by the candidate and utilized for certification shall be verified by an individual selected by the Corporate Level III, documented, and placed on file. If all reasonable attempts to secure written verification are unsuccessful, a statement signed by the candidate may be acceptable if approved by the certifying Level III examiner or Corporate Level III.

- D. A Level I, Level II, or Level **III** examiner certified by a prior employer is certified to his former level of certification based on examination in accordance with paragraph 6.4 providing prior certification is verified.
- E. An individual who has met ~~the~~ training and experience requirements for a higher level of certification with a ~~former~~ employer but was not certified to that level, is certified by examination to ~~that~~ higher level if the individual has proof of the training and experience ~~required~~ for the higher level of certification satisfactory to the certifying Level III examiner and the requirements of D. above are met.

6.4 TECHNICAL EXAMINATIONS

- A. Examinations to verify a ~~candidate's~~ level of certification are given to those who can satisfy the certification requirements of Paragraph 6.
- B. The examination of a Level **III** candidate is conducted and graded by or under the direction of the Examination Authority. A Level **III** visual examiner is responsible for conducting and grading ~~the~~ examinations administered by NES to Level I and II personnel. Written and practical examinations for Level I, Level II, and Level III candidates may be administered and graded by an outside agency. Outside agency examinations are sufficient for certification if approved by the certifying Level III Examiner. The Level III Examiner's signature on the Certificate of Qualification is evidence of such approval.
- C. For Level I and Level II personnel, examinations administered by NES to verify technical qualification consist of three segments General, Specific, and Practical. For Level III personnel, the examinations administered by NES consist of four segments Basic, Method, ~~Specific~~, and Practical.

6.4.1 Level I and Level II Examinations

a. General Examination

A written examination consisting of at least ~~the~~ minimum number of questions specified in Table 3 for the applicable level of certification. The questions are of a general nature covering the basic test principles relative to each visual examination category. The questions are approved by the Level III examiner and

administered without access to reference material. The general examination will be applicable to all four categories and need not be repeated each time certification is sought in another category.

b. Specific Examination

A written test consisting of at least the minimum number of questions specified in Table 3 for the appropriate categories of certification. The questions cover specific equipment, operating procedures, and examination techniques that the candidate may encounter in his assignments. The examination also includes specifications, codes, and acceptance criteria used in NES visual examination procedures. The test questions are approved by a Level III examiner and, except for questions requiring judgment based on specific codes or standards, administered with or without access to reference material at the discretion of the Level III examiner. If reference materials are used they are shown on the examination.

c. Practical Examination

1. Level I

Capability is demonstrated in the performance of examinations that are required to be performed in the applicable category in accordance with documented procedures. Proficiency is demonstrated in the use of measuring tools and equipment employed during a visual examination. The documentation of the practical examination includes a description of the demonstration as well as the equipment used in the demonstration.

2. Level II

Proficiency is demonstrated in performing the applicable category examination and interpreting and evaluating the results with respect to applicable codes, standards, or specifications on one or more test samples approved by the Level III examiner. At least ten checkpoints are used to verify an understanding of test variables and NES procedural requirements. Test samples contain known indications representative of those that the candidate may encounter in his assignments. The practical is weighted such

that failure to accurately locate, identify, record, and interpret 80% of the known indications (artificial and/or natural) in the test sample is cause to fail the examination. The documentation of the practical examination includes a description of the test sample(s), examination procedures, at least ten check points, and the final examination results.

6.4.2 Level III Examinations Administered by NES

a. Basic Examination

(Required only once when taken for other NDE methods.)

1. Twenty questions relating to the understanding of the SNT-TC-1A and ANSI N45.2.6 documents.
2. Fifteen questions relative to applicable materials, fabrication, and product technology.
3. Fifteen questions which are selected from or are similar to published Level II questions for other appropriate NDE methods.

If an individual holds a current NDE Level III certificate by examination from ASNT, the possession of such a certificate is an acceptable alternative to fulfilling the Basic Examination requirements.

b. Method Examination

1. Thirty questions relating to fundamentals and principles, which are similar to published EPRI Level III visual examination questions.
2. Fifteen questions relating to application and establishment of techniques and procedures which are similar to published EPRI Level III visual examination questions.
3. Twenty questions relating to capability for interpreting codes, standards, and specifications which are selected from or are similar to published EPRI Level III visual examination questions.

c. Specific Examination

Thirty questions relating to specifications, equipment, techniques, and NES visual examination procedures, and to the administration of this procedure.

d. Practical Examination

The Level III candidate will complete the Level II practical.

6.5 GRADING OF EXAMINATIONS

- A. The Level I and II examinations are graded by a certified Level III or an outside agency; Level III examinations, are graded by the corporate Level III, Level III or examination agency. When an examination is administered and graded by an outside agency, and the outside agency issues a grade of pass or fail on a certified report, a score of 80% will be applied to the pass grade in calculation of the composite score.
- B. The examinations are evaluated by using a composite grading system whereby the results obtained are derived by applying a percentile weight factor to the actual percentage grades of the various examinations. Listed below are the percentile weight factors to be used to determine the composite grade for Level I and II. Level III composite grades are a mathematical average of the required examination grades.

Examination	Level I	Level II
General (WG)	0.3	0.3
Specific (WS)	0.2	0.2
Practical (WP)	0.5	0.5

The composite grade is determined as follows:

$$GC = (GG \times WG) + (GS \times WS) + (GP \times WP)$$

Where: GC = Composite Grade

GG = Actual grade from general examination in percent

WG = Percentile weight of general examination

GS = Actual grade from specific examination in percent

WS = Percentile weight of specific examination

GP = Actual grade from practical examination in percent

WP = Percentile weight of practical examination

Example:

If test results were: General (GG) = 80%

Specific (GS) = 74%

Practical (GP) = 90%

And percentile weights are: General (WG) = 0.3

Specific (WS) = 0.2

Practical (WP) = 0.5

Then:

$$\begin{aligned} GC &= (80 \times 0.3) + (74 \times 0.2) + (90 \times 0.5) \\ &= 24.0 + 14.8 + 45.0 \\ &= 83.8\% \end{aligned}$$

- C. Level I, II or III candidates must obtain a composite grade of 80% and individual examination grades of no less than 70% each in order to be certified when NES is the examining authority.
- D. When an outside agency is used the test grades required for certification will be based on the testing agency's grading criteria. As a minimum, the candidate must obtain a composite grade of 80% and individual examination grades of no less than 70% each in order to be certified.

6.6 REEXAMINATION

Candidates failing to pass an examination must wait at least 30 days before being reexamined unless they receive additional training acceptable to the Examination Authority. The candidate need only retake the failed portion(s) of the examination.

7. CERTIFICATION

7.1 CERTIFICATION PROCEDURE

- A. Responsibility for certification of all Level III candidates rests with the corporate Level III. Responsibility for certification of all Level I and II candidates shall rest with the Level III examiner.

- B. The Level III Examiner responsible for certifying an individual signs a Certificate of Qualification (Figure 1) which certifies that the individual has satisfied all of the qualification requirements of Section 6 for the applicable level of certification. If the certification is restricted to a particular VT category, the restriction is noted in the "Certification Restrictions" section of the Certificate of Qualification.

7.2 CERTIFICATION RECORDS

The personnel records of a certified examiner contain documentation necessary to verify the Certificate of Qualification. This includes:

- A. The individual's name.
- B. A copy of the Certificate of Qualification.
- C. Verification of high school, technical school or college completion.
- D. Training course records or statements indicating successful completion of training.
- E. Copies of current examinations and grades for all previous examinations.
- F. Results of all current examinations expressed in actual grade percent, percentile weight and composite grade.
- G. Written verification of any prior experience or training necessary for certification.
- H. Written verification of experience completed during employment with NES that is required for certification.
- I. A copy of each vision acuity report (Figure 2) referenced by the current Certificate(s) of Qualification.
- J. Statement or other documentation supporting yearly verification of work performed in the method.

7.3 VERIFICATION OF CONTINUING PERFORMANCE

- A. Evidence that the individual has functioned in the capacity for which he is certified shall be verified on a yearly basis. Verification may be accomplished by one of the following:

1. A statement, signed by a site supervisor or management personnel, which states that the individual functioned in the capacity for which certified.
 2. An NES time sheet which lists work performed in the particular method, and which is signed by a site supervisor or management personnel.
 3. A copy of an actual inspection report form which has been submitted to, and approved by, the customer and which has been signed by the certified individual.
 4. A performance demonstration of an inspection and completion of an inspection report form which is verified and co-signed by a Level III examiner.
- B. The certification of an individual who has not functioned in the capacity for which he is certified for a period of one year or longer may be reinstated based on a capability demonstration, provided the original expiration date has not passed. The reinstated certification expires on the original expiration date. Capability shall be demonstrated to a Level III examiner by the performance of an inspection in the VT category(s) in which the individual is certified. This is documented by the Level III examiner in the individual's certification file. If the individual does not demonstrate capability to the Level III examiner's satisfaction, the individual is examined in accordance with paragraph 6.4.
- C. An examiner's certification may be revoked at any time at the discretion of an NES Level III. Evidence of unsatisfactory performance is sufficient to justify revocation. Requalification in accordance with Section 6 is required to reinstate revoked certifications.

7.4 RECERTIFICATION

Recertification of examination personnel is required as specified by the code or procedure requirements under which the examiner is working. In all cases, a Level I or Level II examiner is recertified by examination every three years. A Level III examiner is recertified by examination every five years.

7.5 INTERRUPTED SERVICE

Examiners whose employment by NES is interrupted for less than one year may be reinstated to their prior certification level without reexamination if the original expiration

date has not passed. This reinstated certification expires on the original expiration date. Examiners whose employment by NES is interrupted for a period of one year or longer may be reinstated to their prior certification level based on a capability demonstration in accordance with paragraph 7.3.B.

7.6 RESTRICTED CERTIFICATION

Restrictions of examination personnel are described within their certification records.

8. TERMINATION

An employee's certification is revoked at termination.

TABLE 1

TRAINING REQUIREMENTS

Training hours required for each category

	Basic VT	VT-1	VT-2	VT-3	VT-4	TOTAL
Level I	4	3	3	3	3	16
Level II*	N/A	3	3	4	2	12
Level III	Shall complete the training required for Level II certification.					

*In addition to Level I training hours.

TABLE 2
EDUCATION AND
EXPERIENCE REQUIREMENTS

LEVEL I (All Categories)

For Certification to Level I, the candidate satisfies one of the following requirements.

- 1) Two years of related experience in equivalent inspection, examination, or testing activities

OR

- 2) High School graduation or General Education Development equivalent and six months of related experience in equivalent inspection, examination, or testing activities

OR

- 3) Completion of college-level work leading to an Associate Degree in a related discipline plus three months of related experience in equivalent inspection, examination, or testing activities.

LEVEL II (All Categories)

For certification to Level II, the candidate satisfies one of the following requirements.

- 1) One year of satisfactory performance as a Level I in the corresponding inspection, examination, or test category or class

OR

- 2) High school graduation or General Education Development equivalent plus three years of related experience in equivalent inspection, examination, or testing activities

OR

- 3) Completion of college-level work leading to an Associate Degree in a related discipline plus one year of related experience in equivalent inspection, examination, or testing activities

TABLE 2
EDUCATION AND
EXPERIENCE REQUIREMENTS

(Continued)

OR

4. Four-year college graduation plus six months of related experience in equivalent inspection, examination, or testing activities.

LEVEL III (All Categories)

For certification to Level III, the candidate shall satisfy any one of the following requirements.

- 1) Six years of satisfactory performance as a Level II in the corresponding inspection, examination or test category or class

OR

- 2) High school graduation or General Education Development equivalent plus ten years of related experience in equivalent inspection, examination, or testing activities; or high school graduation or General Education Development equivalent plus eight years' experience in equivalent inspection, examination, or testing activities, with at least two years as a Level II, and with at least two years associated with nuclear facilities—or if not, at least sufficient training to be acquainted with the relevant quality assurance aspects of a nuclear facility

OR

- 3) Completion of college-level work leading to an Associate Degree and seven years of related experience in equivalent inspection, examination, or testing activities, with at least two years of this experience associated with nuclear facilities—or if not, at least sufficient training to be acquainted with the relevant quality assurance aspects of a nuclear facility

TABLE 2
EDUCATION AND
EXPERIENCE REQUIREMENTS

(Continued)

OR

- 4) Four-year college graduation plus five years of related experience in equivalent inspection, examination, or testing activities, with at least two years of this experience associated with nuclear facilities—or if not, at least sufficient training to be acquainted with the relevant quality assurance aspects of a nuclear facility.

TABLE 3
EXAMINATION REQUIREMENTS

Number of Questions per Examination

<u>Level</u>	<u>Category</u>	<u>Basic</u>	<u>General</u>	<u>Specific</u>	<u>Practical</u>
I	All	N/A	30	12 from each category	demonstration of each category
II	All	N/A	30	12 from each category	demonstration of each category
			<u>Method</u>		
III	All	50	65	30 from all categories	Completion of a Level II practical



nes NUCLEAR ENERGY SERVICES SHELTER ROCK ROAD, DANBURY, CONNECTICUT 05810 (203) 796-5000	
CERTIFICATE OF QUALIFICATION	
CERTIFICATION RESTRICTIONS	SEE ATTACHED VISION ACUITY REPORT
EDUCATION	COLLEGE OR TECHNICAL
TRAINING	
NES EXPERIENCE	
PREVIOUS EXPERIENCE	
TOTAL EXPERIENCE	
CERTIFICATION EXAMINATIONS	INITIAL CERTIFICATION DATES
	CERTIFIED BY
DATE OF CERTIFICATION DATE OF EXPIRATION	LEVEL III EXAMINER
Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.	

FIGURE 1

VISION ACUITY EXAMINATION REPORT

NAME: _____ DATE: _____

EXAMINATION RESULTS:

NEAR VISION

	UNCORRECTED	CORRECTED
RIGHT EYE	_____	_____
LEFT EYE	_____	_____

Passing: Jaeger #1 @ 12" PASS/FAIL PASS/FAIL

DISTANCE VISION

	UNCORRECTED	CORRECTED
RIGHT EYE	_____	_____
LEFT EYE	_____	_____

Passing: 20/30 PASS/FAIL PASS/FAIL

The above individual was given an eye test for near vision acuity using the Standard Jaeger Chart and the Snellen Chart for far distance acuity for NDE or QC certification in accordance with NES Procedures 80A9037, 80A9068 and 80A9069.

COLOR VISION

Distinguishing pertinent colors has been verified by Ishihara's test plate numbers _____ for Color Blindness.

EXAMINED BY _____	TITLE _____	DATE _____
-------------------	-------------	------------

The ability to distinguish contrasting colors has been demonstrated by a practical examination in the methods listed below:

MT _____	ET _____
PT _____	LT _____
RT _____	VT _____
UT _____	QC _____

EXAMINED BY _____ DATE _____	EXAMINED BY _____ DATE _____
------------------------------	------------------------------

FIGURE 2

APPENDIX A
INSTRUCTION OUTLINE
BASIC VT INFORMATION
LEVEL I ONLY

- A. Qualification and Certification Requirements for VT Examiners
 - 1. ASME Section XI
 - 2. NES Procedure 80A9069
 - 3. Company approach to VT
- B. General Examination Concepts
 - 1. Optical aids, mechanical aids, and techniques
 - 2. Demonstration of optical aids, mechanical aids, and techniques
- C. Specific Examination Concepts
 - 1. ASME Codes, Section III and V
- D. Practical Examination Concepts
 - 1. Visual examination applications
(coatings, forgings, plates, bar stock, bolting, etc.)

Minimum Instruction Hours

Level I: 4

APPENDIX A (Cont'd)

INSTRUCTION OUTLINE

VT-1 VISUAL EXAMINATION

- A. Qualification and Certification Requirements for VT-1 Examiners
- B. General Examination Concepts
 - 1. Optical aids, mechanical aids, and techniques applicable to VT-1
 - 2. Use of drawings and symbols
 - 3. NES Procedure 80A9069 requirements
- C. Specific Examination Concepts
 - 1. ASME Section III requirements
 - 2. ASME Section XI requirements
 - 3. Company's VT-1 procedure requirements a. Data reporting criteria
- D. Practical Examination Concepts
 - 1. Welds and welding defects
 - 2. Service induced discontinuities
 - 3. Discontinuity significance
 - 4. Bolting
 - 5. Pump and valve ID surface
 - 6. Reactor vessel internals

Minimum Instruction Hours

Level I: 3

Level II: 3

APPENDIX A (Cont'd)

INSTRUCTION OUTLINE

VT-2 VISUAL EXAMINATION

- A. Qualification and Certification Requirements for VT-2 Examiners
- B. General Examination Concepts
 - 1. Equipment and techniques
 - 2. Types of pressure tests
 - 3. Test conditions
 - 4. VT-2 examination requirements
 - 5. Evidence of Leakage
 - 6. NES Procedure 80A9069 requirements
- C. Specific Examination Concepts
 - 1. ASME Section XI requirements
 - 2. Company's VT-2 procedure requirements
- D. Practical Examination Concepts
 - 1. Valve line-up drawings and list
 - 2. Proper ways to vent
 - 3. Pressure gauge problems
 - 4. System isolation

Minimum Instruction Hours

Level I: 3

Level II: 3

APPENDIX A (Cont'd)
INSTRUCTION OUTLINE
VT-3 VISUAL EXAMINATION

- A. Qualification and Certification Requirements for VT-3 Examiners
 - 1. ASME Section XI VT-3 requirements
 - a. PWR vessel ID examination
 - b. Valve and pump ID surface exam
 - 2. NES Procedure 80A9069 requirements.
- B. General Examination Concepts
 - 1. Optical aids, mechanical aids, and techniques for VT-3
 - 2. Support design and functions
- C. Specific Examination Concepts
 - 1. Support examination boundaries
 - 2. Company's VT-3 procedure requirements
- D. Practical Examination Concepts
 - 1. Actual visual examination of component supports, assemblies, components, and drawings or diagrams of some of each used in the company plants

Minimum Instruction Hours

Level I: 3

Level II: 4

APPENDIX A (Cont'd)**INSTRUCTION OUTLINE****VT-4 VISUAL EXAMINATION**

- A. Qualification and Certification Requirements for VT-4 Examiners
 - 1. ASME Section XI VT-4 requirements
 - 2. NES Procedure 80A9069 requirements
- B. General Examination Concepts
 - 1. Support design and functions
- C. Specific Examination Concepts
 - 1. ASME Section XI IWF requirements
 - 2. Company's snubber technical specification
 - 3. Company's VT-4 examination procedure requirements
- D. Practical Examination Concepts
 - 1. Component part identification
 - 2. Actual visual examination of component supports utilizing sample supports, assemblies, parts, or drawings using the company's VT-4 examination procedure

Minimum Instruction Hours

Level I: 3

Level II: 2

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1099

VT-1 VISUAL EXAMINATION

OF

NUCLEAR POWER PLANT COMPONENTS

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:

[Signature]

Engineering Manager - Programs

3/27/92
Date

APPROVED BY:

[Signature]

Manager - Technical Support

3/29/92
Date

**CONTROLLED
RECIPIENT**

ID

296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 18	0

VT-1 VISUAL EXAMINATION
OF
NUCLEAR POWER PLANT COMPONENTS

CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED

Project Application 2454		Copy No.	Assigned To		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	VT Level III	Project Mgr.	Dept. Mgr.	
0	Scott Larson				
1	<i>[Signature]</i> 03-04-92	<i>[Signature]</i> 03-04-92	<i>[Signature]</i> 3-4-92	<i>[Signature]</i> 3-4-92	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					



DOCUMENT NO. 83A6161
PAGE 2 OF 15

FORM # NES 206 390

VT-1 VISUAL EXAMINATION OF NUCLEAR POWER PLANT COMPONENTS**1. PURPOSE**

- 1.1 The purpose of this procedure is to ~~delineate the~~ VT-1 visual examination criteria specified by ASME Section XI for ~~pre-service and in-service~~ visual examination of nuclear power plant components.

2. SCOPE

- 2.1 This procedure defines the ~~general methods and requirements~~ for VT-1 visual examination as specified in Section XI of the ASME Code. The examination is to be performed to determine the condition of the ~~part, component,~~ or surface examined including such conditions as cracks, excessive wear, ~~corrosion,~~ erosion, or physical damage on the accessible surfaces of the ~~part or component.~~
- 2.2 Specific methods and details of ~~examinations may be~~ defined in specific plant special procedures and/or periodic test procedures. When such procedures are used, they shall be used in conjunction with this procedure in the performance of the examinations. Documentation shall be specified in the ~~special or~~ periodic test procedure.

Note: The above paragraph is applicable to BNP

- 2.3 When plant specifications or ~~procedures require~~ examinations to be performed in accordance with an approved VT-1 procedure (~~with no~~ specific details of the examination provided in the specification or procedure), this procedure and associated documentation shall be used.

Note: The above paragraph is applicable to RNP and HNP.

3. REFERENCES

- 3.1 This procedure meets the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1986 Edition, with no addenda, 1980

Edition, with addenda through Winter 1981 and 1983 Edition with addenda through Summer 1983.

- 3.2 Inspection and Enforcement (IE) Bulletin No. 80-13, Cracking in Core Spray Spargers, dated May 12, 1980.

4. PERSONNEL

- 4.1 Personnel performing the visual examination shall be certified as a Level II, VT-1 examiner in accordance with NES Procedure 80A9069, Certification of Visual Examination Personnel. In addition, the CP&L Level III may provide training to familiarize personnel with specific plant or periodic procedures.
- 4.2 In addition, the personnel performing the visual examinations shall be knowledgeable regarding the function of the component being examined and be able to identify objectionable indications relative to that component.

5. GENERAL

- 5.1 The following service facilities and equipment should be furnished by plant personnel to facilitate the performance of examinations in accordance with this procedure; prior agreement between plant and inspection unit should establish details:

5.1.1 Scaffolding

5.1.2 Air, electricity and water

5.1.3 Adequate temporary lighting

5.1.4 Moving or lifting devices

5.1.5 Test surface preparation

5.1.6 Pressure gauges and sensors, as required for system pressure tests

Various tools as required for disassembly of components

5.1.7 Post-examination clean-up

- 5.2 Inspection personnel shall observe good health physics practices when inspection is required inside a radiation control area to maintain radiation exposure as low as reasonably achievable (ALARA).

6. EQUIPMENT

- 6.1 Illuminators, mirrors and/or other instruments, meeting the requirements of paragraph 7.5, may be used to aid in performing the examinations.
- 6.2 When mirrors or magnifying lenses are used to improve the angle of vision and/or resolution, care must be taken to ensure that the equipment does not shadow the area of interest or otherwise hinder the examination.

7. EXAMINATION

- 7.1 Specific examination items are addressed by Appendix A for ASME Section XI, 1986 Edition, with no addenda.

- 7.2 Appendix B provides the specific examination items for ASME Section XI, 1980 Edition, with addenda through Winter 1981.

- 7.3 Appendix C provides the specific examination items for ASME Section XI, 1983 Edition with addenda through Summer 1983.

7.4 CLEANING

- 7.4.1 Visual examinations which require clean surfaces or decontamination for valid interpretation of results, shall be preceded by a cleaning process performed in accordance with an approved plant cleaning procedure.

7.5 METHOD

- 7.5.1 Direct visual examination may be made when access is sufficient to place the eye within 24 inches of the surface to be examined, and at an angle not less than 30° to

the surface being examined. Mirrors and magnifying lenses may be used to improve the angle of vision and resolution. Lighting, natural or artificial, sufficient to illuminate the area to be examined is required. Resolution shall be considered adequate when the combination of lighting, access and angles of vision can resolve a 1/32 inch black line on an 18% neutral gray card (based on the photographic standard manufactured by Eastman Kodak Co., or equivalent) placed on the surface to be examined.

- 7.5.2 Remote visual examination may be substituted for direct visual examination where access does not permit direct visual examination. Remote visual examination may include aids such as telescopes, periscopes, borescopes, fiberoptics, or TV camera and monitoring systems, with or without attachments for permanent recording. Mirrors, movable lights or rotating optics, or any combination thereof, may be employed. Such systems shall have a resolution capability at least equivalent to that obtainable by direct visual examination. Remote underwater systems used to inspect RPV interior components must resolve a .001 inch diameter wire.

7.6 REPLICATION

- 7.6.1 Surface replication methods shall be considered acceptable provided the surface resolution is at least that obtainable by visual observation.
- 7.6.2 Replication materials and applicable procedures to be used shall be approved by a VT Level III.

8. DATA AND RECORDING

- 8.1 Imperfections or abnormal surface conditions visible on welds, base material component internals, or other surfaces shall be recorded. Special care shall be taken to record abnormalities observed on the valve seat and the pressure retaining surfaces of pumps and valves (e.g., The slightest nick or scratch on a disk seating surface may prevent complete valve shutoff and therefore should be recorded).
- 8.2 A separate visual examination report must be prepared for each type of component listing the areas that are examined and the identity of the potential defect conditions. Information

recorded shall identify the nature of the abnormality, location on component area (length and width) and depth if applicable.

8.3 Data shall be recorded on the appropriate CP&L form(s) as follows:



8.3.1 QA NDE ISI 2 – Visual Examination Data Sheet for Valves

8.3.2 QA NDE ISI 3 – Visual Examination Data Sheet for Pumps

8.3.3 QA NDE ISI 6 – Visual Examination Data Sheet for Flanges, Bolts, Studs and Washers

8.3.4 QA NDE ISI 7 – Visual Examination Data Sheet for External or Interior Surfaces

8.3.5 QA NDE ISI 8 – Visual Examination Data Sheet for Welds

8.3.6 Other form(s) as provided by specific plant examination procedures

8.4 Record on an appropriate examination form the following information, as a minimum:

- Project and unit identification
- Weld or item identification
- Examination procedure and revision number
- Date of examination
- Equipment used for visual aids, if any
- Replication materials used, if any
- Examination results, including detailed location of abnormal areas
- Signature and certification level of examiner
- Pertinent comments, if any
- Signature of reviewer (if required by plant procedures)

8.5 For areas where erosion, corrosion, or wear is observed, it may be prudent to supplement the recorded data with photographs or sketches. When photographs are taken, a benchmark shall be included in the photograph to provide a scale of relative size.

9. REVIEW OF DATA AND EVALUATION OF INDICATIONS

- 9.1 Evaluation of detected abnormal conditions or flaws shall be performed on a case by case basis by plant engineering to determine final disposition.
- 9.2 Visual examinations that detect surface flaws shall be supplemented by surface or volumetric examination when evaluation indicates that acceptable flaws exist and are to remain as is.

APPENDIX A

1. SCOPE

- 1.1 This appendix ~~delineates~~ the specific VT-1 visual examination requirements as identified by ASME Section XI, 1986 Edition, with no addenda.

2. GENERAL

- 2.1 This appendix is ~~applicable~~ for the VT-1 visual examination of the following components (and other structures/components as required by ASME Section XI, 1986 Edition, with no addenda):

2.1.1 Pressure retaining bolting

2.1.2 RPV interior attachment welds

3. SPECIFIC EXAMINATION ITEMS

- 3.1 Pressure Retaining Bolting (1/4 inch to 8 inch diameter)

3.1.1 Bolting may be examined in place under tension, when the connection is disassembled, or when the bolting is removed.

3.1.2 The areas to be examined are the accessible areas of the stud, nut, washers, threads in base material, and flange ligaments. The bolting shall be examined to detect the presence of cracks and/or other physical damage that could render the bolting structurally inadequate. Particular attention should be given to the examination of the root of the threads of studs, nuts and base material.

- 3.2 BWR Reactor Pressure Vessel Interior Surfaces

3.2.1 The examination areas and conditions to be recorded are as follows:

3.2.1.1 Guide rod support brackets

a) Condition of full penetration welds of the bracket to the vessel wall;

b) Condition of plug welds in the lower portion of the bracket;

3.2.1.2 Steam dryer support brackets

- a) Condition of full penetration weld(s) of the bracket to the vessel wall;

3.2.1.3 Feedwater wall bracket

- a) Condition of full penetration weld(s) of the bracket to the vessel wall;

3.2.1.4 Feedwater sparger

- a) Condition of end pin keeper welds;
- b) Condition of end bracket bolt welds;
- c) Condition of bearing bar tack welds;
- d) Condition of sparger tee welds;

3.2.1.5 Core spray header support

- a) Condition of full penetration welds;
- b) Condition of tack welds;

3.2.1.6 Core spray header welds

- a) Condition of the cover plate weld;
- b) Condition of tee to header weld;
- c) Condition of elbow welds;

Note: Particular attention should be paid to the HAZ on either side of the horizontal pipe to elbow welds.

3.2.1.7 Core spray spargers

- a) Upper spray header nozzle tack weld;
- b) Lower spray header tack weld condition;

3.3 PWR REACTOR PRESSURE VESSEL PARTS AND COMPONENTS

The following examination areas shall be examined, as a minimum:

3.3.1 Closure washers


3.3.2 Bushings

3.3.3 Accessible welds and interior attachments

3.3.4 Bolting

3.3.5 Other components and areas as specified in the ISI inspection plan or as requested by plant.

4. DATA, RECORDING REVIEW AND INDICATION EVALUATION

4.1 Examination results shall be documented, reviewed and evaluated in accordance with paragraphs 8.0 and 9.0 of this procedure. 

4.2 Visual examinations that detect surface flaws shall be supplemented by either surface or volumetric examinations.

APPENDIX B

1. SCOPE

- 1.1 This appendix delineates the specific VT 1 visual examination requirements as identified by ASME Section XI, 1980 Edition, with addenda through Winter 1981.

2. GENERAL

- 2.1 This appendix is applicable for the VT- 1 visual examination of the following components (and other structures/components as required by ASME Section XI, 1980 Edition, with addenda through Winter 1981):
- 2.1.1 Reactor closure washers, bushings, flange surfaces and bolting
 - 2.1.2 Pressurizer nuts, bolts, studs, bushings, washers, and flange surface
 - 2.1.3 Steam generator nuts, bolts, studs, bushings, washers and flange surface
 - 2.1.4 Heat exchanger nuts, bolts, studs, bushings, washers and flange surface
 - 2.1.5 Piping nuts, bolts, studs, bushings, washers and flange surface
 - 2.1.6 Pump nuts, bolts, studs, bushings, washers and flange surface
 - 2.1.7 Valve nuts, bolts, studs, bushings, washers and flange surface
 - 2.1.8 CRD housing bolts, studs and nuts
 - 2.1.9 BWR and PWR reactor vessel accessible welds on interior attachments within beltline region.

3. SPECIFIC EXAMINATION ITEMS

3.1 PRESSURE RETAINING BOLTING

- 3.1.1 Bolting may be examined in place under tension, when the connection is disassembled, or when the bolting is removed.

- 3.1.2 Bushings and washers greater than 2 inches in diameter will be examined.
- 3.1.3 Bolts and studs 2 inches and less in diameter will be examined.
- 3.1.4 Nuts will be examined.
- 3.1.5 Bolting for Class 1 components will be examined as outlined in paragraphs 2.1.1 through 2.1.9 and 3.1.1 through 3.1.4.

3.2 FLANGE SURFACES

- 3.2.1 Flange surfaces of Class 1 components will be examined upon connection disassembly.
- 3.2.2 Examination area includes 1 inch annular surface of flange surrounding each stud.

3.3 BUSHINGS AND THREADS IN FLANGE BASE MATERIAL

- 3.3.1 Bushings and threads in base material of flanges are required to be examined only when the connections are disassembled. Bushing may be inspected in place.

3.4 CRD HOUSINGS BOLTING

- 3.4.1 Bolts, nuts and studs in CRD housings will be examined when disassembled.

3.5 INTERIOR ATTACHMENT WELDS ON REACTOR VESSELS

- 3.5.1 Accessible welds on interior attachments within the beltline region on BWR and PWR reactor pressure vessels will be examined.
- 3.5.2 The vessel beltline region extends for the length of the vessel thermal shielding, or in the absence of a thermal shield, the effective length of reactor fuel elements.

4. DATA RECORDING, REVIEW AND INDICATION EVALUATION

- 4.1 Examination results shall be documented and reviewed in accordance with paragraphs 8.0 and 9.0 of this procedure.
- 4.2 Visual examinations that detect surface flaws shall be supplemented by either surface or volumetric examinations.



APPENDIX C**1. SCOPE**

- 1.1 This appendix delineates the specific VT- 1 visual examination requirements as identified by ASME Section XI, 1983 Edition, with addenda through Summer 1983.

2. GENERAL

- 2.1 This appendix is applicable for the VT-1 visual examination of the following items and other structures/components when required by ASME Section XI, 1983 with addenda through Summer 1983):

2.1.1 Nuts, bolting, washers, bushings, flange surfaces, studs.

2.1.2 BWR and PWR reactor vessel accessible welds on interior attachments within beltline region.

3. SPECIFIC EXAMINATION ITEMS**3.1 PRESSURE RETAINING BOLTING**

3.1.1 Bolting may be examined in place under tension, when the connection is disassembled, or when the bolting is removed.

3.1.2 Bushings and washers greater than 2 inches in diameter will be examined.

3.1.3 Bolts and studs 2 inches and less in diameter will be examined.

3.1.4 Nuts will be examined.

3.1.5 Bolting for Class 1 components will be examined as outlined in paragraphs 2.1 and 3.1.

3.2 FLANGE SURFACES

3.2.1 Flange surfaces of Class 1 components will be examined upon connection disassembly.

3.2.2 Examination area includes 1 inch annular surface of flange surrounding each stud.

3.3 BUSHING AND THREADS IN FLANGE BASE MATERIAL

- 3.3.1 Bushings and threads in base material of flanges are required to be examined only when the connections are disassembled. Bushing may be inspected in place.

3.4 CRD HOUSING BOLTING

- 3.4.1 Bolts, nuts and studs in CRD housings will be examined when disassembled.

3.5 INTERIOR ATTACHMENT WELDS ON REACTOR VESSELS

- 3.5.1 Accessible welds on interior attachments within the beltline region on BWR and PWR reactor pressure vessels will be examined.
- 3.5.2 The vessel beltline region extends for the length of the vessel thermal shielding, or in the absence of a thermal shield, the effective length of reactor fuel elements.

4. DATA RECORDING. REVIEW AND INDICATION EVALUATION

- 4.1 Examination results shall be documented and reviewed in accordance with paragraphs 8.0 and 9.0 of this procedure.
- 4.2 Visual examinations that detect surface flaws shall be supplemented by either surface or volumetric examinations.



This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1100

PROCEDURE FOR CERTIFYING NONDESTRUCTIVE
EXAMINATION PERSONNEL

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:

Rauer-Lamm
Engineering Manager - Programs

3/27/92
Date

APPROVED BY:

M. Hage
Manager Technical Support

3/29/92
Date

**CONTROLLED
RECIPIENT**

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 39	0

PROCEDURE FOR CERTIFYING NONDESTRUCTIVE EXAMINATION PERSONNEL



CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED

Project Application Implementing		Copy No 250	Assigned To Mr. Carl Osman - Carolina Power & Light		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	Level III	Executive Vice President	QA Manager	
0					
1					
2					
3					
4					
5					
6					
7					
8	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
9	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
10	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
11					

REV. NO.	DATE	PAGE NO.	DESCRIPTION	APPROVAL
1	8/19/83	ALL	Complete rewrite CRA 3601	<i>[Signature]</i> 8/19/83 <i>[Signature]</i> 4/25/85
2	4/25/85	1	New style cover sheet.	
			Document effective date "4/20/85".	
		3	Added "Fig. 1...24".	
			Added "Fig. 2...25".	
			Appendices assigned page numbers.	
		4	Section 1 "For work...revision".	
			Reworded to "After the effective..."	
			Section XI".	
		8	Para. 5.2.A(1) added "with Level III approval". Para. 5.2.A(2) revised.	
		9	Para. 5.2.C "Appendix B" changed to "Figure 2".	<i>[Signature]</i> 9/9/86 <i>[Signature]</i> 3/19/87
		11	Para. 5.4 revised to include Appendices A through D.	
		24	Figure 1 added.	
		25	Figure 2 added.	
			Refer to CRA#5277.	
3	9/9/86	ALL	General Revision See CRA 6230	
4	3/18/87	ALL	Correct typos, change NES Division to NES, Inc.	
		1,2	Change title	
		20, 24	Change interrupted service to 1 year	
		26, 28	Delete 2 hours blacklight training	
		29	Delete 3 hours add'l MT training	
		32	Reword B.2 for noting cert restrictions	
		33	C.1 include specific exam	
			Refer to CRA 6445	

REV. NO.	DATE	PAGE NO.	DESCRIPTION	APPROVAL
5	12/14/87	ALL	General Revision See CRA 6677	STEVE PROWSE 12/14/87
6	2/16/88	21	9.2.B.4 change 8 hr refresher trng	STEVE PROWSE 2/16/88
		24	last sentence : " . . . unless the individual was working"	
7	3/16/90	5	Para. 1.0 retitled; Para. 2.1 added UT/T Method	Keneth Brise 3/21/90
			Para. 2.2 Referenced NUC-MR-1A	
		10	5.2.B (4) Deleted "by one...professionals."	
			5.2.C Reworded	
		11	5.3.A.1 Deleted "or more" methods: second sentence	
			5.3.C.1 Deleted "engineering or science" college: first sentence	
		17	7.3.B.1 Added "These questions are" starting second sentence	
			7.3.D Reworded second sentence	
		18	7.3.E.1 Added second sentence	
			8.1 Reworded last sentence	
		21	9.2.A Added "This experience...the verifier" as second sentence	
		22	9.4 Reworded first sentence	
		24	10.4 Added "if there is...performance" to end of first sentence	
			10.4 Reworded second sentence	
		25	Added UT/T experience req'ts to Levels I & II	
		26	Added UT/T training req'ts to Levels I & II	
		27	Added UT/T exam req't to Level I & II	
		31	Appendix A B.4 Deleted "either...or magnetic particle"	
			B.5 Replaced "fluorescent" with "unrestricted"	
		32	A.1 Deleted fluorescent certification & Para. A.3	
		34	A.1 Added categories 2, 3 and 6; Reworded A.2	
		35	B.3 Added third paragraph	
		36	A.1.3 Added thickness category C.1 and 2 Reworded	
			Refer to CRA No. 7582 and Addendum #1	

PROCEDURE FOR CERTIFYING NONDESTRUCTIVE EXAMINATION PERSONNEL

1. OBJECTIVE

This procedure provides a uniform system for qualification and certification of nondestructive examination (NDE) personnel.

2. GENERAL

Certifications issued prior to the effective date of this revision remain valid, until recertification in that method is required. Recertification shall be in accordance with the latest revision of this procedure.

This document is to be used for certifying personnel only in the following NDE methods:

- Electromagnetic Testing (ET)
- Leak Testing (LT)
- Magnetic Particle Testing (MT)
- Liquid Penetrant Testing (PT)
- Radiographic Testing (RT)
- Ultrasonic Testing (UT)
- Ultrasonic Testing/Thickness (UT/T)



3. REFERENCES

3.1 This procedure integrates the NDE personnel certification requirements of:

3.1.1 The American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section XI, 1986

3.1.2 The American Society for Nondestructive Testing, Recommended Practice No. SNT-TC-1A, August 1984 Edition, Personnel Qualification and Certification in Nondestructive Testing.

3.1.3 Final Report, NUC-MR-1A, Minimum Requirements for Qualification and Certification of Nondestructive Examination Personnel for the Nuclear Power Industry, prepared by the Ad Hoc Committee of the Electric Utility Industry.

CAUTION

NUC-MR-1A requires additional training hours in some methods (refer to Table 2). Reference the Project Quality Assurance Program Plan to determine NUC-MR-1A applicability.



4. RESPONSIBILITY

- 4.1 The responsibility for the administration of this procedure rests with the President of NES. The President of NES may designate an individual (the President's Designee) to be responsible for the administration and maintenance of this procedure and for the certification of Level III individuals.
- 4.2 The Service Line manager is responsible for maintaining those records required by this procedure. This responsibility may be delegated.

5. LEVELS OF QUALIFICATION

- 5.1 There are three basic levels of qualifications. Due to the various areas of expertise within each method, the certifications may be restricted to specified applications of a particular method. These restrictions, if any, are described on the employee's certification.
- 5.2 In the process of being qualified and certified to at least Level I, an individual is considered a trainee. A trainee works directly with a certified Level II or III individual and does not independently conduct an examination, interpret results of an examination or report the examination results.

5.3 The three basic levels of qualification are as follows:

5.3.1 NDE Level I -

1. An NDE Level I individual may perform specific calibrations, and specific examinations and record data according to written procedures under the supervision of a Level II or Level III individual. A Level I may not independently calibrate equipment, perform examinations, or evaluate and report the results of any examinations.
2. An RT Level I may (subject to Radiation Safety instructions which are not a part of this program) independently make setups, and expose and develop film but is not responsible for the evaluation of the radiograph or for the acceptance/rejection of the radiographed object.

5.3.2 NDE Level II - An NDE Level II individual may set up and calibrate equipment, perform examinations and interpret and evaluate results with respect to applicable codes, standards, procedures and specifications. The NDE Level II is thoroughly familiar with the scope and limitations of the methods for which the individual is qualified and may be assigned responsibility for on-the-job training and guidance of trainees and NDE Level I personnel. The NDE Level II may organize and report the results of nondestructive examinations.

5.3.3 NDE Level III - An NDE Level III individual is responsible for establishing and approving techniques and procedures; interpreting codes, standards, specifications, and procedures; performing, interpreting, evaluating and reporting examinations; and designating the particular examination methods, techniques, and procedures to be used. The NDE Level III is responsible for the NDE operations for which qualified and to which assigned, and is capable of interpreting and evaluating results in terms of existing codes, standards, and specifications. The NDE Level III has sufficient practical background in applicable materials, fabrication, and

product technology to establish techniques and to assist in establishing acceptance criteria where none are otherwise available. The NDE Level III has general familiarity with other appropriate NDE methods, and is qualified to train and is authorized to examine and certify NDE Level I and Level II personnel for certification.

6. QUALIFICATION REQUIREMENTS FOR EACH LEVEL OF CERTIFICATION

6.1 GENERAL

In order to be certified, an individual must satisfy the qualification requirements listed for the applicable level in each of the following categories.

- A. Vision acuity examination (See Paragraph 6.2)
- B. Education, experience and training (See Paragraph 6.3)
- C. Technical examination (See Paragraph 8.0)

6.2 VISION ACUITY EXAMINATION

6.2.1 All levels of certified personnel will have their eyes examined at least annually to ensure that the following requirements are met in at least one eye:

1. Near Vision - The Jaeger J-1 Letters at a distance of at least 12 inches. An equivalent chart may be substituted, with Level III approval.
2. Distance Vision - Snellen 20/30 or equivalent, as approved by a Level III.
3. Color Perception - Demonstrated ability to distinguish and differentiate contrast between colors used in the applicable method.

This may be performed during practical examination or by viewing printed color plates. Evidence of a successful completion of a practical examination is sufficient evidence of the necessary color perception to certify the individual in that method.

4. If corrective lenses must be worn to pass portions of the eye examination, this shall be noted on the report and they must be worn while performing NDE Examinations as applicable.

6.2.2 Eye examinations may be performed by:

1. Ophthalmologist
2. Optometrist
3. Qualified medical professionals
4. An individual instructed in the administration of a vision acuity examination.
5. A Level III Examiner

6.2.3 Eye examinations are reported on a form similar to Exhibit 2. The format may vary but the results of the above requirements are recorded.

6.3 EDUCATION, EXPERIENCE AND TRAINING

For each level of certification, experience and/or training gained with a prior employer or outside agency may be applied toward certification provided the documentation of such training and/or experience is acceptable to the certifying Level III examiner or President's Designee.

6.3.1 For initial Level I or Level II certification an employee must satisfy the following requirements.

1. Experience as specified in Table 1. The experience factor in months is based on a normal 40-hour workweek. One month is equal to 175 hours. When work is performed in excess of a 40-hour work week, credit may be based on total hours. Initial experience may be gained simultaneously in two methods if the candidate spends at least 40% of the work time on each method for which certification is sought, and the remainder of the work time claimed as experience is spent in other NDE methods or in NDE-related activities as defined below:

- Supervision of NDE personnel.
- Writing procedures for the performance of nondestructive examinations.
- Classroom or other organized instruction of NDE personnel.
- Review of NDE data for code compliance.
- Monitoring nondestructive examinations.

Records substantiating qualification are documented and verified prior to certification.

2. Training in a course similar to those found in Tables 1A through 1G of SNT-TC-1A and Appendix A-G of NUC-MR-1A. The length of time required for each course is found in Table 2 in correlation with the employee's education.

6.3.2 An individual may be certified directly to Level II without having been a Level I if the total months of experience equal or exceed the sum of the Level I and Level II experience shown in Table 1 and the total hours of training equal or exceed the sum of Level I and Level II training shown in Table 2 providing that the other requirements for certification are met.

6.3.3 For initial Level III certification an employee must satisfy at least one of the education and experience criteria.

1. Graduate of a four year accredited college or university with a degree in engineering or science plus two years experience in Nondestructive Examination in an assignment comparable to that of a

Level II in the applicable test method. At least one year of this experience will be in nuclear applications of the applicable examination method and include the actual performance of examinations and evaluations of the examination results.

2. Completion with a passing grade of at least two years of engineering or science study at an accredited university, college or technical school plus three years experience in Nondestructive Examination in an assignment comparable to Level II in the applicable test method. At least two years of this experience will be in nuclear applications of the applicable examination method and include the actual performance of examinations and evaluations of the examination results.
3. Five years experience in Nondestructive Examination in an assignment comparable to Level II in the applicable test method. At least two years of this experience will be in nuclear applications of the applicable examination method and include the actual performance of examinations and evaluations of the examination results.

6.3.4 Up to 75% of the experience requirements for initial Level III certification may be replaced by experience as a certified NDE Level II in other NDE methods, or in assignments at least comparable to NDE Level II, as defined below.

- Supervision of NDE personnel.
- Writing procedures for the performance of nondestructive examinations.
- Classroom or other organized instruction of NDE personnel.
- Review of NDE data for code compliance.
- Monitoring nondestructive examinations.

6.3.5 Experience completed during employment with NES and applied toward initial Level III certification is documented on a detailed resume.

The candidate signs a statement attesting to the accuracy of the information contained in the resume. This experience is verified by an individual selected by the President's Designee, as evidenced by his signature on the resume.

6.4 RESTRICTED/LIMITED METHOD CERTIFICATION

Restricted or limited method certifications may be provided. The restrictions, limitations and/or removal of restriction and limitation conditions are described in the Appendices to this procedure. The Appendices are:

- Appendix A Liquid Penetrant Examination
- Appendix B Magnetic Particle Examination
- Appendix C Radiographic Examination
- Appendix D Ultrasonic Thickness

A notation describing the restriction to the certification is indicated in the "Certification Restrictions" section of the Certificate of Qualification (Exhibit 1).

6.5 ADDITIONAL QUALIFICATION

Certain specialized applications or techniques such as the UT examination of reactor vessel nozzle inner radius or the UT examination for detecting intergranular stress corrosion cracking may require training and/or qualification in excess of the requirements of this procedure. Such additional requirements are beyond the scope of this procedure for basic certification in the NDE method. They may be found in the NDE procedure used for performing the examination in question or in separate qualification procedures.

7. TRAINING PROGRAMS

- 7.1 Personnel being considered for initial certification complete sufficient organized training to become thoroughly familiar with the principles and practices of the specified test method related to the level of certification desired and applicable to the practices to be used and the products to be tested. The training program

includes sufficient examinations to assure the necessary information has been comprehended.

- 7.2 A candidate for initial certification to Level III will have additional training in those activities unique to Level III as given in 5.3.3. The candidate for initial certification to Level III will also have had the training required for Level I and Level II certification in each method for which certification is to be considered.

8. EXAMINATION

8.1 GENERAL REQUIREMENTS

Examinations to verify an individual's level of certification are given to those who can satisfy the experience, education, training and vision acuity requirements. All levels of certification and recertification are by examination only. Examinations may be prepared, administered, and graded by NES or an outside agency. If examination services are provided by an outside agency, NES retains the responsibility for the adequacy of the program and the certification of personnel. The administration of NES examinations is in accordance with 8.1.1 and 8.1.2 below.

8.1.1 Level III examinations are administered by a person certified as Level III in the applicable method. Written examinations may be proctored by an individual selected by the President's Designee.

8.1.2 A Level III examiner is responsible for conducting and grading the examinations of candidates for Level I and Level II certification. However, the actual administration and grading may be specifically assigned to a Level II certified under this program in the applicable method. Written examinations may be proctored by an individual selected by the Level III examiner.

- 8.2 Level I and Level II examinations to verify technical qualifications consist of three parts as follows:

8.2.1 General Examination

A closed book written examination consisting of at least the minimum number of questions specified in Table 3 for the applicable method and level of certification. The questions are of a general nature concerning the basic test principles relative to the applicable method. The questions are approved by a Level III examiner and the examination is conducted without access to reference material other than formulas used for calculation.

8.2.2 Specific Examination

A written examination consisting of at least the minimum number of questions specified on Table 3 under the appropriate method and level of certification. The questions will cover specific equipment, operating procedures, test techniques, specifications or codes, and acceptance criteria that the employee may encounter in his assignments. The test questions are approved by a Level III examiner. The examination is closed book except access to codes, specifications and procedures applicable to the examination may be provided. These documents are not available to the examinee during the general examination. Reference documents used are noted on the examination.

8.2.3 Practical Examination

A demonstration that the employee is familiar with and can operate the necessary equipment and analyze the resulting information to the degree required for the individual's level and scope of certification. At least one specimen selected by the Level III examiner is examined using an actual NES Examination Procedure and results evaluated by the employee being considered for certification. Failure to detect 80% of the known

indications (natural or artificial) in the test part will result in the candidate failing the examination.

Documentation of the practical examination includes:

- Description of the specimen.
- Identification of the examination procedure used.
- A report of the examination on a standard NES report form or the report form in use on the project where the examination is being performed or other suitable form.
- At least ten check points.



8.2.4 Examination questions are subject to approval by the Certifying Level III. Certification of the individual is evidence of such approval.

8.3 LEVEL III

Examinations to verify the technical qualifications of candidates for Level III certification consist of four parts.

8.3.1 Basic Examination

A written examination of at least 20 questions related to an understanding of SNT-TC-1A (1984), 15 Level II type questions selected from various NDE methods and 15 questions related to applicable materials, fabrication, and processing technology. This is a closed book examination taken without access to reference material. This examination is only required to be passed once every five years regardless of the number of methods in which certification is sought.

8.3.2 Method (General) Examination (for each method)

This is a closed book examination taken without access to reference materials other than sample codes, specifications or procedures which have been issued as part of the examination. This examination consists of at least:

1. Thirty questions relating to the fundamentals and principles of the method. These questions are selected from or are similar to ASNT published Level III questions for each method.
2. Fifteen questions relating to the application and establishment of techniques and procedures relating to the method. These questions are selected from or are similar to ASNT published Level III questions for each method.
3. Twenty questions relating to capability for interpreting codes, standards, procedures and specifications relating to the method.

8.3.3 If an individual holds a current NDE Level III certificate by examination from ASNT, the possession of such a certificate is an acceptable alternative to fulfilling the Basic and Method examination requirements.

8.3.4 Specific Examination (for each method)

A written examination of at least twenty questions relating to the codes, specifications, equipment, techniques and procedures applicable to the method as practiced by NES, and to the administration of this procedure. This is a closed book examination except access to applicable codes, specifications and procedures is permitted during this examination. These documents are not available to the examinee during the basic or method examination. Reference documents used are noted on the examination

8.3.5. Practical Examination (for each method)

Each candidate for Level III certification will pass a two-part practical examination.

1. The first part is the same hands-on examination given for Level II certification in the applicable method. Failure to detect 80% of the known indications (natural or artificial) in the test part shall result in the candidate failing the examination.
2. The second part is the preparation of an examination procedure for an item described by the Level III Examiner using reference material specified by the Level III Examiner. Such reference material is identified in the resulting procedure.

8.3.6 All questions on Level III examinations are subject to approval by the President's Designee. Certification of the candidate is evidence of such approval.

9. EXAMINATION GRADING

9.1 Examinations may be graded by NES or an outside agency. When an examination is administered and graded by an outside agency, and the outside agency issues a grade of Pass or Fail, on a certified report, a score of 80% will be applied to the Pass grade in calculation of the composite score.

9.2 LEVEL I AND LEVEL II

Level I and Level II examinations administered by NES are graded by a certified Level III or other qualified individual* selected by the Level III using a composite grading system whereby the grade obtained is derived by applying a percentile weight factor to the actual grades of the various examinations. Listed below are the percentile weight factors to be used in determining the composite grade for each level of certification.

*Must be certified Level II under this program in the applicable test method.

LEVEL I & II

General (WG)	0.3
Specific (WS)	0.2
Practical (WP)	0.5

The composite grade (GC) is determined as follows:

$$GC = (GG \times WG) + (GS \times WS) + (GP \times WP)$$

Where

- GC = Composite Grade
- GG = Actual Grade from General Examination in Percent
- WG = Percentile Weight of General Examination
- GS = Actual Grade from Specific Examination in Percent
- WS = Percentile Weight of Specific Examination
- GP = Actual Grade from Practical Examination in Percent
- WP = Percentile Weight of Practical Examination

Example:

If test results were General (GG) = 80%
 Specific (GS) = 74%
 Practical (GP) = 90%

And percentile weights are:

LEVEL I AND II

General (WG)	0.3
Specific (WS)	0.2
Practical (WP)	0.5

Then:

$$GC = (80 \times 0.3) + (74 \times 0.2) + (90 \times 0.5)$$

$$GC = 24.0 + 14.8 + 45.0$$

$$GC = 83.8$$

When an examination is administered for Level I or Level II certification a composite grade of 80.0 or greater is required for certification. Each examination grade will be at least 70%, with the exception of the practical examination, which shall be at least 80%.

9.3 LEVEL III

Level III examinations administered by NES are graded by a Level III certified in the applicable method.

For certification, an individual must achieve a composite grade of 80.0 or greater. The composite grade is a mathematical average of the individual grades. Each examination grade must be at least 70%, with the exception of the practical examination, which must be at least 80%. If the basic and method examinations were administered by ASNT, the specific examination grade must be at least 80%.

9.4 RE-EXAMINATION

Individuals failing to pass an examination must wait at least 30 days before being re-examined unless additional training acceptable to the examiner is received. Only the part(s) of the examination which were failed need be retaken.

10. CERTIFICATION

10.1 RESPONSIBILITY

Responsibility for certification of all Level III individuals rests with the President of NES or the President's Designee. Responsibility for certification of all Level I and Level II personnel rests with certified Level III employees.

10.2 PREVIOUS EMPLOYMENT QUALIFICATIONS

10.2.1 Any prior experience, education or training claimed by the candidate that is utilized for certification must be verified by the person responsible for certification or an individual selected by the President's Designee. This experience, education or training must be documented and placed on file by the verifier. If all reasonable attempts to secure written verification are unsuccessful, a statement signed by the candidate may be acceptable if approved by the Service Line manager for Level I and II, or by the President's Designee for any level.

10.2.2 A Level I, Level II, or Level III examiner certified by a prior employer may be certified to his former level of certification based on examination in accordance with paragraph 8 provided the following conditions are met to the certifying Level III examiner's satisfaction:

1. The employee has proof of prior certification.
2. The employee was working in the capacity to which he was certified within six months of termination.
3. The employee is being certified within six months of his termination.
4. If item 2 or 3 above cannot be satisfied, the individual must complete a minimum of 1 hour of refresher training in the NDE method prior to certification.

10.2.3 An individual who has met the training and experience requirements for a higher level of certification with a former employer but was not certified to that level, may be certified by examination to that higher level if the individual has proof of the training and experience required for the higher level of certification satisfactory to the certifying Level III examiner and the requirements of 2. thru 4. above are met.

10.3 CERTIFICATION PROCEDURE

The Level III examiner responsible for certifying an individual signs a Certificate of Qualification (Exhibit 1) which certifies that the individual has satisfied all of the qualification requirements of this procedure for the applicable level of certification. If the certification is restricted to a particular application of the method, the restriction is noted in the "Certification Restrictions" section of the Certificate of Qualification.

10.4 CERTIFICATION DOCUMENTATION

The Service Line manager, is responsible for assuring the following documentation is on file:

10.4.1 A copy of revisions to this document under which personnel are currently certified.

10.4.2 Personnel records of certified individuals containing:

- Name of the individual.
- Level of certification and NDE method.
- Completed Certificate of Qualification similar to Exhibit 1.
- Documentation of required educational background of certified individuals.
- Documentation of required experience of certified individuals.
- Statements and records of satisfactory completion of required training.
- A vision acuity report (Exhibit 2) referenced by the current Certificate(s) of Qualification.

- Current examinations administered by NES and grades for all previous examinations.
- Results of current examinations expressed in actual grade percent, percentile weight and composite or average score.
- Statement or other documentation supporting yearly verification of work performed in the method.
- Dates of certification and/or recertification and the dates of assignment to NDE.
- Signature of the certifying Level III examiner.

10.4.3 Records of additional qualification as described in 6.5 above are maintained as above but need not be recorded on the Certificate of Qualification (Exhibit 1).

10.5 This procedure addresses only those records which must be kept at the NES home office for currently certified individuals. The requirements for historical and jobsite records may be found in other documents.

11. RECERTIFICATION

11.1 Recertification of Nondestructive Examination employees is specified by the code, standard, procedure or customer requirement under which the employee is working, but in all cases a Level I or Level II examiner is recertified by examination every three years and a Level III examiner is recertified by examination every five years.

11.2 Evidence that the individual has functioned in the capacity for which he is certified is verified on a yearly basis. Verification is accomplished by one of the following:

- A statement, signed by a site supervisor or management personnel, which states that the individual functioned in the capacity for which certified.

- An NES time sheet which lists work performed in the particular method, and which is signed by a site supervisor or management personnel.
 - A copy of an actual inspection report form which has been submitted to, and approved by, the customer and which has been signed by the certified individual.
 - A performance demonstration of an examination and completion of an examination data sheet which is verified and co-signed by a Level III examiner.
- 11.3 An individual's certification may be revoked at any time at the discretion of the NES Level III examiner. Revoked certifications may be reinstated following resolution of the Level III's concern and appropriate actions as determined by the Level III. Details of the revoked certification and/or reinstatement will be documented by the Level III and placed in the individuals file.
- 11.4 An individual's certification is revoked when the individual's employment by NES is terminated.



12. INTERRUPTED SERVICE

Certified employees who have been inactive or whose employment by NES is interrupted for less than one year may be reinstated to their prior certification level without re-examination if the original expiration date has not passed.. Certified employees who have been inactive or whose employment by NES is interrupted for one year or longer will have the original certification reinstated after successful completion of a practical examination or verification that he has been active in the method within the past year. Reinstated certifications will expire on the original date.

TABLE 1

EXPERIENCE REQUIREMENTS

The figures below represent the experience requirement in months necessary for certification in each of the listed NDE methods.

LEVEL I CERTIFICATION

Documented experience as a trainee, under the direction of a certified Level II or Level III individual.

Radiography (RT)	3 Months	Electromagnetic Testing (ET)	1 Month
Magnetic Particle (MT)	1 Month	Leak Testing (PCMT)*	1.5 Months
Ultrasonic (UT)	3 Months	Leak Testing (MSLT)**	4 Months
Liquid Penetrant (PT)	1 Month	Ultrasonic-Thickness (UT/T)	1 Month

LEVEL II CERTIFICATION

Documented experience as a certified Level I

Radiography	9 Months	Electromagnetic Testing	9 Months
Magnetic Particle	3 Months	Leak Testing (PCMT)*	4 Months
Ultrasonic	9 Months	Leak Testing (MSLT)*	6 Months
Liquid Penetrant	2 Months	Ultrasonic-Thickness (UT/T)	2 Months

DIRECT LEVEL II CERTIFICATION

If the experience of an individual without prior SNT-TC-1A type certification equals or exceeds the sum of the months shown above for Level I plus Level II, the individual may, upon meeting the other requirements for certification, be certified as a Level II without having been certified as a Level I.

*PCMT - Pressure Change/Measurement Test

** MSLT - Mass Spectrometer Leak Test

TABLE 2

TRAINING REQUIREMENTS

The reference training is in hours and is the minimum acceptable to qualify for certification listed. The hours shown in parenthesis correspond to the requirements of NUC-MR-1A.

Level I

	<u>RT*</u>	<u>MT</u>	<u>UT</u>	<u>UT/T</u>	<u>PT</u>	<u>ET</u>	<u>PCMT</u>	<u>MSLT</u>
High School	39	12	40	20	4(8)	12(40)	24	40
Grammar School	88	24	40	20	12	48	60 (96)	60
College	29	8	24	20	4	8	16	28

Level II (In Addition to level I above)

	<u>RT*</u>	<u>MT</u>	<u>UT</u>	<u>UT/T</u>	<u>PT</u>	<u>ET</u>	<u>PCMT*</u>	<u>MSLT*</u>
High School	40(48)	8	40	20	8	8(30)	16	24
Grammar School	80	16	80	20	16	24(30)	80	80
College	35	4	40	20	4	8	12	16

Level II (Direct certification)

If the training of an individual without prior SNT-TC-1A type certification equals or exceeds the sum of the times shown above for Level I and Level II, the individual may, upon meeting the other requirements for certification, be certified as a Level II without having been certified as a Level I.

NA - Not Acceptable

High School: High school graduation diploma or equivalent.

Grammar School: Successful completion of at least the ninth grade.

College: Completion with a passing grade of at least two years of engineering or science study in a university, college or technical school.

TABLE 3

EXAMINATION REQUIREMENTS

The numbers listed indicate the minimum number of questions required for certification.

Level I

	<u>RT</u>	<u>MT</u>	<u>UT</u>	<u>UT/T</u>	<u>PT</u>	<u>ET</u>	<u>PCMT</u>	<u>MSLT</u>
General	40	30	40	20	30	40	20	20
Specific	20	20	20	20	20	20	20	20
Practical	D	D	D	D	D	D	D	D

Level II

	<u>RT</u>	<u>MT</u>	<u>UT</u>	<u>UT/T</u>	<u>PT</u>	<u>ET</u>	<u>PCMT</u>	<u>MSLT</u>
General	40	30	40	40	30	40	20	20
Specific	20	15	20	20	15	20	15	50
Practical	D	D	D	D	D	D	D	D

Level II Total - Direct Certification

	<u>RT</u>	<u>MT</u>	<u>UT</u>	<u>UT/T</u>	<u>PT</u>	<u>ET</u>	<u>PCMT</u>	<u>MSLT</u>
General	40	30	40	40	30	40	20	20
Specific	20	15	20	20	15	20	15	50
Practical	D	D	D	D	D	D	D	D

D - Demonstrations, as described in main document

File: John Doe

CERTIFICATE OF QUALIFICATION

ULTRASONIC EXAMINATION

LEVEL II

John Doe is qualified as Level II in Ultrasonic Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 8, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services.

CERTIFICATION RESTRICTIONS

Manual Only

SEE ATTACHED VISION ACUITY REPORT

EDUCATION

High School Graduate
Royalton-Hartland Central
Middleport, New York

Date
Completed:
06-30-76

COLLEGE OR TECHNICAL

Nondestructive Testing
United States Navy
San Diego, California

Date
Completed:
10-30-80

TRAINING

Institution/Organization

Location

Type

Date
Completed

Hours

United States Navy

San Diego, California

Theory and Lab.

10-30-80

279.00

Total: 279.00

NES EXPERIENCE

ULTRASONIC EXAMINATION ASSIGNMENTS (List up to 12 UT assignments.)

ISI: None Mile Point 1
PSI: Shearon Harris
ISI: Three Mile Island

PSI: None Mile Point 2
ISI: Three Mile Island

EXPERIENCE AT EACH LEVEL OF UT CERTIFICATION

From	To	Level	Type	Months
01-20-86	02-12-86	Trainee	Nuclear	0.70
02-12-86	07-18-86	I	Nuclear	5.19
07-18-86	12-11-87	II	Nuclear	14.50
12-11-87	07-18-89	II	Nuclear	19.00
07-18-90	present	II	Nuclear	

Total: 39.39

PREVIOUS EXPERIENCE

Employer

Location

EMPLOYMENT DATES
From To

Level UT EXPERIENCE
Type

Months

United States Navy
Southern NDE Services

San Diego, California
Palm Beach, Florida

12-15-80 03-02-83
01-16-84 07-27-84

II Non-nuclear
Insp. Non-nuclear

26.56
2.00

* Non-continuous employment

Total: 28.56

TOTAL EXPERIENCE

67.95 months of experience in ultrasonic examination

CERTIFICATION EXAMINATIONS

General Examination 85.50 (.3)
Specific Examination 90.00 (.2)
Practical Examination 95.00 (.5)
Composite Score 91.15

Exams administered:
07-17-89
Exams completed:
07-18-89

INITIAL CERTIFICATION DATES

Prior employment initial Level II certification: 12-15-80
Initial Level II certification issued by NES: 07-18-86

CERTIFIED BY

DATE OF CERTIFICATION
DATE OF EXPIRATION

Date of Level III signature
07-17-92

LEVEL III EXAMINER

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

EXHIBIT 1

VISION ACUITY EXAMINATION REPORT

NAME: _____ DATE: _____

EXAMINATION RESULTS:

NEAR VISION

UNCORRECTED

CORRECTED

RIGHT EYE: _____

LEFT EYE: _____

Passing: J1

PASS/FAIL

PASS/FAIL

DISTANCE VISION

UNCORRECTED

CORRECTED

RIGHT EYE: 20/ _____

LEFT EYE: 20/ _____

Passing: 20/30

PASS/FAIL

PASS/FAIL

The above individual was given an eye test for near vision acuity using the Standard Jaeger Chart and the Snellen Chart for far distance acuity for NDE certification in accordance with NES Procedures 80A9068 and 80A9069.

COLOR VISION

Distinguishing pertinent colors has been verified by Ishihara's test plate numbers _____ for Color Blindness.

EXAMINED BY	TITLE	DATE
-------------	-------	------

The ability to distinguish contrasting colors has been demonstrated by a practical examination in the methods listed below.

MT	_____	ET	_____
PT	_____	LT	_____
RT	_____	VT	_____
UT	_____	UT/T	_____
EXAMINED BY	DATE	EXAMINED BY	DATE

EXHIBIT 2



APPENDIX A

LIQUID PENETRANT EXAMINATION

A. Categories

1. There are two categories of Liquid Penetrant certification.
 - a. Color contrast only.
 - b. Unrestricted.
2. Level III personnel are certified in the unrestricted category only.
3. Certification in accordance with this procedure, for all levels, allows the certified individual to use the solvent removable, water washable or post emulsifiable process.
4. Personnel whose certification is limited to color contrast penetrants only may perform only the precleaning, penetrant application, and post-examination cleanup steps of a fluorescent penetrant examination.

B. Testing

1. The same general examination may be used for either category of certification. Questions pertain to both the color contrast and fluorescent processes.
2. The same specific examination may be used for either category of certification.
3. For Level I or II certification, an individual who performs a practical examination using only the color contrast process receives a restricted certification, with the exception of 5 below.

For Level I or II certification, an individual who performs a practical examination using a fluorescent penetrant process receives an unrestricted certification.

4. An individual who is certified for color contrast, may receive an unrestricted certification by passing a fluorescent process practical examination in the liquid penetrant method with a grade of at least 80%. In this case, a new Certificate of Qualification is issued and "Unrestricted" is noted in the "Certification Restrictions" section of the form.

The expiration date of the certification remains as it was when restricted to color contrast only.

5. An individual who is already certified unrestricted MT and who holds a current certification in color contrast PT, may receive an unrestricted PT certification.



APPENDIX B

MAGNETIC PARTICLE EXAMINATION

A. Categories

1. There are two (2) categories of MT certification:
 - a. Visible
 - b. Unrestricted
2. Level III certification is Unrestricted.

B. Testing

1. The same general examination may be used for any category of certification if it contains questions applicable to Visible and Fluorescent. General Examinations applicable to only a single category may be administered for a restricted certification.
2. The same specific examinations may be used for any category of certification.
3. Level III individuals must pass a Method examination containing questions on both the visible and fluorescent process.
4. An individual who is certified in the Visible category may be additionally certified in the Unrestricted category upon passing the fluorescent practical examination with a grade of at least 80%. If the individual's original general examination was applicable to only the visible process, a general examination containing questions on both processes is administered

and passed with a grade of at least 80%. In this case, a new Certificate of Qualification is issued and "Unrestricted" is noted in the "Certification Restrictions" section of the form. The expiration date of the certification remains as it was prior to the change in restrictions.



APPENDIX C

RADIOGRAPHIC EXAMINATION

A. 1. There are six categories of RT certification:

1. Gamma Only.
2. Gamma Only without Film Interpretation.
3. X-Ray Only.
4. X-Ray Only without Film Interpretation.
5. Film Interpretation Only.
6. Unrestricted.

2. Level II individuals may be given a category of certification which restricts them from film interpretation, or to film interpretation.

3. Level III personnel are certified in the unrestricted category only.

4. Certification in accordance with this procedure, for all levels, is for film radiography only. Individuals performing Fluoroscopy or other real-time imaging radiography are certified as required by the project documents.

B. Testing

1. Three types of general examinations may be given which will lead to Gamma, X-ray or Unrestricted certification.

2. The specific examination may be the same for each type of certification.

3. A practical examination is given corresponding to the type of certification sought.

The practical examination for Level I individuals consists of the production and quality evaluation of a satisfactory radiograph.

The practical examination for Level II individuals consists of two parts, each of which must be passed with a grade of at least 80%. The average score of the two parts is used in computation of the composite grade.

The first part is the production and evaluation of an acceptable radiograph. The second part consists of the interpretation of at least ten (10) radiographs which display various types of material/film/technique defects.

An individual restricted to film interpretation need not take the first part of the practical examination.

An individual restricted from film interpretation need not take the second part of the practical examination.

An individual failing the film interpretation portion of the practical examination may be certified as a Level II restricted from film interpretation.

C. Upgrading

1. To upgrade a Gamma Only or X-ray Only certification to an Unrestricted certification, the individual must pass the unrestricted general examination, and the Gamma and X-ray practical examination.
2. To remove a No Film Interpretation restriction, the film interpretation portion of the practical examination must be passed with a grade of at least 80%.
3. When an individual's certification is upgraded, a new Certificate of Qualification is issued and "Unrestricted" or the upgraded restrictions are noted in the "Certification Restrictions" section of the form. The expiration date of the original certification remains unchanged.

8

APPENDIX D

ULTRASONIC THICKNESS

A. General

1. This Appendix provides conditions unique to the Ultrasonic Thickness method (UT/T).

B. Training and Experience

1. Training and experience requirements for UT/T are shown in Tables 1 and 2.

C. Testing

1. The UT general or specific examination may be used for UT/T certification or special UT/T examinations with the minimum number of questions as shown in Table 3 may be administered for the UT/T qualification.
2. A separate practical examination is given for the Thickness Technique. For UT Thickness practical examination, the calibration of an ultrasonic flaw detection instrument as well as a Digital Thickness instrument is required. Also measurements on a prescribed test sample using both instrument types are required. This examination is performed in accordance with a procedure acceptable to the certifying Level III.
3. An individual presently holding a UT Level I certificate need not take the UT/T written examinations.
4. When an individual presently certified for thickness is upgraded to the UT method, a new Certificate of Qualification is issued and "Unrestricted" is noted in the "Certification Restrictions" section of the form. The expiration date of the original certification remains unchanged. The additional training received to comply with Table 2 is noted in the training section of the Certificate of Qualification.

5. A Level II UT authorized by a Level III may proctor the examinations for UT/T.



This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY
H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE
SP-1102
CALIBRATION OF THERMOMETERS

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:

[Signature]

Engineering Manager - Programs

3/27/92

Date

APPROVED BY:

[Signature]

Manager - Technical Support

3/29/92

Date

CONTROLLED
RECIPIENT

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 10	0

CALIBRATION OF THERMOMETERS

CONTROLLED
COPY

Project Application		Copy No	Assigned To		
APPROVALS					
TITLE / DEPT. - SIGNATURE - DATE					
REV NO	PREPARED BY	Executive Vice President	QA Manager		
0					
1					
2					
3					
4					
5	<i>K. Deabryne</i>	<i>2/5/90</i>	<i>2/5/90</i>	<i>2/5/90</i>	<i>2/5/90</i>
6					
7					
8					
9					
10					
11					

REVISION LOG

DOCUMENT NO. 80A9055

NUCLEAR ENERGY SERVICES, INC.

PAGE 2 OF 7

[illegible]

CALIBRATION OF THERMOMETERS

5

1. OBJECTIVE

The objective of this procedure is to define the method for checking the calibration of thermometers to assure their accuracy.

2. GENERAL**2.1 SCOPE**

This procedure applies to surface thermometers used in verifying the temperature of components in conjunction with a nondestructive examination. It defines the method for verifying the calibration of thermometers, the frequency and required documentation.

2.2 REFERENCES

This procedure is intended to be used as a Quality Control Procedure in compliance with a referencing Quality Assurance Manual.

3. RESPONSIBILITIES

It is the responsibility of the NES Site Supervisor to ensure that all thermometers in use on site have valid calibration stickers attached.

It is the responsibility of the Home Office equipment technician to ensure that all thermometers sent to site for use have valid calibration stickers attached.

4. CALIBRATION REQUIREMENTS**4.1 COMPONENTS**

Individual thermometers are checked for accuracy as defined in this section. Each thermometer is numbered to provide traceability to the calibration check records (Exhibit A).

4.2 FREQUENCY

4.2.1 Field Thermometers

Thermometers in use are checked against a control thermometer at least once every three (3) months.

4.2.2 Control Thermometers

NES Control Thermometers are checked annually against each other.

4.3 CONTROL THERMOMETERS

Two glass thermometers are retained as Control Thermometers. These thermometers are kept in a protective container which is clearly marked as "Control Thermometer".

The Control Thermometers are traceable to National Standards.

4.4 CALIBRATION CHECK REQUIREMENTS

4.4.1 Calibration Range

All thermometer checks required by this procedure are conducted at two (2) temperature readings which are separated by at least 50°F. The two temperatures used shall be within the normal NDE ranges (usually 40°F to 200°F).

4.4.2 Check of Control Thermometers

The two control thermometers are checked against each other. This check is documented on a copy of the Temperature Indicator Control Record (Exhibit A). To be acceptable, the temperature readings must be within 2% of each other.

NOTE: Control Thermometers shall be checked for column separation at each use. A thermometer that shows signs of column separation is replaced.



4.4.3 Check of Field Thermometers

Field thermometers are checked against either of the controlled thermometers. To be acceptable, the temperature readings of the field thermometer must be within 5% of the control thermometer or 50°F, whichever is greater. The check is documented on the Thermometer Check Record (Exhibit A).

4.4.4 Nonconformances

Thermometers which do not meet the requirements of 4.4.2 or 4.4.3 are tagged as nonconforming and segregated from the acceptable units. A nonconformance report is then prepared and processed per NES Procedure 80A9082, Company Nonconformance Control.

5. DOCUMENTATION

5.1 CERTIFICATE FOR THE CONTROL THERMOMETERS

5.1.1 When the thermometers to be used as the control thermometers are purchased, a certificate containing the following information is obtained:

- A. Name of the agency performing the check
- B. Identification of the control thermometer
- C. Date of check
- D. Identification of the reference temperature indicator

E. Traceability to National Standards for the reference

F. Temperatures verified and deviation

G. Signature attesting to certificate validity.



5.2 VOID DATES

5.2.1 Control Thermometers

A sticker is affixed to the container for a control thermometer indicating: Thermometer identification, the date of calibration, verifiers initials and a recalibration due date 12 months later.

5.2.2 Field Thermometers

A sticker is affixed to a field thermometer which indicates thermometer identification, calibration date, calibrators initials and a recalibration due date 3 months later.

5.3 THERMOMETER CHECK RECORDS

When thermometers are checked in accordance with 4.4, a form (Exhibit A) is completed by the person performing the check.

(EXHIBIT A)
THERMOMETER CHECK RECORD

USE FOR CONTROL THERMOMETER(S)
CONTROL THERMOMETER DATA

SERIAL NUMBER	LOW°	HIGH°	ACCEPTANCE CRITERIA	ACCEPT	REJECT
1.			Differential of 2% between #1 and #2 high & low readings		
2.					

USE FOR FIELD THERMOMETERS

Check Readings
at $\geq 50^{\circ} \Delta$

	CHECK DATE	VOID DATE	LOW°	HIGH°	SERIAL NO.	ACCEPT/REJECT
CONTROL						
FIELD						

INSTRUCTIONS:

- 1) Place Control Thermometer in a can of water.
- 2) Place Field Thermometer(s) on side of the can.
- 3) Wait a minimum of ten minutes, then record low readings.
- 4) Warm the water in the can at least 50° higher than the temperature of the reading in (3).
- 5) Wait a minimum of ten minutes, then record high readings.

NOTE: ENSURE THAT THE WATER TEMPERATURE DOES NOT DROP BELOW THE DIFFERENTIAL MINIMUM OF 50°F .

- 6) The temperature readings of the Field Thermometers must be within 5% of the Control Thermometers or 50°F , whichever is greater.
- 7) Retain a copy of this form for your records, mail a copy to the equipment technician for filing at the Home Office.

TEST CONDUCTED BY: _____

SIGNATURE

DATE

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY
H. B. ROBINSON SEG. PLANT

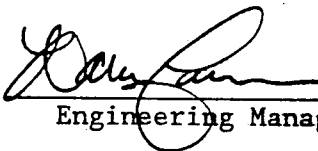
SPECIAL PROCEDURE
SP-1104
ULTRASONIC EXAMINATION OF
REACTOR COOLANT PUMP FLYWHEEL
FOR
H. B. ROBINSON STEAM ELECTRIC PLANT
UNIT 2

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

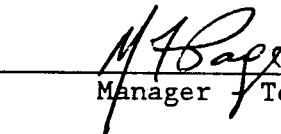
RECOMMENDED BY:



Engineering Manager - Programs

3/27/92
Date

APPROVED BY:



Manager Technical Support

3/29/92
Date

CONTROLLED
RECIPIENT

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 17	0

**ULTRASONIC EXAMINATION
OF
REACTOR COOLANT PUMP FLYWHEEL
FOR
H.B. ROBINSON STEAM ELECTRIC PLANT
UNIT 2**

Project Application <div style="text-align: right;">2454</div>	Copy No.	Assigned To
---	----------	-------------

APPROVALS

TITLE / DEPT. - SIGNATURE - DATE

REV NO	PREPARED BY	UT LEVEL III	PROJECT MANAGER	DEPARTMENT MANAGER	
0	Scott Larson	<i>[Signature]</i> 3/9/92	<i>[Signature]</i> 3/4/92	<i>[Signature]</i> 3/4/92	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

CONTROLLED COPY

VALID ONLY IF THIS STAMP IS RED

[illegible]

1. PURPOSE

These procedures shall govern the inservice, preservice (baseline) examinations, and reexamination of repaired areas of the flywheel as required by U.S. Nuclear Regulatory Commission Regulatory Guide 1.14.

2. SCOPE

2.1 This document covers the ultrasonic examination procedures for the reactor coolant pump flywheel shown in Figures 1 and 2.

2.2 TYPE OF EXAMINATION

- A. Volumetric ultrasonic examination shall be performed using a 5° (nominal) refracted longitudinal beam applied to the flywheel outer perimeters (circumference), and 0° longitudinal techniques applied to the outside surfaces of the flywheel, top or bottom, to determine the presence of any laminar reflectors.
- B. In lieu of the 5° examination, the keyway areas of the flywheel may be examined from the gauge holes using a 0° (special fixture) transducer. If examination from the gauge holes is desired, a 0° technique shall also be performed from the flywheel outer perimeters (circumference). The 0° technique applied to the outer perimeter is an ISI requirement to be performed at approximately 10 year intervals. It need not be performed during the 3 year inspection intervals per Reference 3.3.
- C. The examination shall be performed manually using contact search units (transducers) and/or scan fixtures.

2.3 MATERIALS

The flywheel is constructed of manganese-molybdenum-nickel alloy steel, ASTM-SA-533 Grade B, Class 1 material.

3. REFERENCES

- 3.1 80A9053 – Ultrasonic Instrument Linearity Verification.
- 3.2 80A9068 – Procedure for Certifying Nondestructive Examination Personnel.
- 3.3 U.S. Nuclear Regulatory Commission Regulatory Guide 1.14 Rev. 1.

4. PERSONNEL REQUIREMENTS

- 4.1 Each person performing ultrasonic examination governed by this procedure shall be certified in accordance with Reference 3.2.
- 4.2 Examination crews shall have two or more members, as necessary. At least one member of each crew shall have a minimum certification of UT Level II in accordance with Reference 3.2. The remaining member(s) shall have a minimum certification of UT Level I.
- 4.3 Prior to the examination each person performing flywheel examinations shall receive additional training relative to the technique used and type of flywheel to be examined.

5. EQUIPMENT AND MATERIAL REQUIREMENTS

5.1 NES SUPPLIED EQUIPMENT AND MATERIALS

- A. Pulse echo ultrasonic instrument
- B. Assorted Search Units: 1/2" thru 1-1/8" dia., 2.25MHz, 0°
- C. Search Units: 1/2" x 1" dia., 5.0MHz
- D. Wedge, 5° refracted longitudinal wave
- E. Any additional wedges to aid in examination or evaluation
- F. Couplant.

5.2 PLANT OWNER'S EQUIPMENT

The Plant Owner, or his Agent, shall provide the following service facilities and equipment as required:

- A. Scaffolding
- B. Water, air, and electricity
- C. Adequate temporary lighting
- D. Moving or lifting devices
- E. Test surface preparation (cleaning and finishing)
- F. Drawings of each examination area
- G. Post-examination cleanup.



6. PREREQUISITES

Prior to examinations of the RC pump flywheels, the following prerequisites shall be performed:

- 6.1 Removal of the flywheel dust cover
- 6.2 Removal of the gage hole plugs (if applicable)
- 6.3 Assure the flywheel coating is tightly adhering. If the coating is not tightly adhering, notify the UT Level III for disposition.

7. PROCEDURE

7.1 EXAMINATION REQUIREMENTS

- A. Complete instrument linearity check shall be performed in accordance with Reference 3.1.
- B. The nominal examination frequency shall be 2.25MHz for all straight beam and 5.0MHz for all refracted longitudinal beam examinations. Other frequencies may be used if such variables as material attenuation, grain structure, etc., necessitate their use to achieve penetration or resolution.
- C. Each flywheel shall be ultrasonically examined, where part geometry and access permit, using 5° refracted longitudinal beam techniques applied in two directions toward the bore area from the outer perimeter (circumference) of the flywheel. If the flywheel contains accessible gage holes, a 0° examination of the bore and keyway areas, from the gage holes, may be performed in accordance with Appendix I of this procedure.
- D. Straight beam techniques shall be applied, where part geometry and access permit, in one direction from the accessible side of each flywheel section, as applicable.

7.2 CALIBRATION DATA PACKAGES

Calibration Data Packages shall be numbered 6061-1, 6061-2, 6061-3, etc., and shall be signed by the examiner(s) upon completion, noting applicable NDE certification levels. A Calibration Data Package shall consist of a Calibration Data Sheet (Figure 3) and a Component Scan Data Sheet (Figure 4).

7.3 STRAIGHT BEAM CALIBRATION

Straight beam calibration for all base material shall be performed at a reference sensitivity level which gives an initial back reflection signal amplitude from the component of at least 80% but not more than 100% Full Screen Height (FSH). Ensure that all instrument settings are recorded on the appropriate Calibration Data Sheet.

7.4 CALIBRATION FOR BORE AND KEYWAY EXAMINATIONS

Calibration shall be performed as follows:

- A. Place a 0° search unit on the circumference of the flywheel and obtain an echo from the bore. Position this echo at the 6th horizontal screen division with the entry surface at 0° division. This establishes sweep range calibration settings.
- B. Remove the 0° search unit from the instrument and attach the 5° search unit.
- C. Maximize the signal response from the side of the shallowest keyway, where different sized keyways exist, and adjust the sensitivity level to give a signal amplitude of 80% FSH with the 5° refracted longitudinal beam transducer positioned on the outer circumference of each flywheel. This echo will occur at approximately the 7th horizontal screen division. This position of the echo signal response at plus or minus 1 horizontal screen division constitutes the area of examination (i.e., 6 to 8 CRT horizontal screen divisions).
- D. This is the reference sensitivity level for the examination area. Record all instrument settings on the appropriate Calibration Data Sheet.

7.5 CALIBRATION CHECKS

Calibration shall be verified at the beginning of each day of examination, every four hours, upon change of examination personnel and when a component (transducer, coaxial cable, instrument, etc.) of the examination system is changed.

7.6 EXAMINATION

- A. Examination of the flywheel shall be performed at a scanning sensitivity level at least 2X (6dB) greater than the calibrated reference sensitivity level. The actual scan sensitivity shall be recorded on the Calibration Data Sheet.
- B. A suitable scan pattern shall be used allowing a minimum of 25% overlap of the transducer width (diameter) for each scan pass.

- C. Continue scanning sequences until all accessible areas have been examined using the appropriate angle positioned for the directions shown in Figures 1 and 2. Examinations shall not be considered complete until all recordable indications have been evaluated.

8. RECORDING AND EVALUATION CRITERIA

- 8.1 Indications occurring during the 5° refracted longitudinal examinations, showing a signal amplitude 50% of the reference sensitivity or greater shall be recorded. Indications shall be recorded in inches below the datum point, and in inches CW or CCW from datum 0.
- 8.2 Indications 50% of the reference sensitivity or greater shall be unacceptable unless further evaluations determine the indication to be acceptable. Other NDE methods may be utilized for evaluation.
- 8.3 Indications occurring during the 0° examination, which produce a total loss of back reflection, shall be recorded. Indications shall be recorded in inches from the surface and in inches CW or CCW from datum 0 when looking down on the flywheel and in inches outboard from the flywheel bore.

9. EXAMINATION RECORDS

- 9.1 All calibrations shall be recorded on a Calibration Data Sheet (Figure 3).
- 9.2 All examination data and instrument settings shall be recorded on a Calibration Data Sheet.
- 9.3 The individual performing the calibration and/or examination shall sign the Calibration Data Sheet upon its completion and note the applicable NDE certification level.
- 9.4 Component scan area shall be recorded on the Component Scan Data Sheet (Figure 4).
- 9.5 NES shall be responsible for submitting to the Plant Owner, or his Agent a complete set of examination records, personnel certifications and equipment certifications if required.
- 9.6 NES record retention shall be limited to that time until the Final Report is transmitted.

APPENDIX 1

1. SCOPE

- 1.1 This Appendix establishes equipment, calibration, scanning and indication recording criteria for flywheel bore and keyway examinations conducted from the gage holes.
- 1.2 This Appendix is to be used in conjunction with 83A6061 of which all requirements apply unless specifically stated otherwise.

2. EQUIPMENT

- 2.1 The flaw detection units shall be pulse-echo type ultrasonic instruments.
- 2.2 The search units shall be 2.25 MHz straight beam type. Other frequencies may be used if required due to metallurgical characteristics of the part. Search unit configuration will include a special design internal probe for gage hole insertion.

3. CALIBRATION

- 3.1 Calibration for bore and keyway examinations performed from the gage holes shall be performed in accordance with the following:
 - A. Insert the search unit into the flywheel gage hole and maximize the response from bore hole.
 - B. Position the maximum response from the bore at the 6th horizontal screen division. As an alternative, the appropriate metal path calibration may be established.
 - C. Set the amplitude of the response to 80% FSH minimum. This is the primary reference sensitivity.
 - D. The instrument is now calibrated for examination from this gage hole.
 - E. Record all instrument settings on the Calibration Data Sheets and sign on completion noting applicable NDE level.
- 3.2 Calibration for 0° examination performed from the outer perimeter (circumference) shall be performed in accordance with the following:

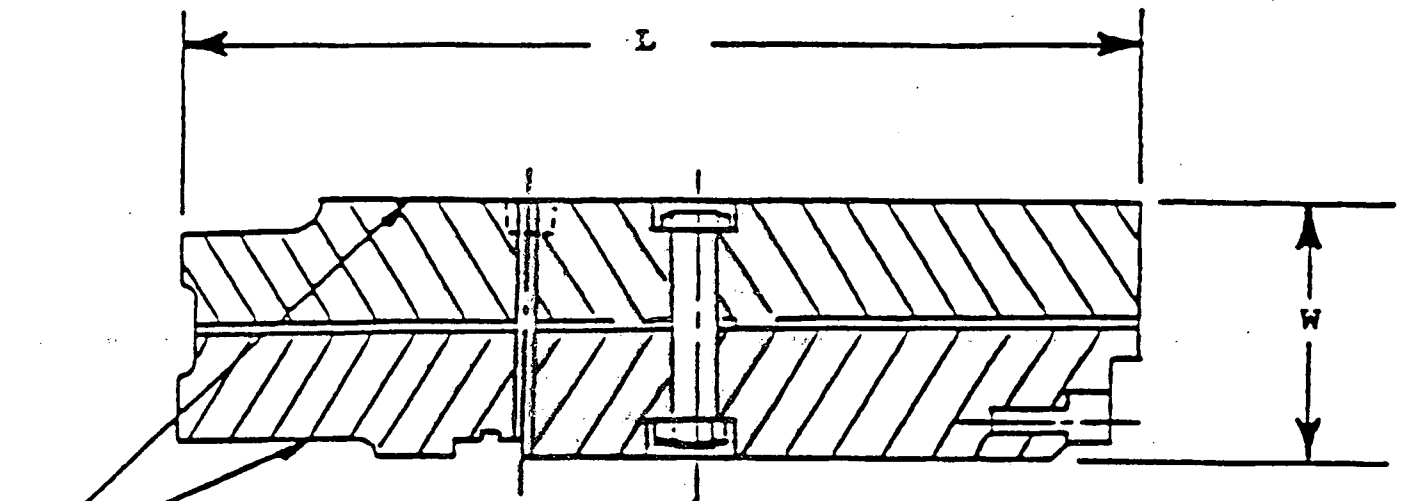
- A. Place a 0° search unit on the circumference of the flywheel and obtain an echo from the bore in order to establish sound path distances required for this ultrasonic examination.
 - B. Position this echo at the 6th horizontal screen division with the entry surface at the 0 division.
 - C. Maximize the response obtained in 3.2.B and adjust the sensitivity to give a signal amplitude of 80% FSH.
 - D. This is the reference sensitivity level for the examination area. Record all instrument settings on the appropriate Calibration Data Sheet.
- 3.3 The frequency of calibration checks shall be as specified in 83A6061. In addition, calibration shall be verified upon change of gage hole.

4. SCANNING

- 4.1 Scanning of the keyway corners shall be accomplished starting at the top edge of the gage hole and rotating the sound beam from bore reflection to keyway. See Figure 5. The area of interest shall be from the top of the deepest keyway to 3" towards the outer perimeter of the flywheel and for 3" from the keyway along the bore.
- 4.2 Scan overlap shall be 25% minimum. The entire length of the keyway shall be examined.
- 4.3 Scanning sensitivity shall be performed at a sensitivity level at least 6dB greater than primary reference sensitivity.

5. EVALUATION OF INDICATIONS

- 5.1 All indications having a response greater than 10% of the calibrated bore reflection shall be recorded and investigated to the extent that the operator can determine the size, identity and location of reflector.
- 5.2 Indications shall be recorded in accordance with 83A6061.



0° Straight Beam Scans shall cover entire top and bottom surfaces maintaining 25% transducer overlap.

FIGURE 1
ULTRASONIC EXAMINATION OF TYPICAL FLYWHEEL

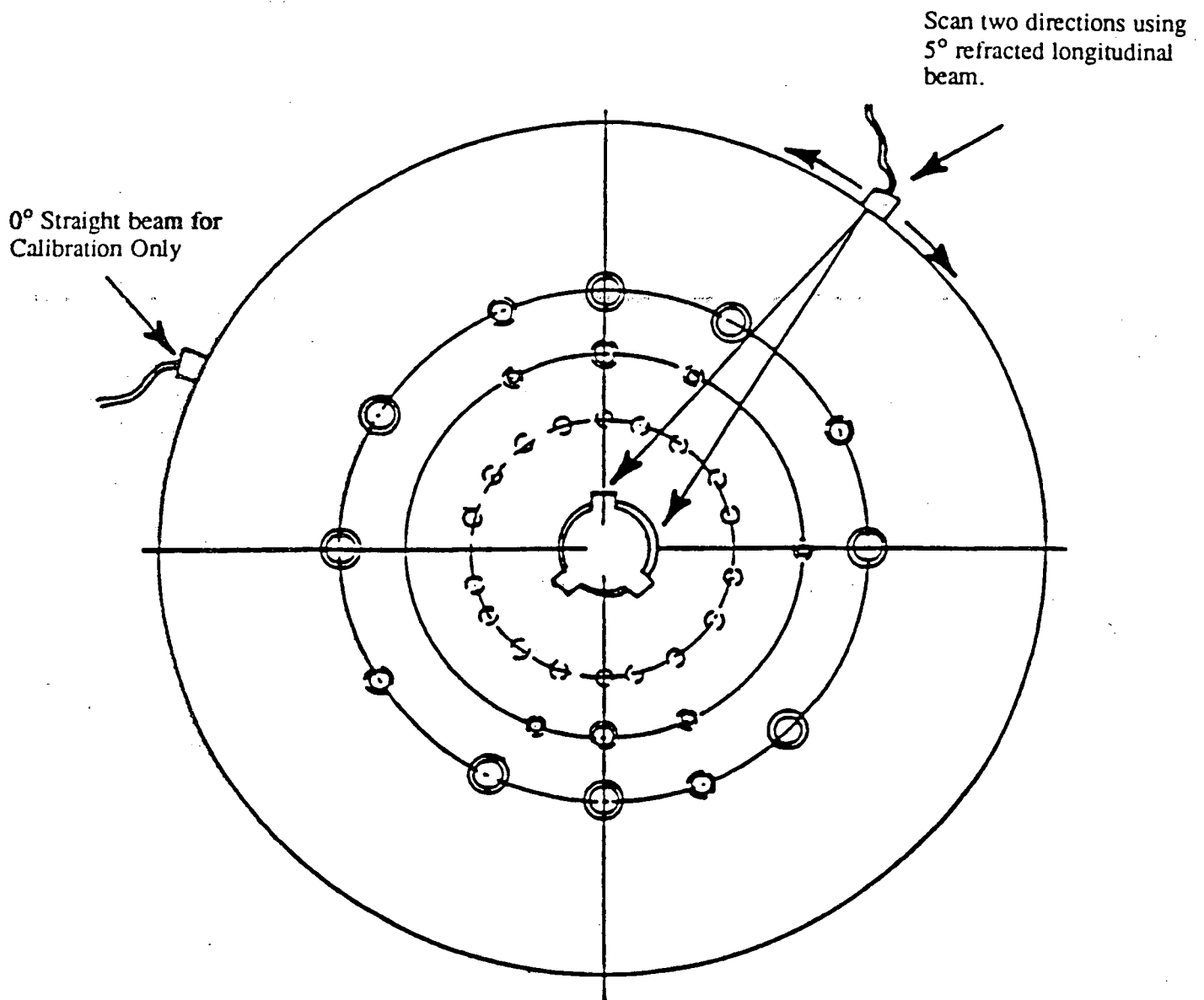


FIGURE 2
ULTRASONIC EXAMINATION OF TYPICAL FLYWHEEL
BORE PERIMETER AND KEYWAY AREA

PLANT/UNIT _____
 DATA SHEET NO. _____
 PAGE _____ OF _____

CALIBRATION DATA SHEET

PROC. NO. _____
 REV./CHANGE NO. _____

INSTRUMENT		SETTINGS
Mfg./Model _____		
Serial No. _____		
Linearity Due _____		
Sweep Length _____ Delay _____		
Pulse Lgth./Damping _____		
Freq. _____ Rep. Rate _____		
Filter _____ Video _____ Jack _____		
DEC/Gate Switch _____ Range _____		
Mode Select _____ Reject _____		
Gain (coarse) _____		
Gain (fine) _____		
Scan Sensitivity _____		

SEARCH	UNIT
Scan Angle _____ ° Mode _____	
Fixturing _____	
Fixturing Serial No. _____	
Style or Type No. _____	
Size & Shape _____	
Frequency _____ MHz	
Serial No./Brand _____	
Measured Angle _____ °	
Cable Type & Length _____	
Couplant Brand _____	
Couplant Batch _____	

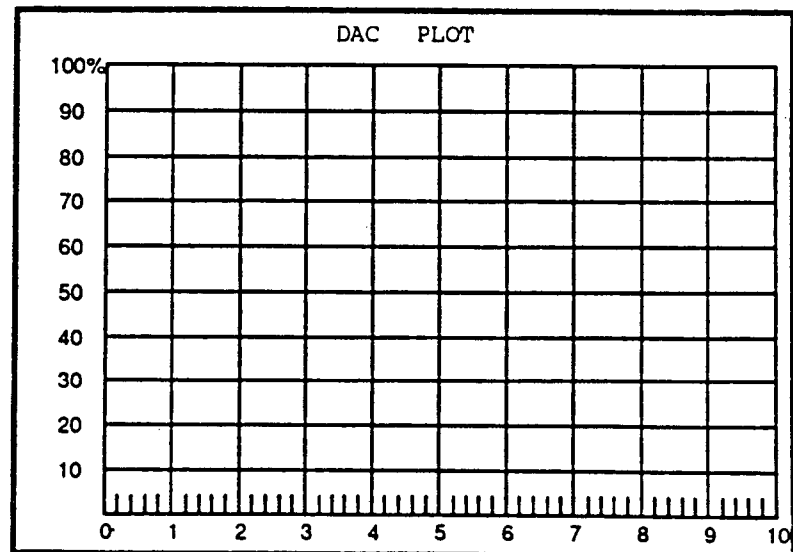
CALIBRATION	BLOCK
Calibration Block Number _____	
# _____	
Fabrication Number _____	
# _____	
Block Temp. _____ ° F	
Thermometer S/N _____	
Cal. Blk. "T" _____ inches	
CRT Calibrated in _____	
Each Major Screen Div. = _____	
Remarks _____	

INSTR. LINEARITY CAL.					
AMPLITUDE					
	HIGH	LOW		HIGH	LOW
1			6		
2			7		
3			8		
4			9		
5					

CALIBRATION		
0° <input type="checkbox"/>	Axial <input type="checkbox"/>	Circ. <input type="checkbox"/>

AMPL. CONTROL LINEARITY		
INITIAL	dB	RESULT
80	-6	
80	-12	
40	+6	
20	+12	

CAL. CHECKS	TIME
INITIAL CAL.	
INTERMEDIATE	
INTERMEDIATE	
INTERMEDIATE	
FINAL CAL.	



EXAMINERS	1 _____	LEVEL _____	DATE _____
	2 _____	LEVEL _____	DATE _____
REVIEWERS	1 _____	LEVEL _____	DATE _____
	2 _____	LEVEL _____	DATE _____
	3 _____	LEVEL _____	DATE _____

RECORDING LEVEL _____

FIGURE 3



COMPONENT SCAN DATA SHEET

1. Calibration Data Sheet No. _____
2. Examination Angle _____
3. Area of Examination _____
4. Examination Surface _____

Procedure No. _____
Subject: _____
Page _____ of _____

Component, Item or Scan No.	Indication No.	0° Base Metal	5° Long. Angle	No Reportable Indications	Reportable Indications	Supplement Attached	Length of Indication	Distance from Datum Point	Metal Path	% of Reference	Comments Reasons for Incompleted Scan

CALIBRATION CHECKS

Instrument		Examination System	
Time	Date	Time	Date
Int.			
Int.			
Final			

Additional Sheets Attached

Continuation _____ Supplements _____
Examiner(s):
1. _____ Level ____ Date ____
2. _____ Level ____ Date ____
Reviewed _____ Date ____

SKETCH:

FIGURE 4

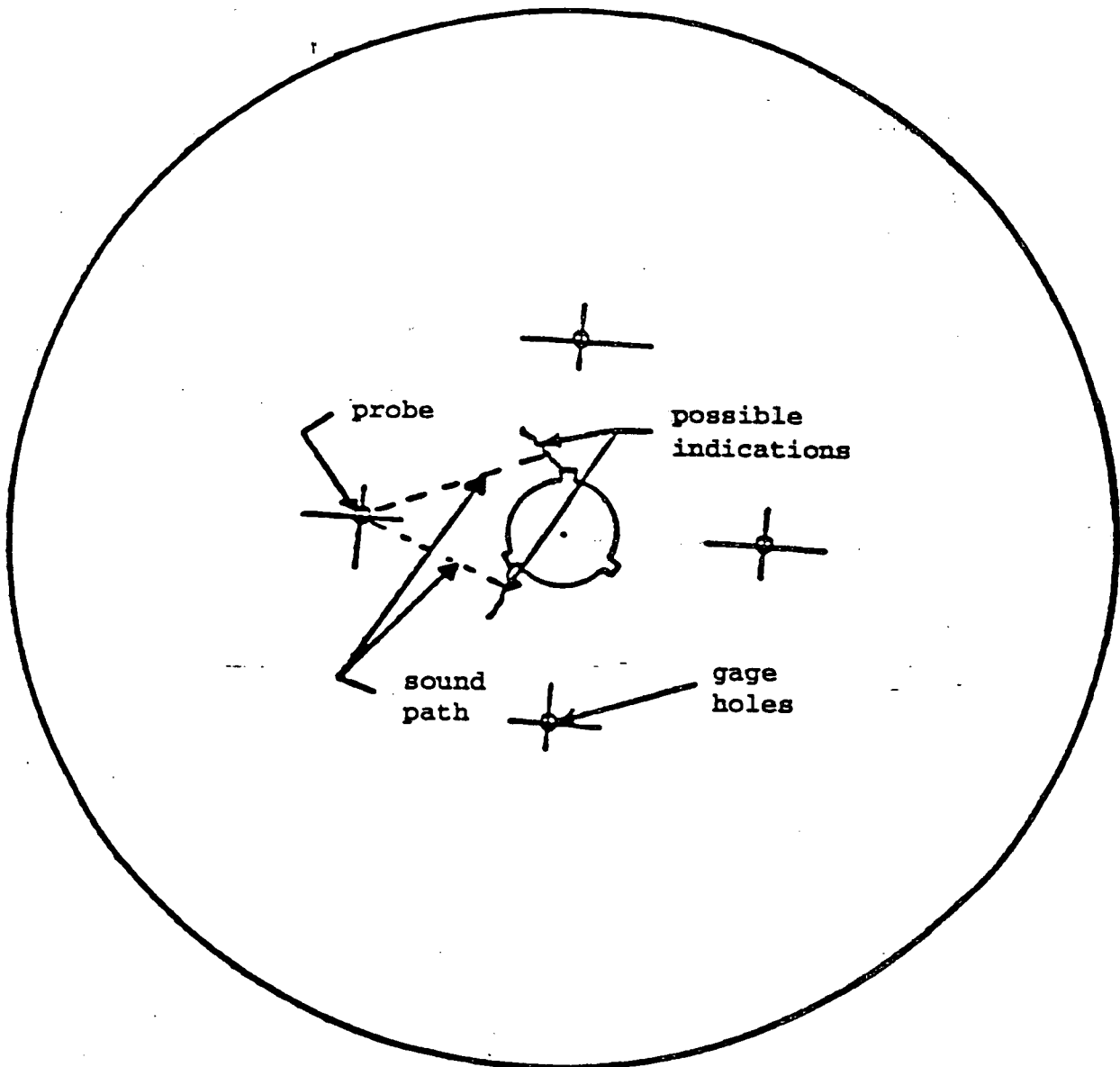


FIGURE 5

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1106

PSI/ISI EXAMINATION

AREAS AND VOLUMES

FOR

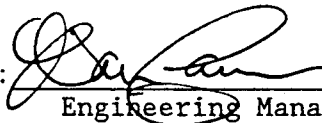
H. B. ROBINSON

REVISION 0

Effective Date 3-30-92

Expiration Date 9-29-92

RECOMMENDED BY:



Engineering Manager - Programs

3/27/92
Date

APPROVED BY:



Manager Technical Support

3/29/92
Date

CONTROLLED
RECIPIENT

ID 296

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 45	0

PSI/ISI EXAMINATION

AREAS AND VOLUMES

FOR

H.B. ROBINSON

Project Application

2454

Copy No.

Assigned To

APPROVALS

TITLE / DEPT. - SIGNATURE - DATE

REV NO	PREPARED BY	Level III	Proj. Mgr.	Gen. Mgr.	
0	K. Birsan	<i>[Signature]</i> 3/20/92	<i>[Signature]</i> 3/20/92	<i>[Signature]</i> 3/20/92	
1	<i>[Signature]</i>	<i>[Signature]</i> 3/6/92	<i>[Signature]</i> 3/6/92	<i>[Signature]</i> 3/6/92	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

CONTROLLED COPY
VALID ONLY IF THIS STAMP IS RED

[illegible]

1. PURPOSE

This procedure describes the areas of welds and/or components that are subject to surface and/or volumetric examinations as required by ASME B&PV Code, Section XI.

2. SCOPE

1. This procedure contains the minimum examination area requirements for surface examination, (Magnetic Particle or Liquid Penetrant) and Volumetric Examination (Ultrasonic or Radiography). When project specifications invoke or modify these requirements, the requirements of the subject project specifications shall govern provided the minimum requirements of this procedure are met.

Deviations that compromise code minimum requirements shall be authorized only by published code case.

2. This procedure applies to all PSI/ISI surface or volumetric examinations performed to the requirements of ASME B&PV Code, Section XI, 1977 Edition with Addenda through Winter 1979, 1980 Edition with Addenda through Winter 1982, 1983 Edition with Addenda through Summer 1983, and 1986 Edition.
3. It is the responsibility of the examiners to insure that the area of interest is examined to the requirements of this procedure.

3. REFERENCES

ASME B&PV Code, Section XI, 1977 Edition with Addenda through Winter 1979, 1980 Edition with Addenda through Winter 1982, 1983 Edition with Addenda through Summer 1983, and 1986 Edition.

4. PERSONNEL REQUIREMENTS

Not applicable.

5. EQUIPMENT & MATERIAL REQUIREMENTS

Not applicable.

6. PREREQUISITES

The owner shall be responsible for the following:

1. Accessibility to the areas of interest, such as scaffolding, removal of insulation (for welds the insulation will be removed from the toe back $2T + 2$ inches or 6 inches for pipe up to 2 inches thick and 8 inches from toe on pipe over 2 inches thick.)
2. Test surface preparation (suitable condition for surface or volumetric examination).
3. Lighting, electricity, water, air.
4. Moving or lifting devices.
5. Pre and post examination cleaning.

7. PROCEDURE

The area of interest shall be as designated below:

1. Class I Components
 - a. Vessel shell circumferential weld joints; see Figure 1.
 - b. Vessel shell longitudinal weld joints; see Figure 2.
 - c. Spherical vessel head circumferential and meridional weld joints; see Figure 3.
 - d. Shell-to-flange weld joint; see Figure 4.
 - e. Head-to-flange weld joint; see Figure 5.
 - f. Tube sheet-to-head weld joints; see Figure 6.
 - g. Nozzle in shell or head; see Figures 7, 8, 9, and 10.
 - h. Similar and dissimilar metal welds in components and piping; see Figures 11 and 12.
(Also see Note 1 below).
 - i. Pipe branch connections; see Figures 13, 14 and 15.

j. Closure stud and threads in flange stud hole: see Figure 16.

k. Integral attachment welds: see Figures 17, 18 and 19.

l. Pump casing weld: see Figure 20.

m. Valve body welds: see Figure 21.

n. Control rod drive housing welds: see Figure 22.

NOTE 1: For pressure retaining welds in piping, the examination shall include at least one pipe-diameter length but need not be more than 12 inches of each longitudinal weld intersecting the circumferential weld to be examined.

2. Class II Components

a. Vessel circumferential welds; see Figure 23.

b. Tube sheet-to-shell circumferential welds; see Figure 24.

c. Nozzle to vessel welds; see Figures 25, 26 and 27.

d. Integrally welded attachments; see Figure 28.

e. Pressure retaining bolting; see Figure 29.

f. Welds in piping; see Figure 30. (Also see Note 2 below).

g. Welds in pump casings and valve bodies; see Figure 31.

h. Pipe branch connection welds; see Figures 32, 33, 34, 35 and 36.

NOTE 2: The examination shall include at least a 2.5t length of each longitudinal weld intersecting the circumferential weld to be examined.

3. Surface examination of studs, nuts, and bolts shall include the entire outside surface of the part being examined unless specified otherwise.

4. Base material repair areas shall include the repair area and a band around the area that is three times the thickness of the component repaired (3T) in width but need not exceed 10 inches in width.

5. For welds in Class 3 or Class MC Components that may require volumetric or surface examination, the weld and 1/2 inch on all sides shall be examined.

6. For components that may not be covered by the Figures, the area of interest shall be the weld (or area of concern) plus 1/2T or 1/2 inch, whichever is greater.



8. RECORDING/EVALUATION CRITERIA

Not applicable.

9. EXAMINATION RECORDS

Not applicable.

10. ATTACHMENTS

See Figures 1 through 36.

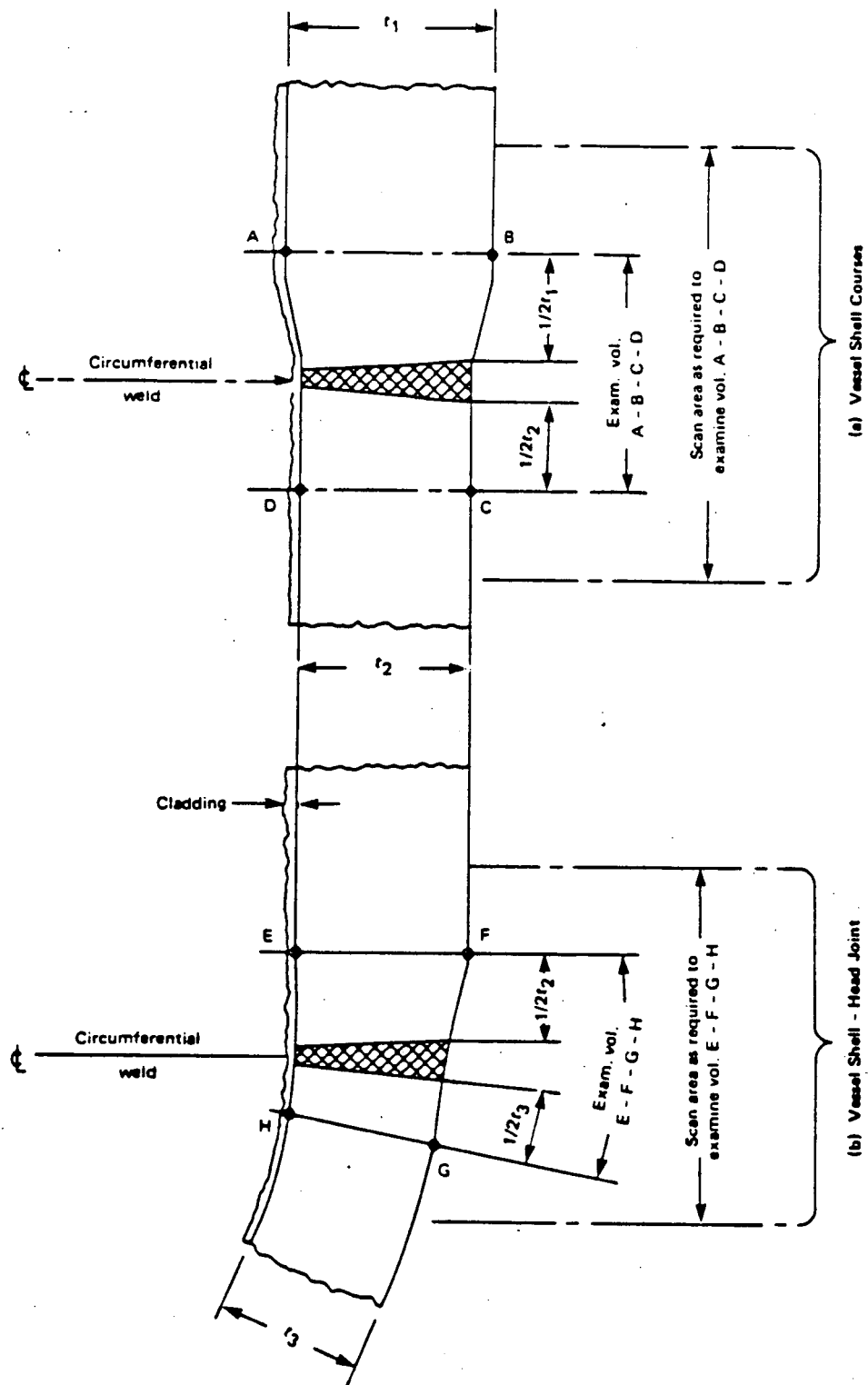


FIGURE 1
VESSEL SHELL CIRCUMFERENTIAL WELD JOINTS

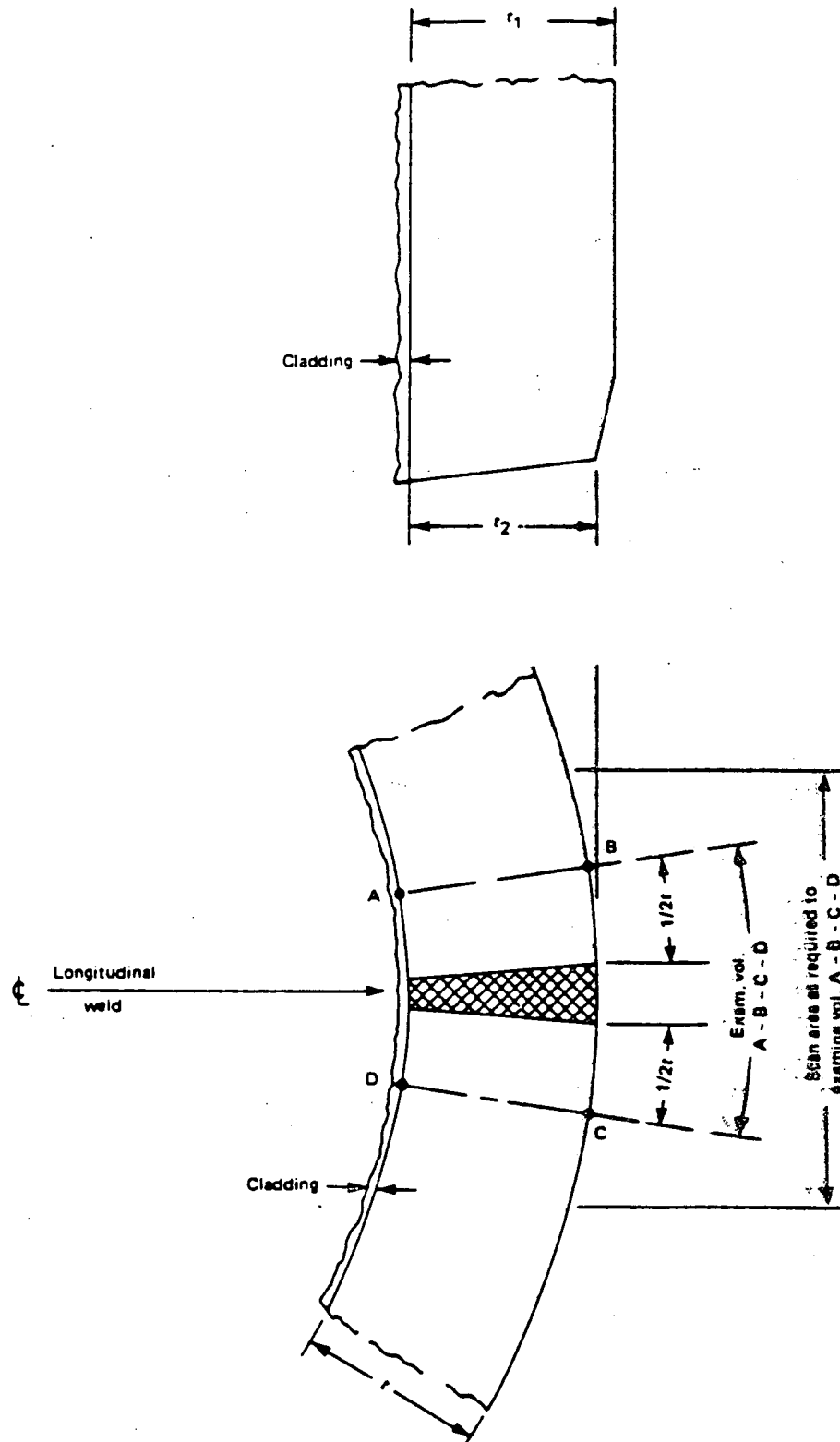


FIGURE 2
VESSEL SHELL LONGITUDINAL WELD JOINTS

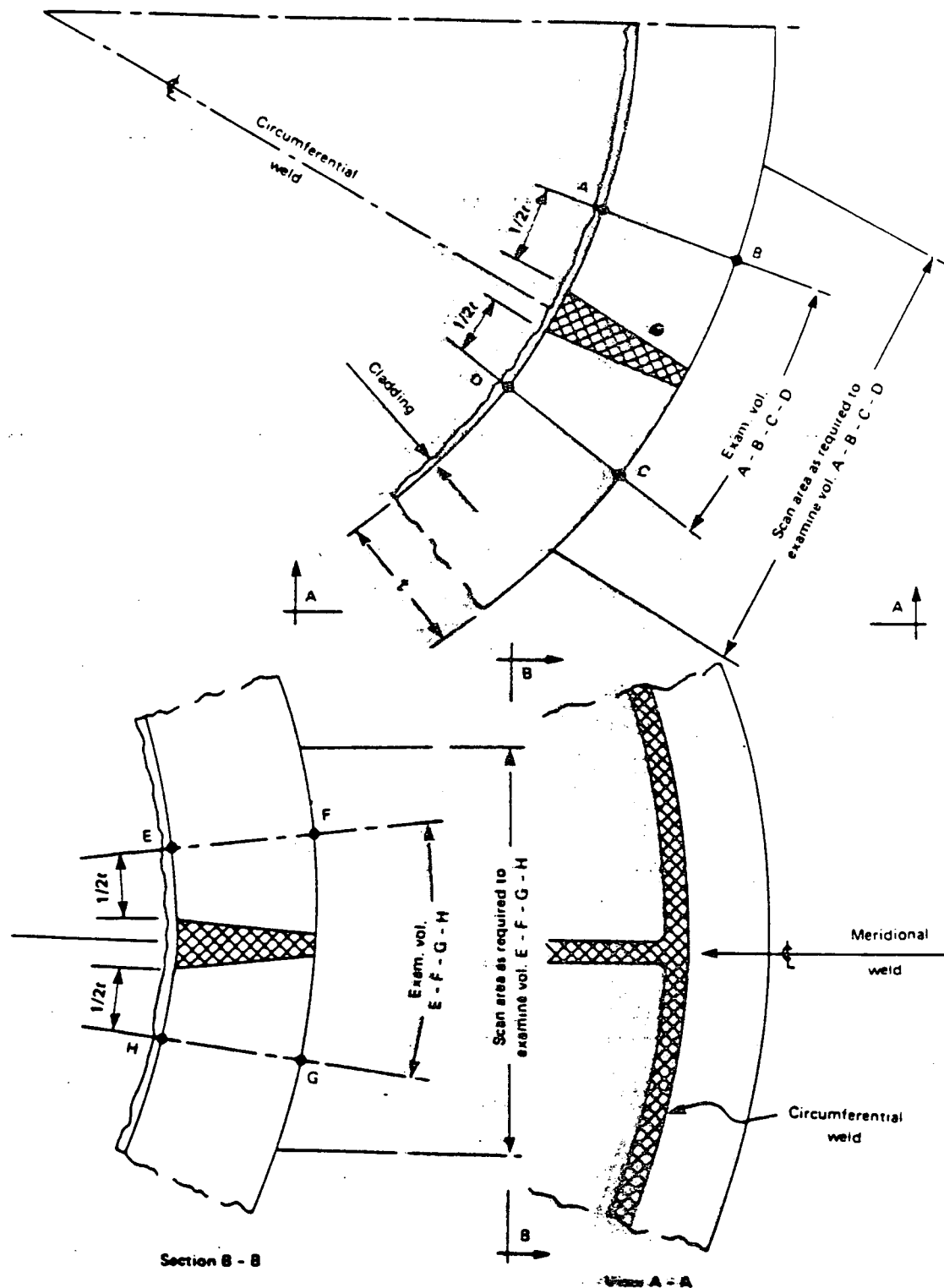


FIGURE 3
SPHERICAL VESSEL HEAD CIRCUMFERENTIAL
AND MERIDIONAL WELD JOINTS

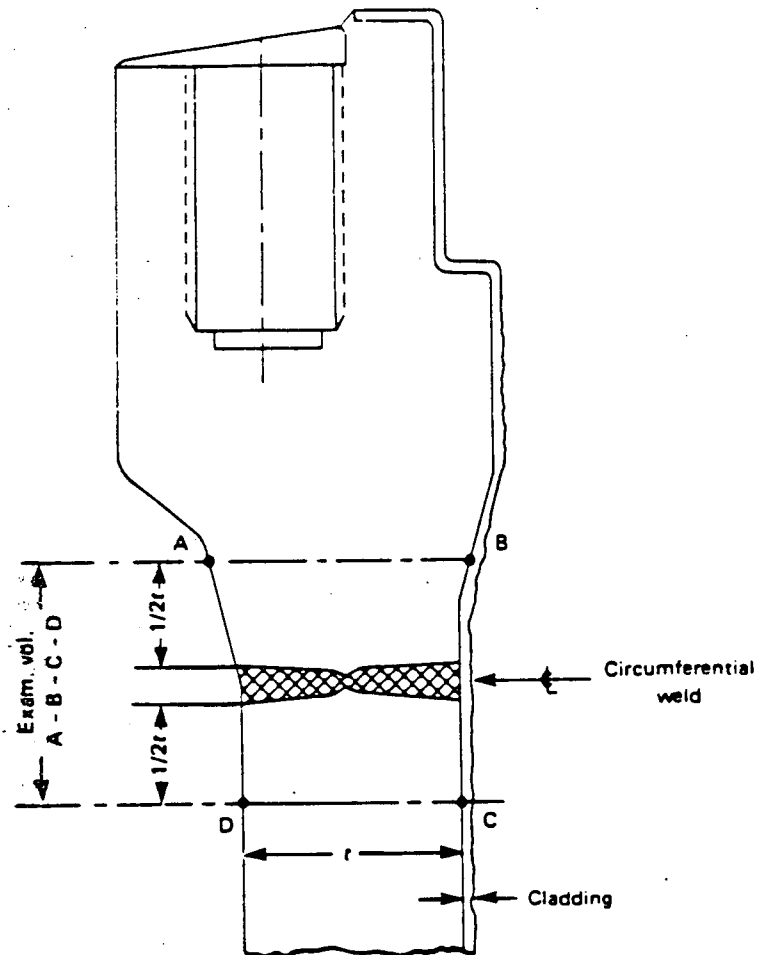


FIGURE 4
SHELL-TO-FLANGE WELD JOINT

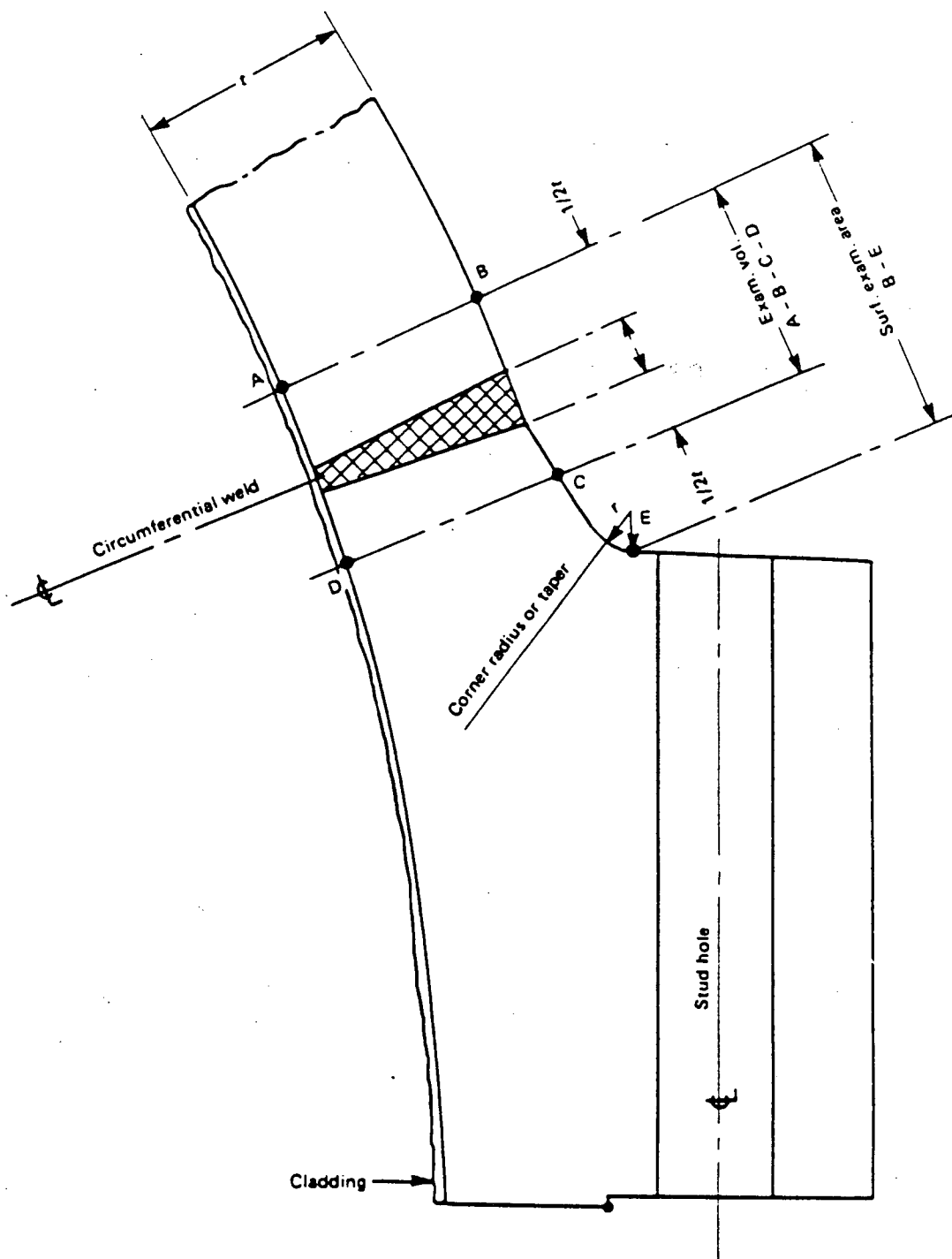
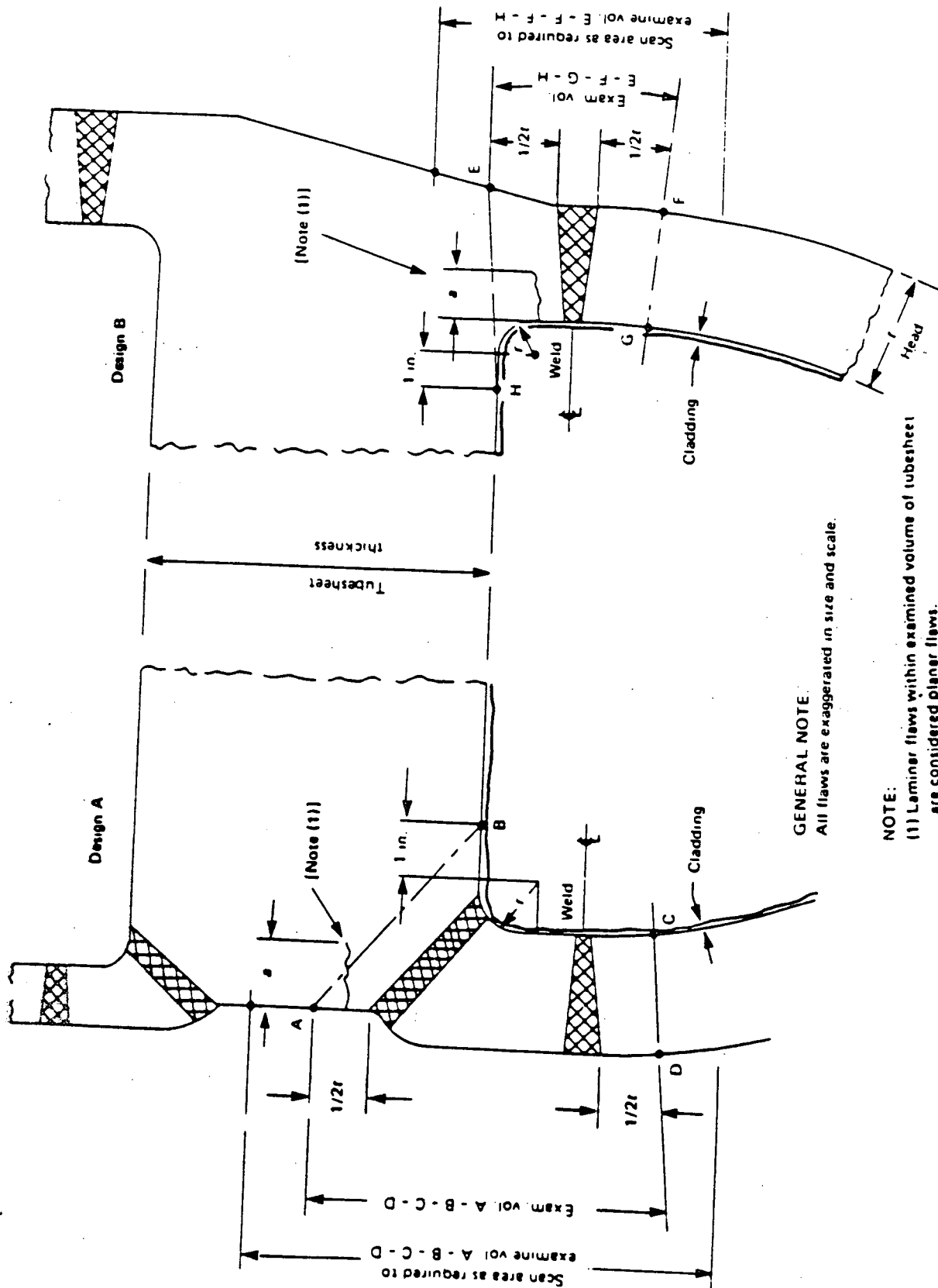


FIGURE 5
HEAD-TO-FLANGE WELD JOINT

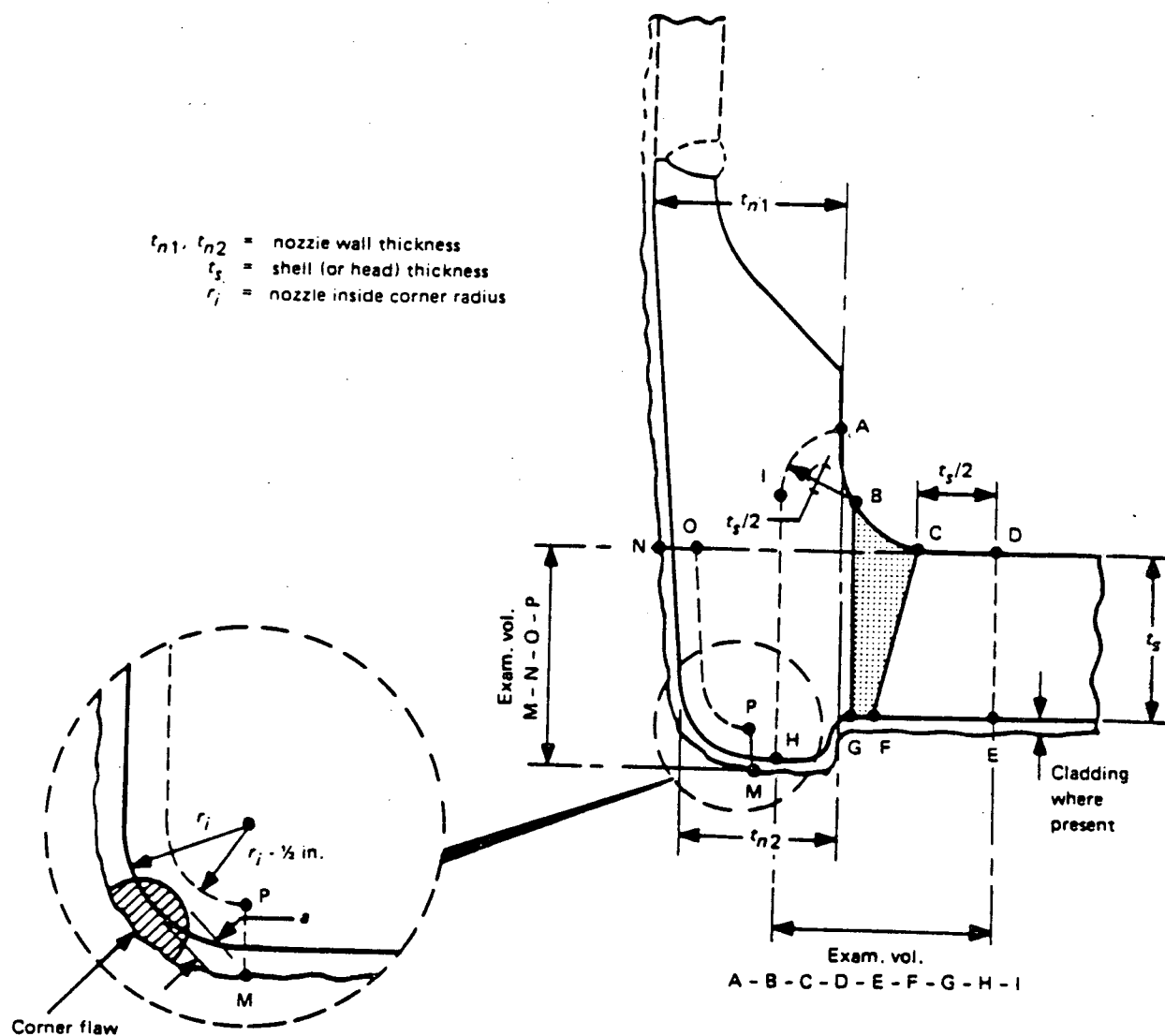


GENERAL NOTE:
All flaws are exaggerated in size and scale.

NOTE:
(1) Laminar flaws within examined volume of tubesheet are considered planar flaws.

PICAL TUBESHEET-TO-HEAD WELD JOINTS

FIGURE 6



EXAMINATION REGION [Note (1)]

Shell (or head) adjoining region
 Attachment weld region
 Nozzle cylinder region
 Nozzle inside corner region

EXAMINATION VOLUME [Note (2)]

C-D-E-F
 B-C-F-G
 A-B-G-H-I
 M-N-O-P

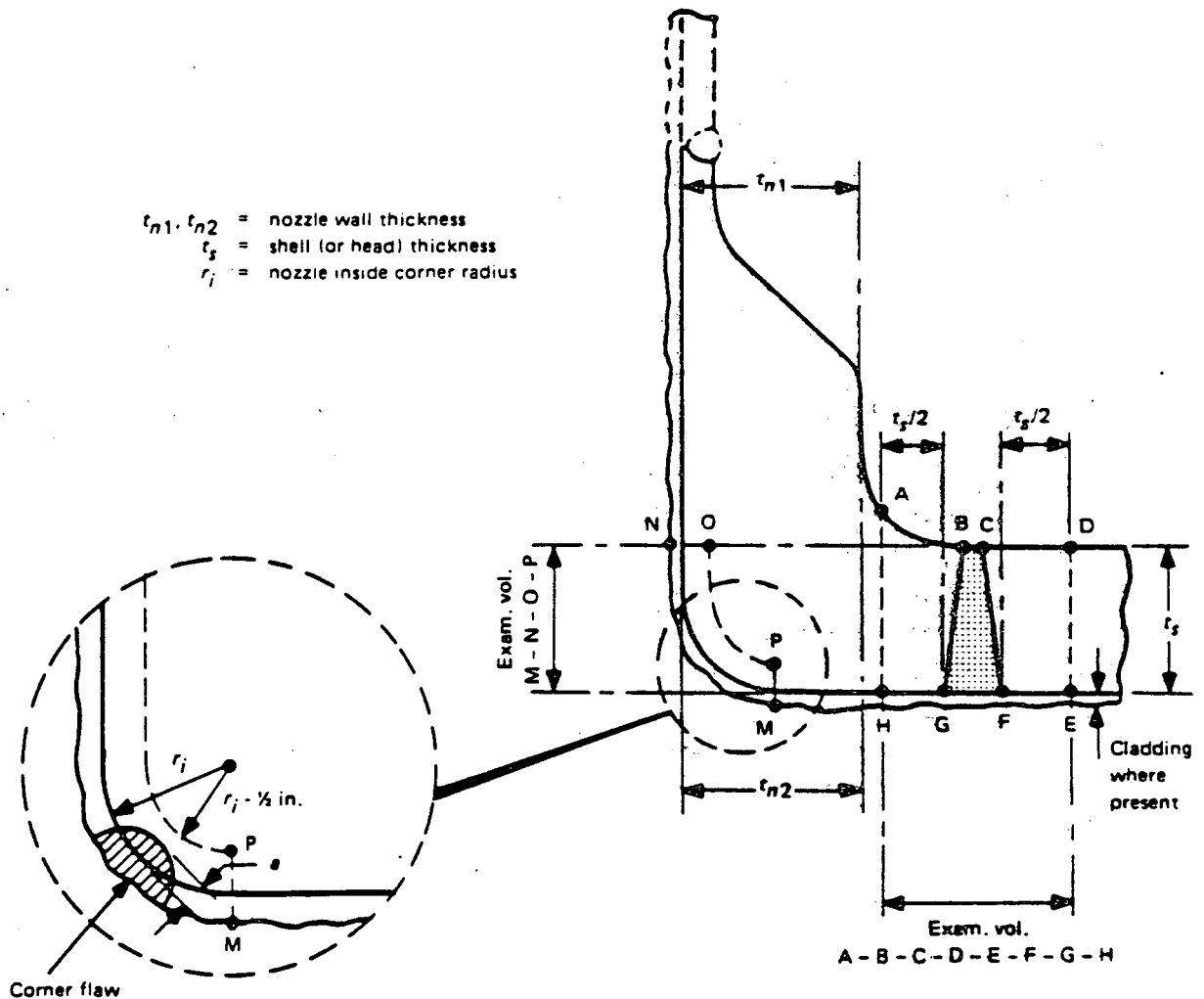
NOTES:

- (1) Examination regions are identified for the purpose of differentiating the acceptance standards in IWB-3512.
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings.

FIGURE 7

NOZZLE IN SHELL OR HEAD

(Examination Zones in Barrel Type Nozzles Joined by Full Penetration Corner Welds)



EXAMINATION REGION (Note (1))

Shell (or head) adjoining region
 Attachment weld region
 Nozzle cylinder region
 Nozzle inside corner region

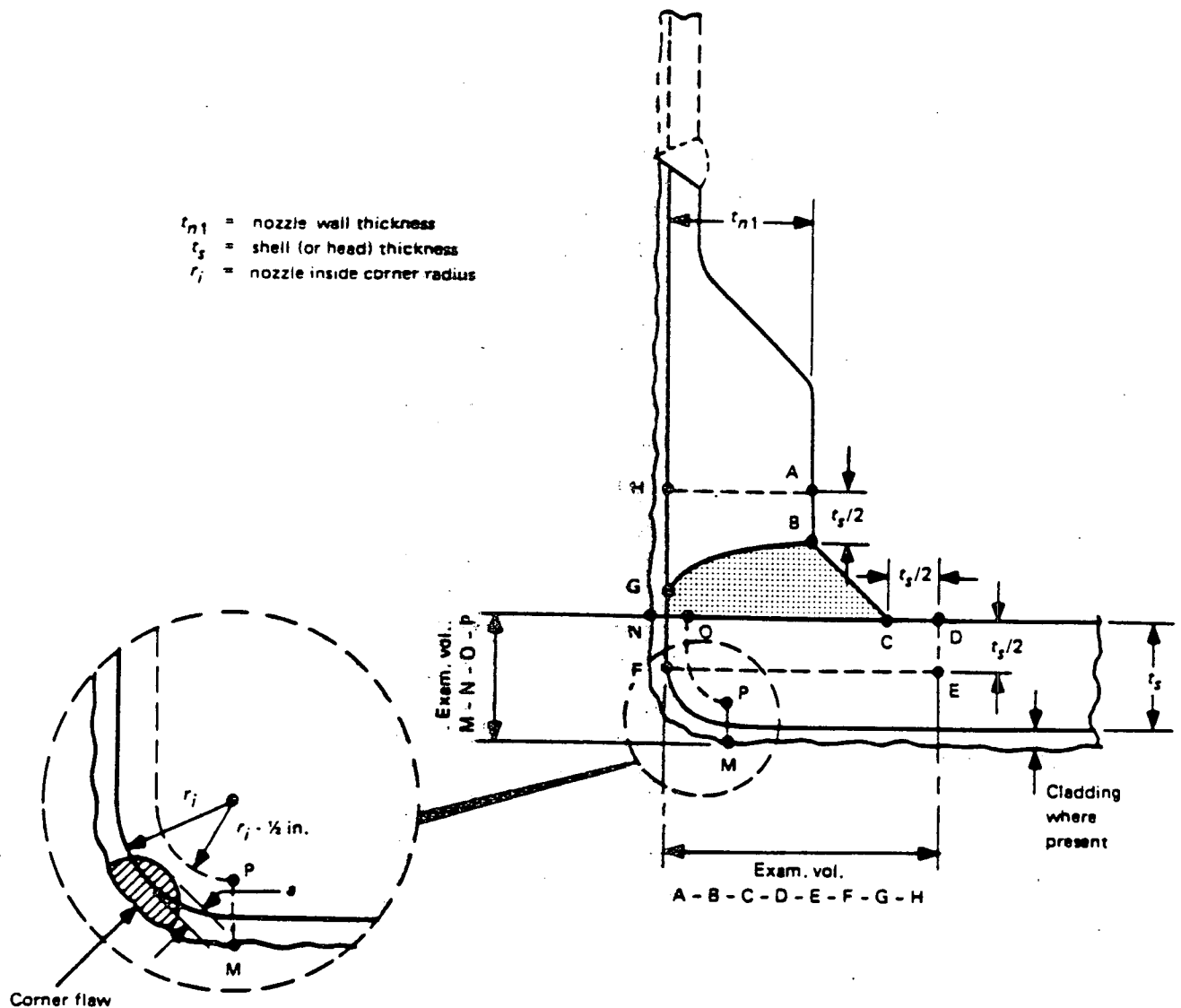
EXAMINATION VOLUME (Note (2))

C-D-E-F
 B-C-F-G
 A-B-G-H
 M-N-O-P

NOTES:

- (1) Examination regions are identified for the purpose of differentiating the acceptance standards in RWB-3512.
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings.

FIGURE 8
NOZZLE IN SHELL OR HEAD
 (Examination Zones in Flange Type Nozzles Joined by Full Penetration Butt Welds)



EXAMINATION REGION [Note (1)]

Shell (or head) adjoining region
 Attachment weld region
 Nozzle cylinder region
 Nozzle inside corner region

EXAMINATION VOLUME [Note (2)]

C-D-E-F-G
 B-C-G
 A-B-G-H
 M-N-O-P

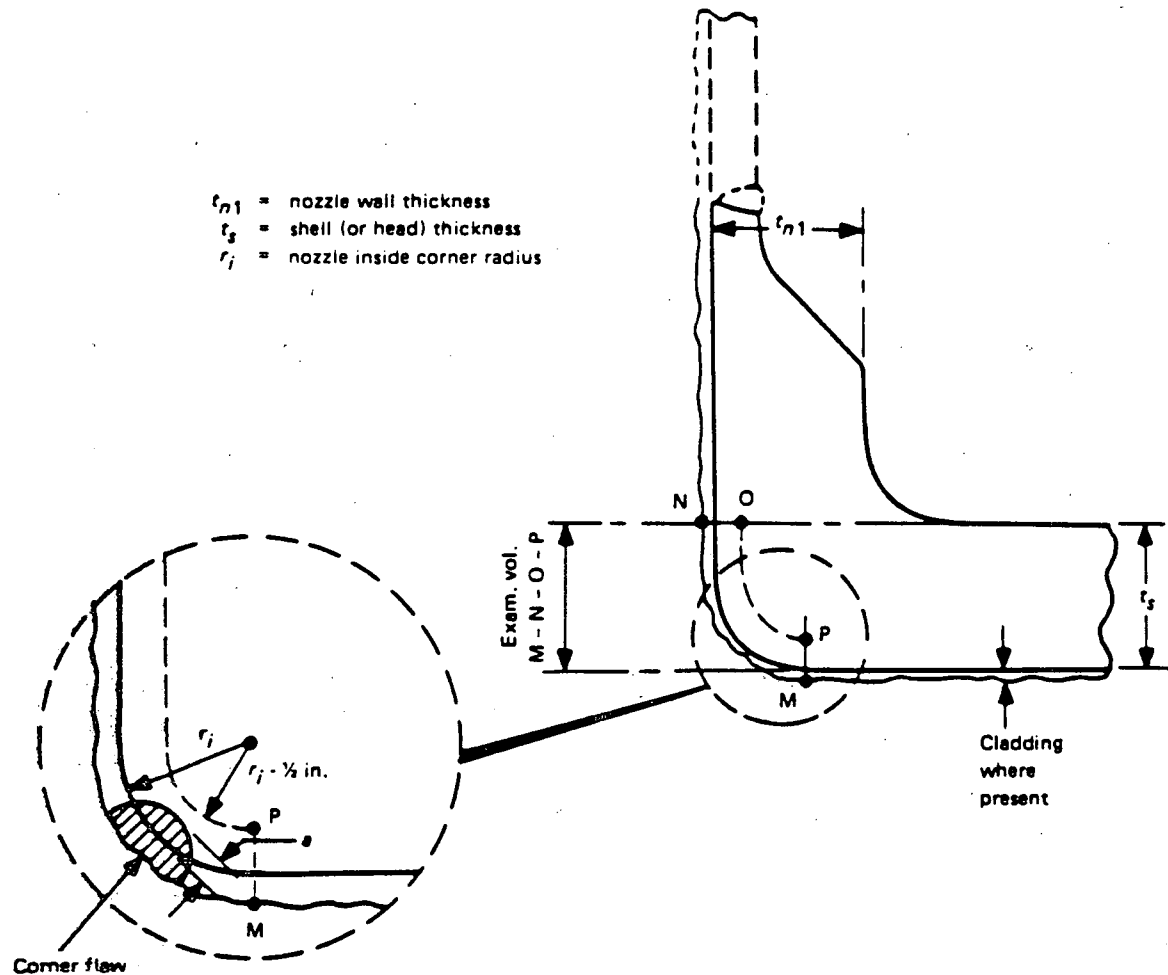
NOTES:

- (1) Examination regions are identified for the purpose of differentiating the acceptance standards in IWB-3512.
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings.

FIGURE 9

NOZZLE IN SHELL OR HEAD

(Examination Zones in Set-On Type Nozzles Joined by Full Penetration Corner Welds)



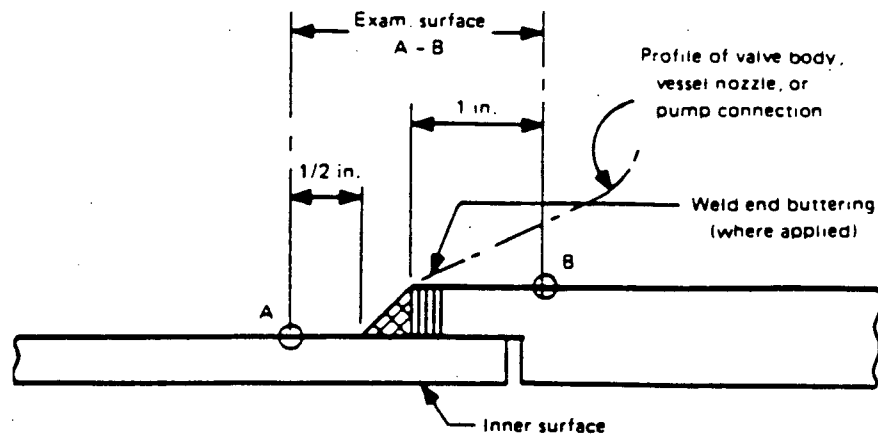
EXAMINATION REGION [Note (1)]
Nozzle inside corner region

EXAMINATION VOLUME [Note (2)]
M-N-O-P

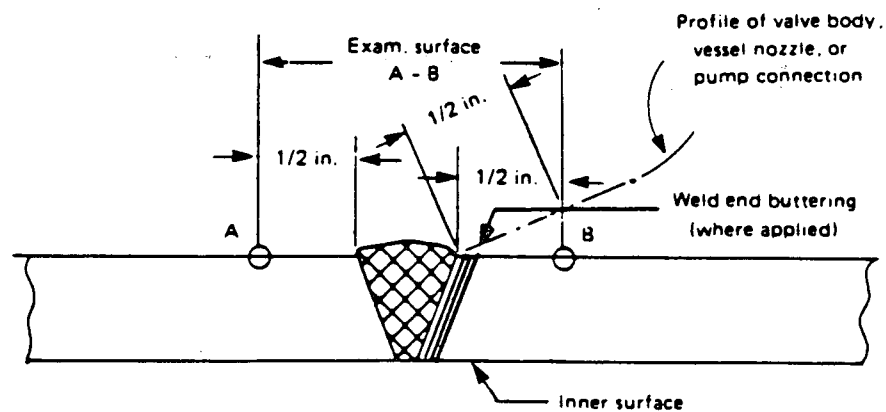
NOTES:

- (1) Examination regions are identified for the purpose of differentiating the acceptance standards in IWB-3512.
- (2) Examination volumes may be determined either by direct measurements on the component or by measurements based on design drawings.

FIGURE 10
NOZZLE IN SHELL OR HEAD
(Examination Zone in Nozzles Integrally Cast or Formed in Shell or Head)

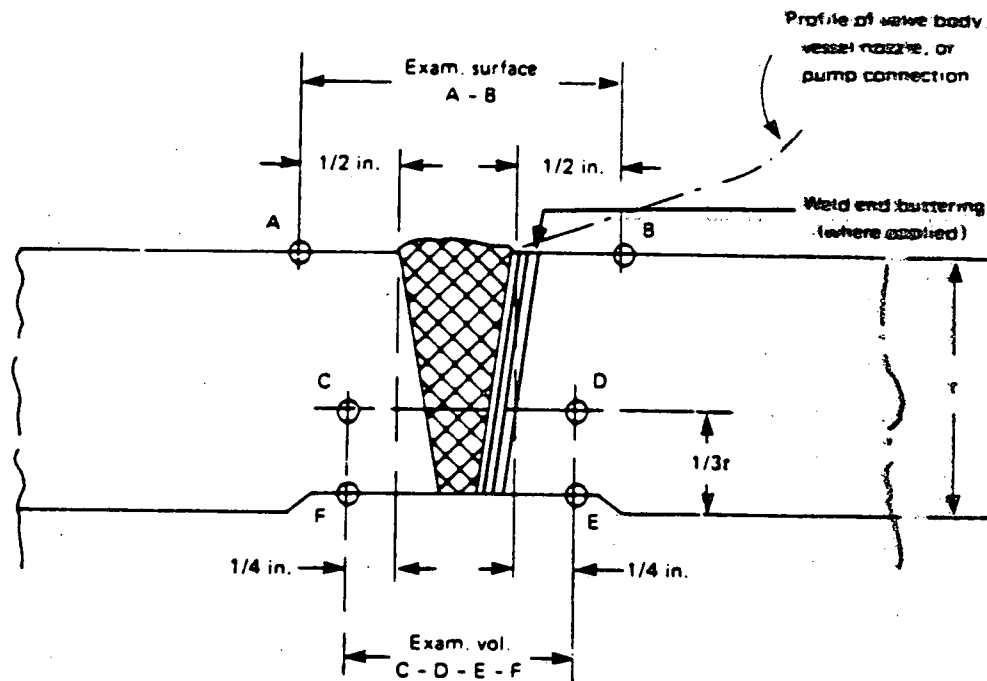


(a) Socket Welded Piping



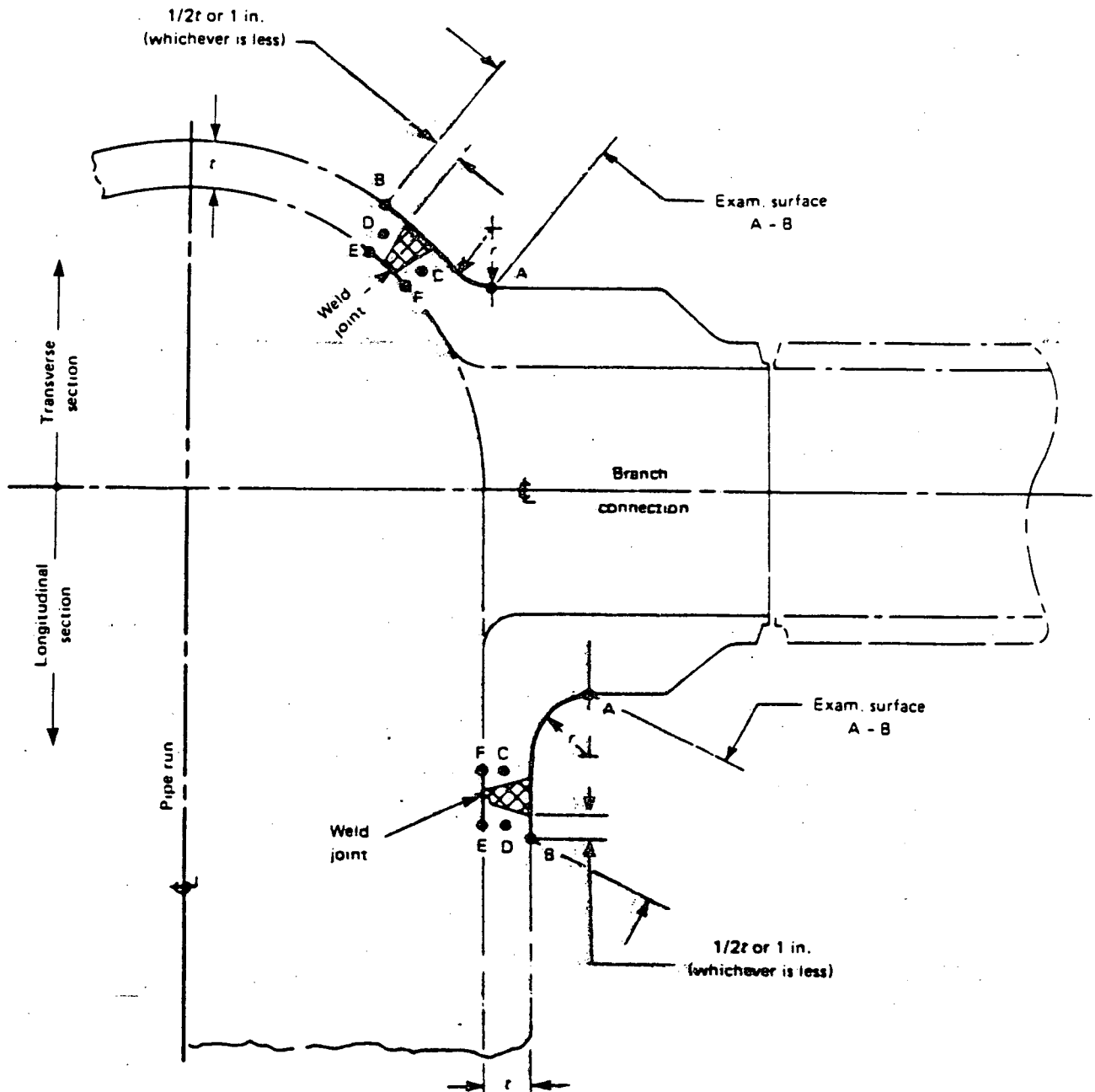
(b) Less Than NPS 4

FIGURE 11
SIMILAR AND DISSIMILAR METAL WELDS IN COMPONENTS AND PIPING



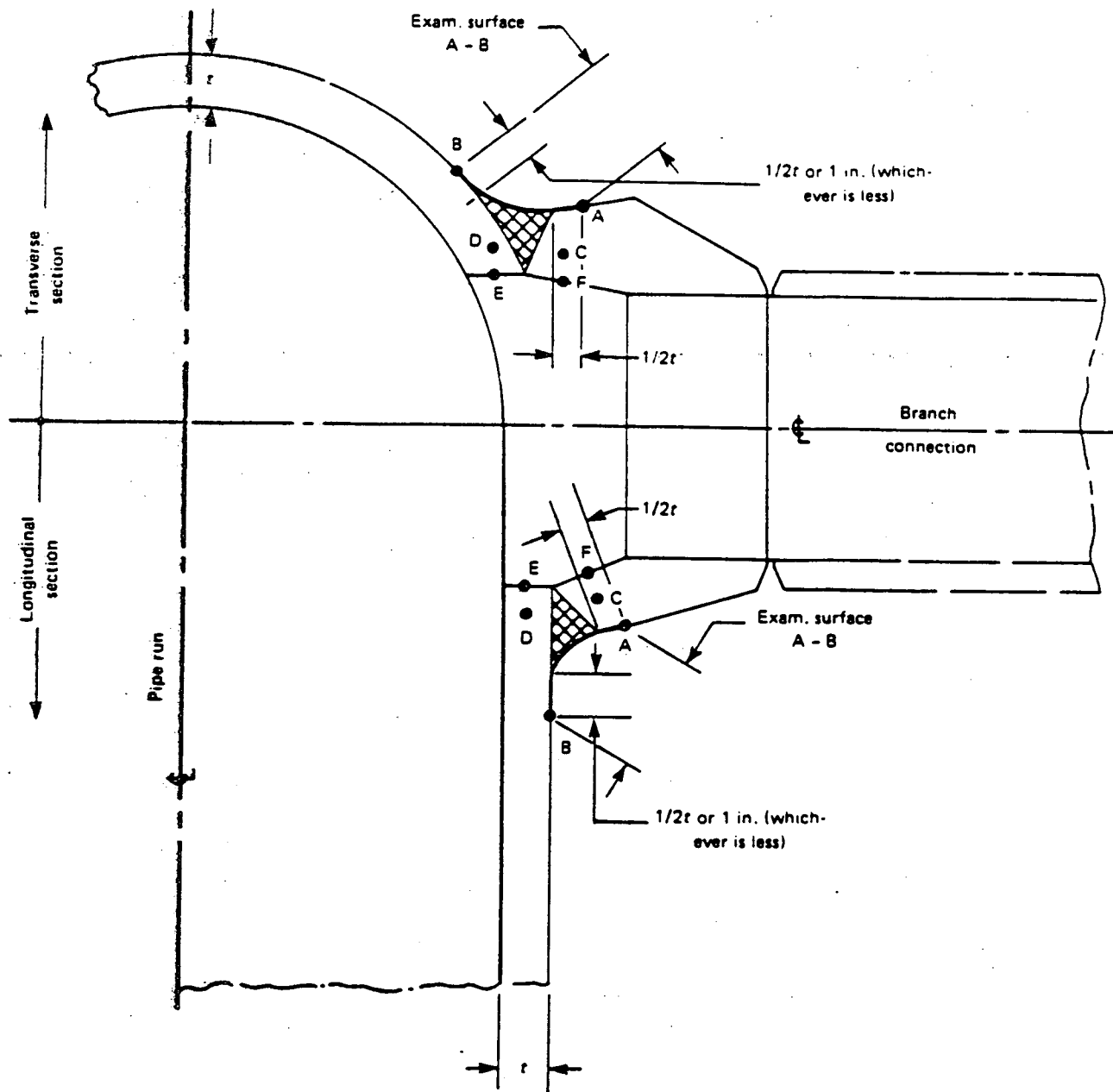
(c) NPS 4 or Larger

FIGURE 12
SIMILAR AND DISSIMILAR METAL WELDS IN COMPONENTS AND PIPING
 (continued)



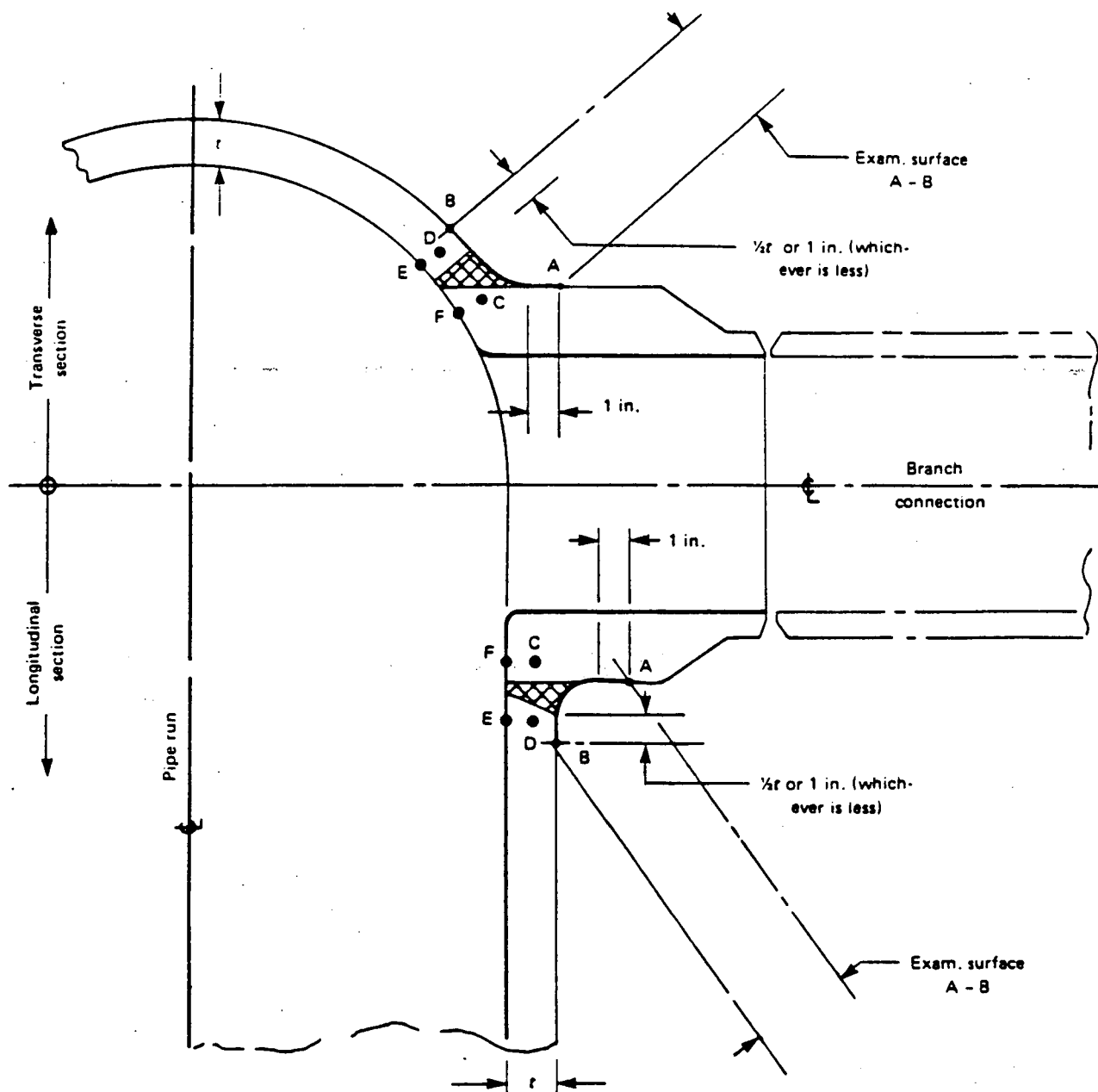
GENERAL NOTE:
Examination volumes C - D - E - F are defined per Fig. 12

FIGURE 13
PIPE BRANCH CONNECTION



NOTE: Examination volumes C - D - E - F are defined per Fig. 12

FIGURE 14
PIPE BRANCH CONNECTION



GENERAL NOTE: Examination volumes C - D - E - F are defined per Fig. 12

FIGURE 15
PIPE BRANCH CONNECTION

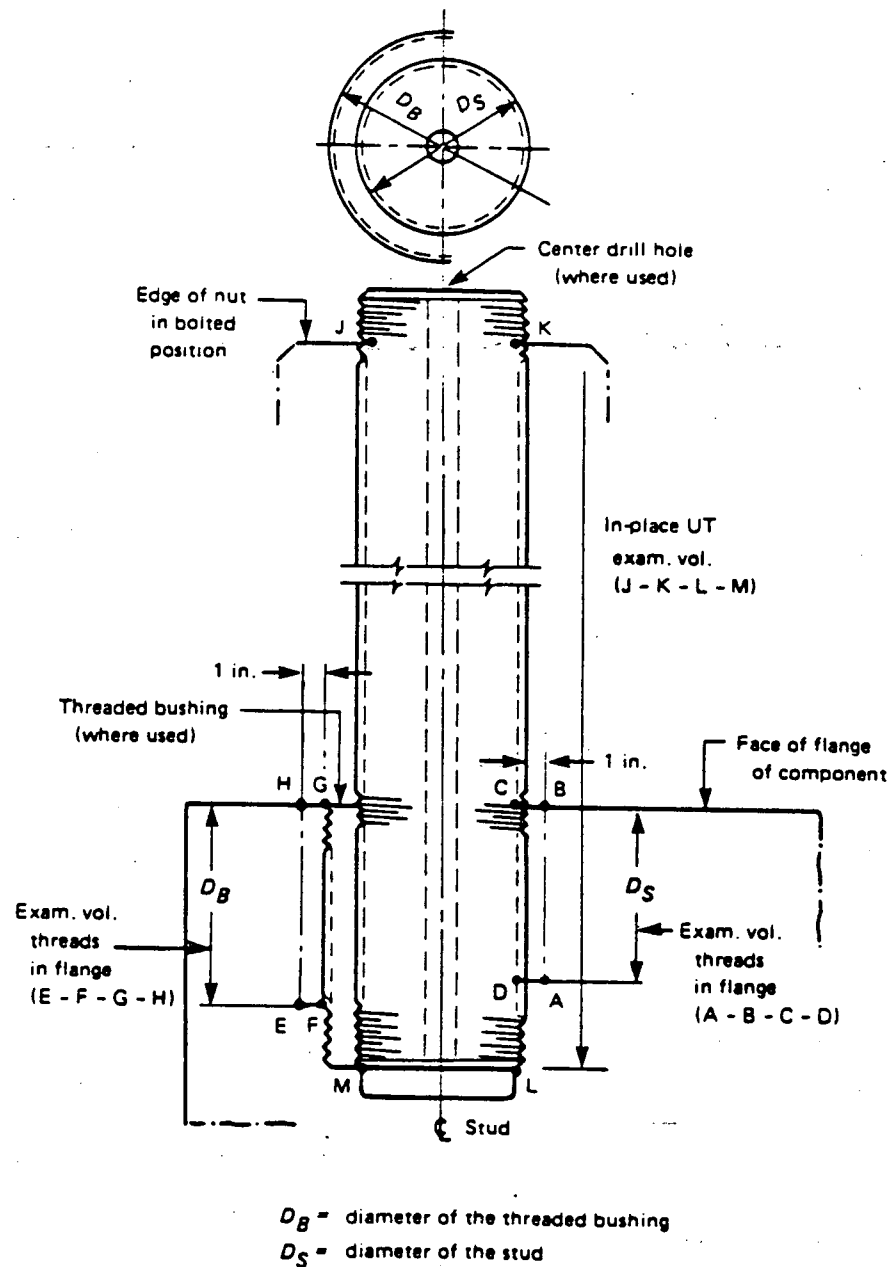


FIGURE 16
CLOSURE STUD AND THREADS IN FLANGE STUD HOLE

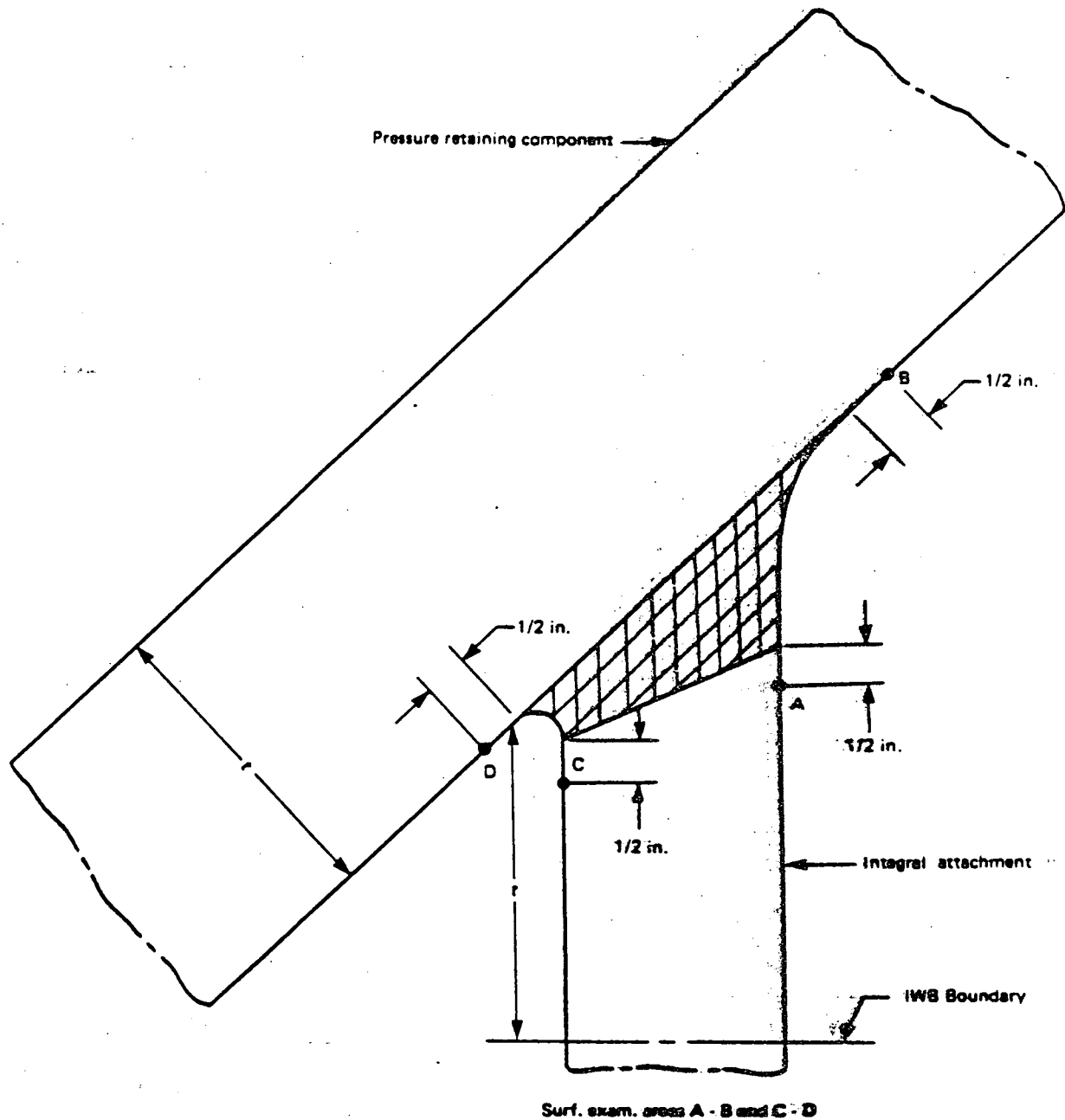


FIGURE 17
INTEGRAL ATTACHMENT WELD

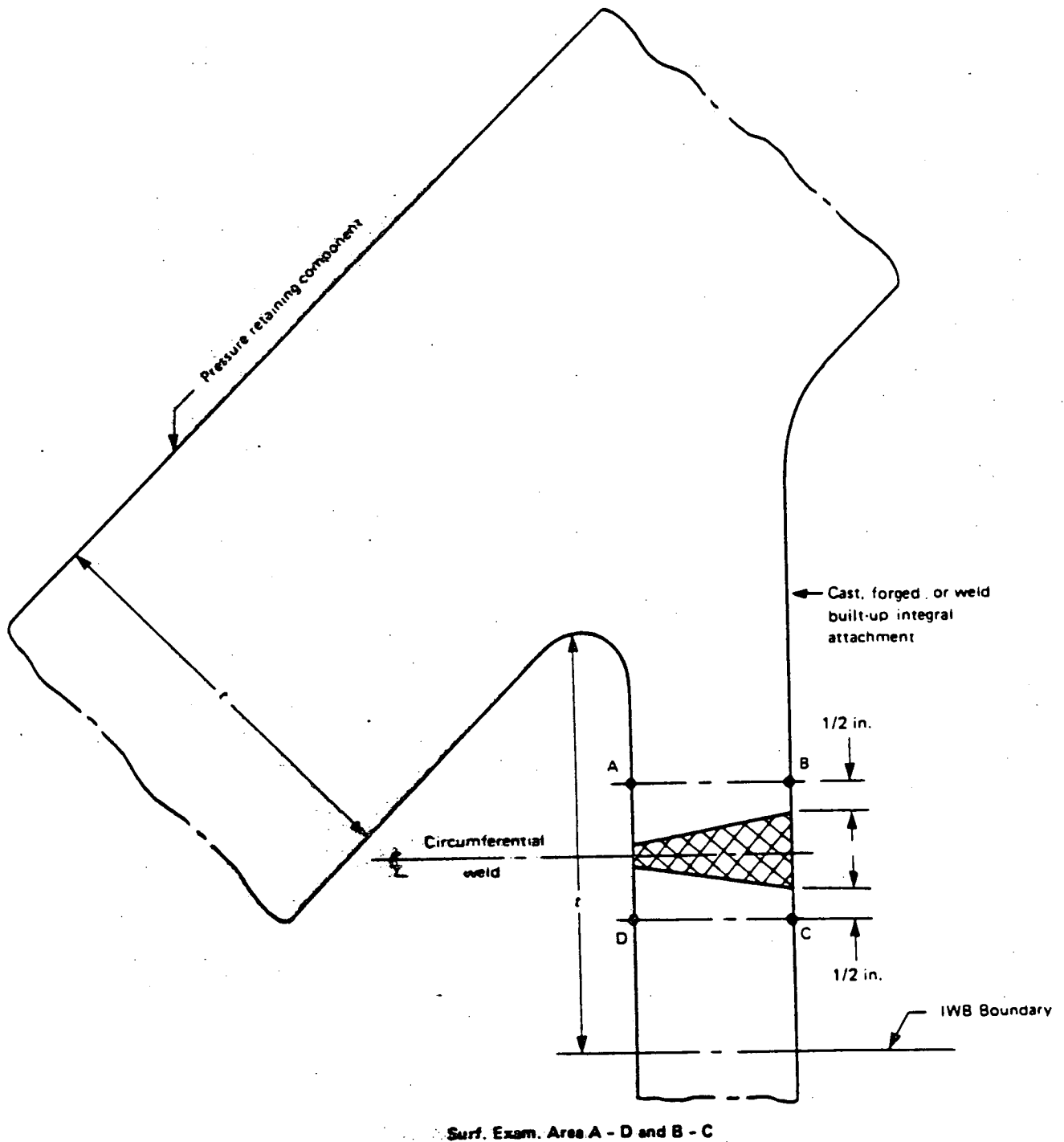


FIGURE 18
SUPPORT CIRCUMFERENTIAL WELD JOINT



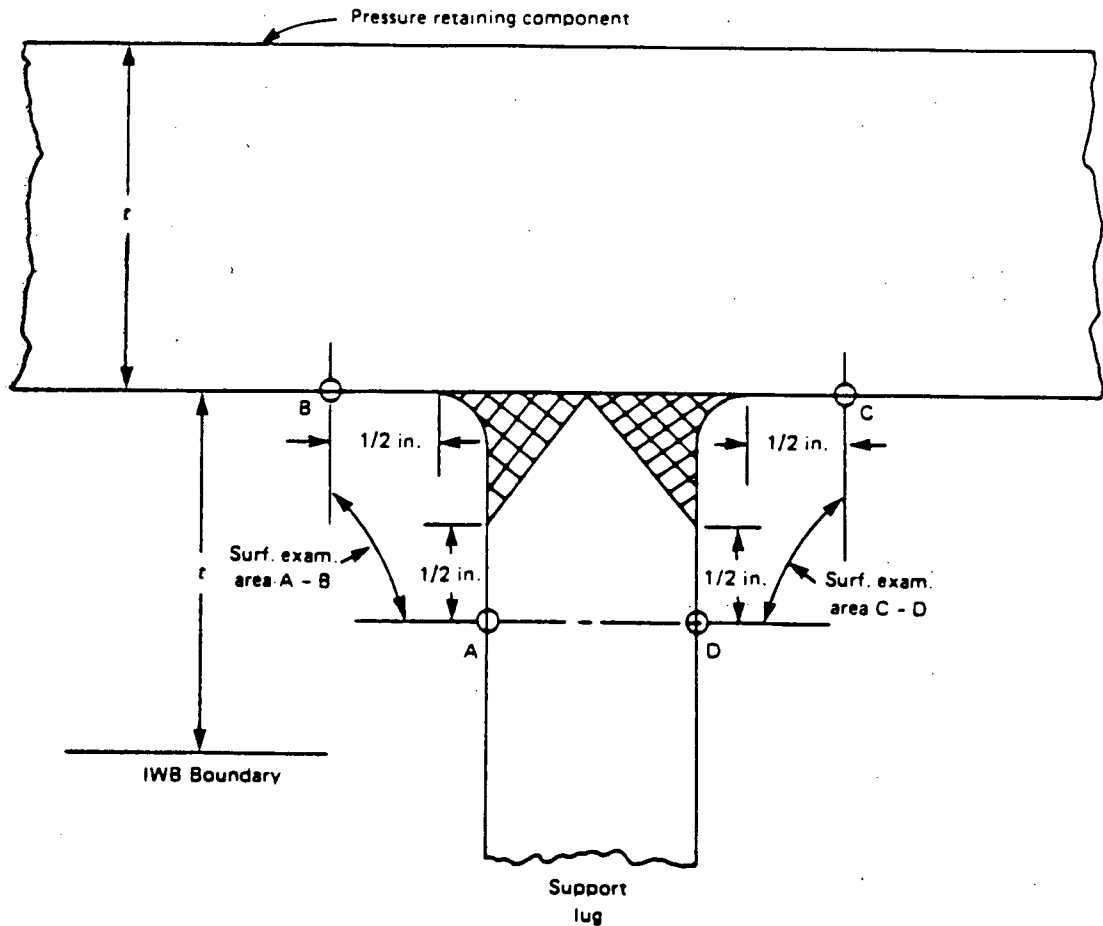


FIGURE 19
INTEGRAL ATTACHMENT



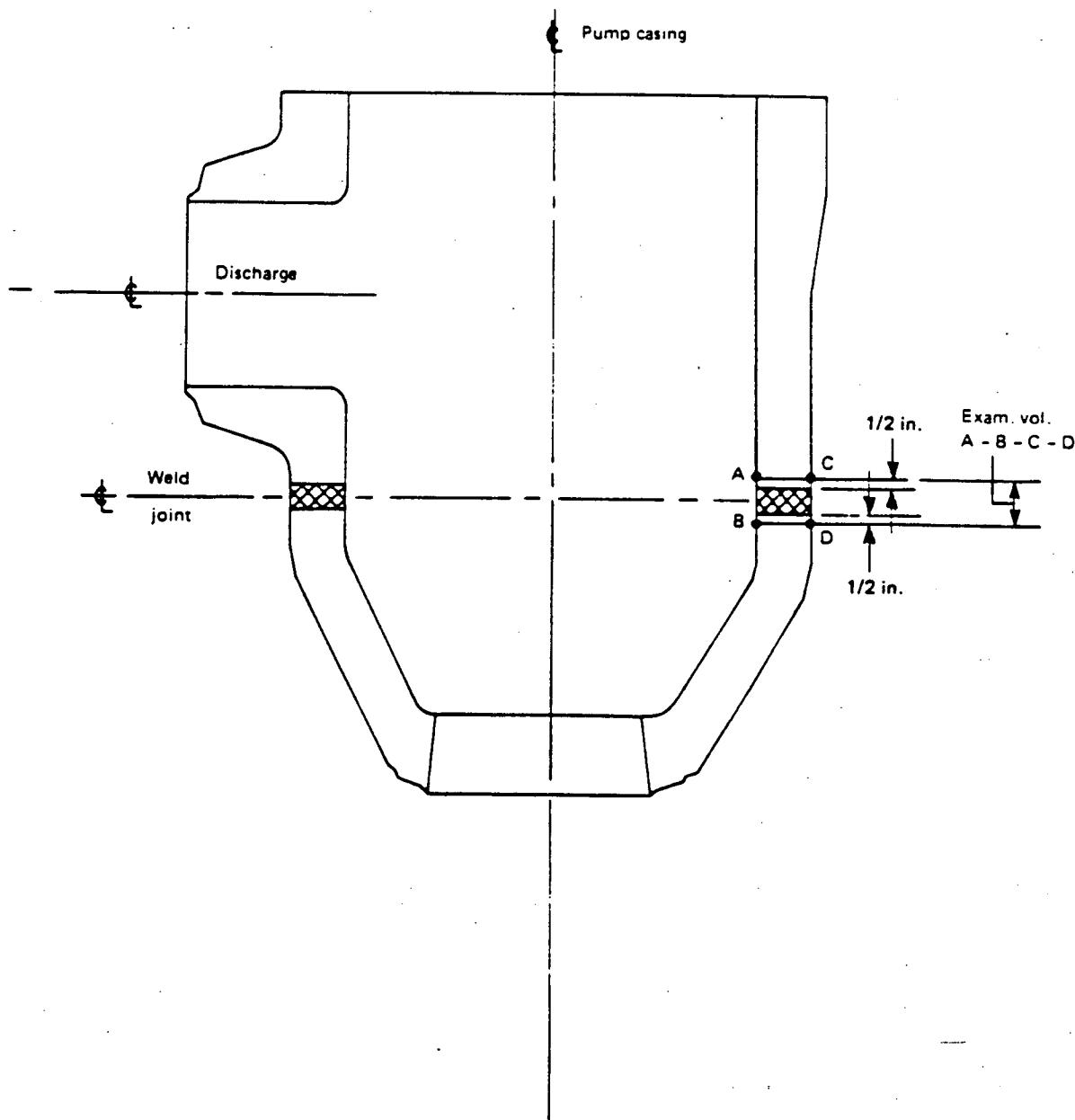


FIGURE 20
PUMP CASING WELD
[Type F Pump (Section III)]

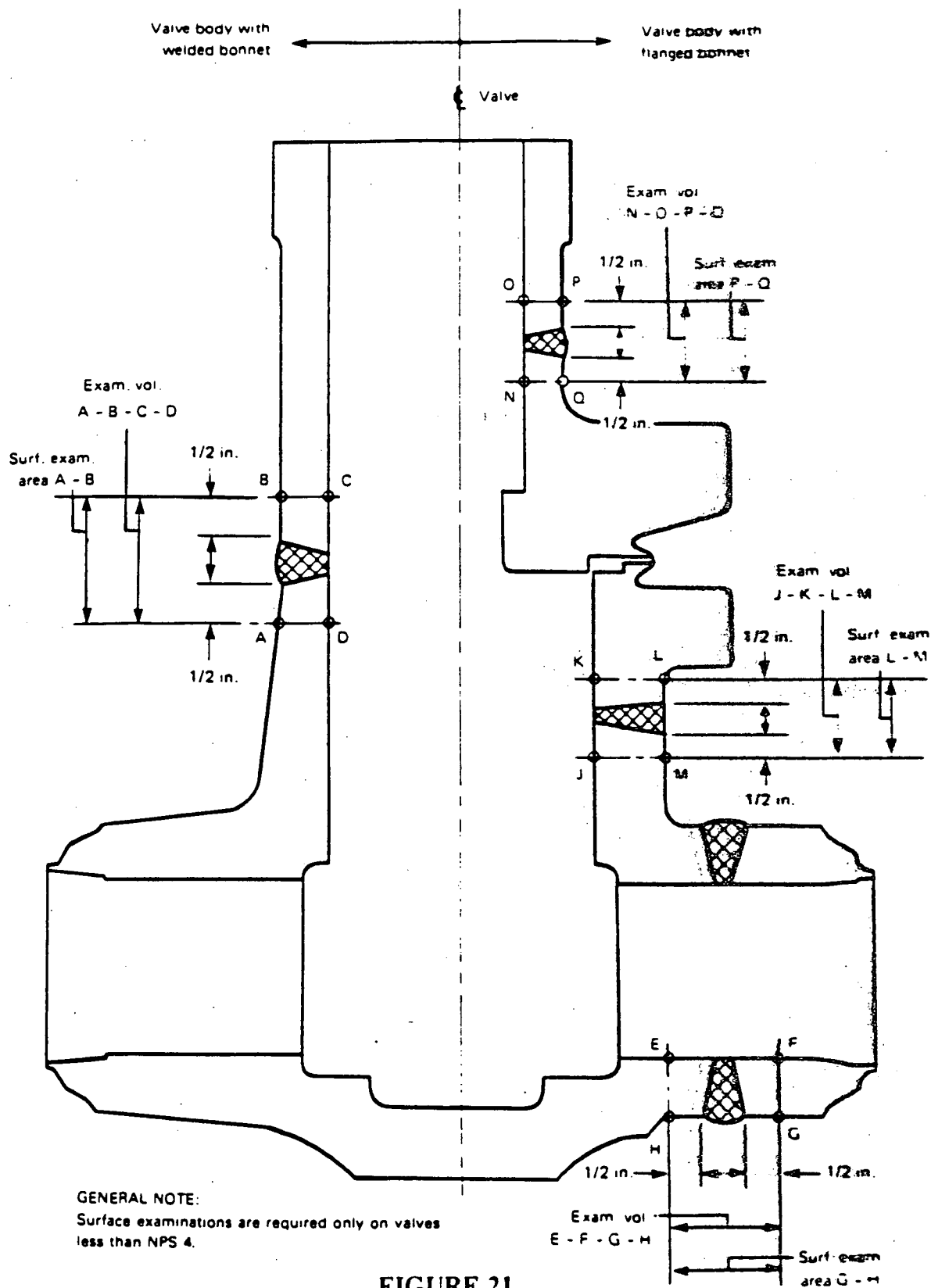
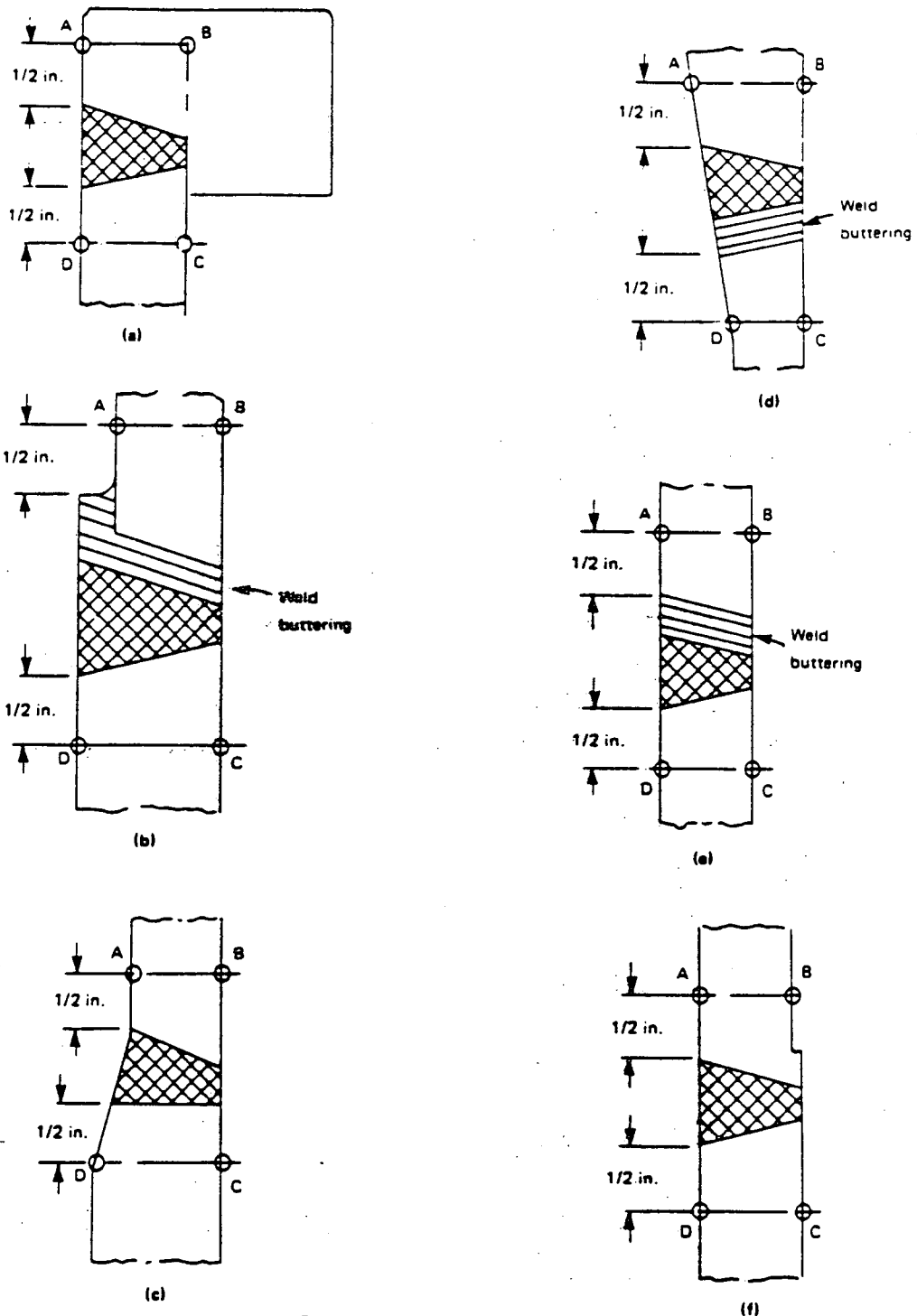


FIGURE 21
VALVE BODY WELDS



Examination Volume A-B-C-D
Surface Examination Area A-D

FIGURE 22
CONTROL ROD DRIVE HOUSING WELDS

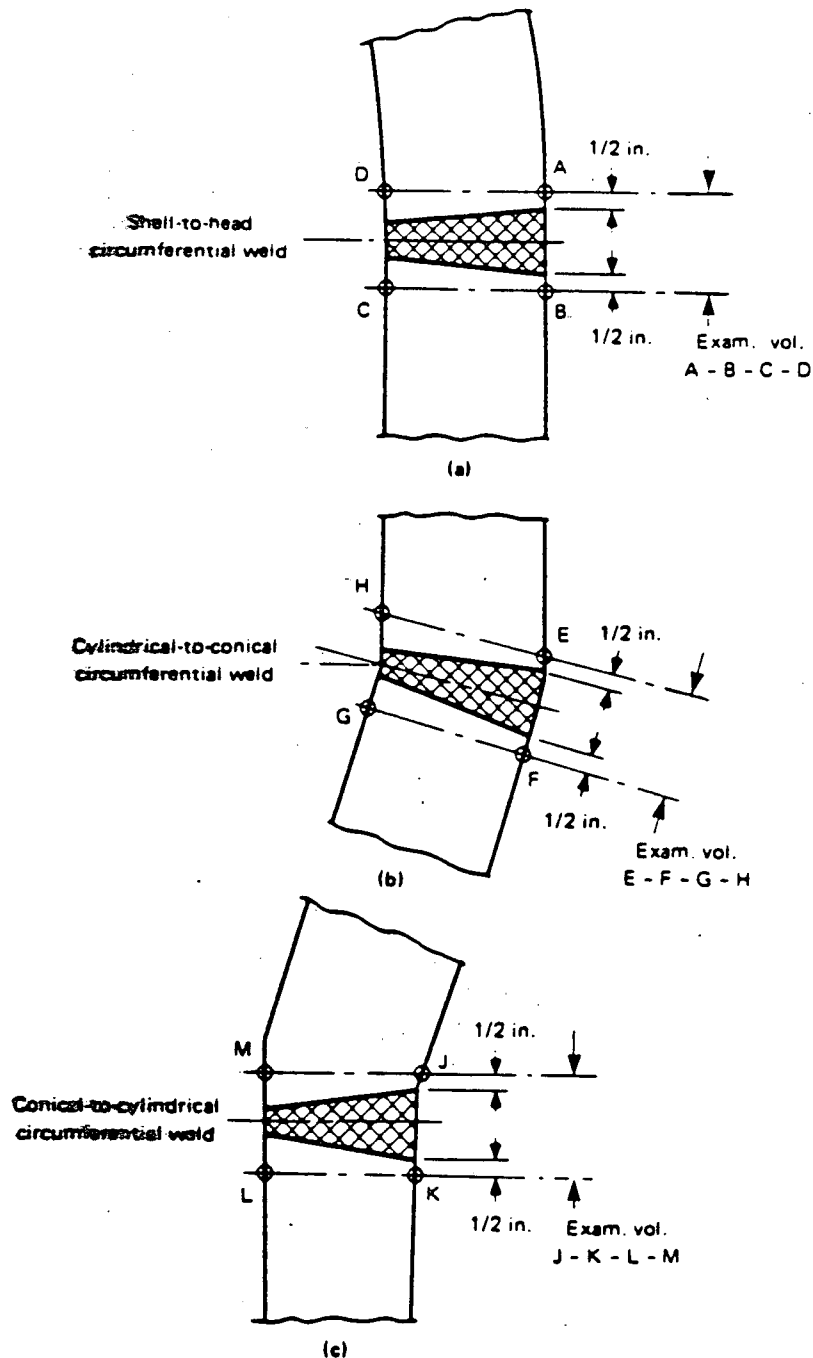


FIGURE 23
VESSEL CIRCUMFERENTIAL WELDS

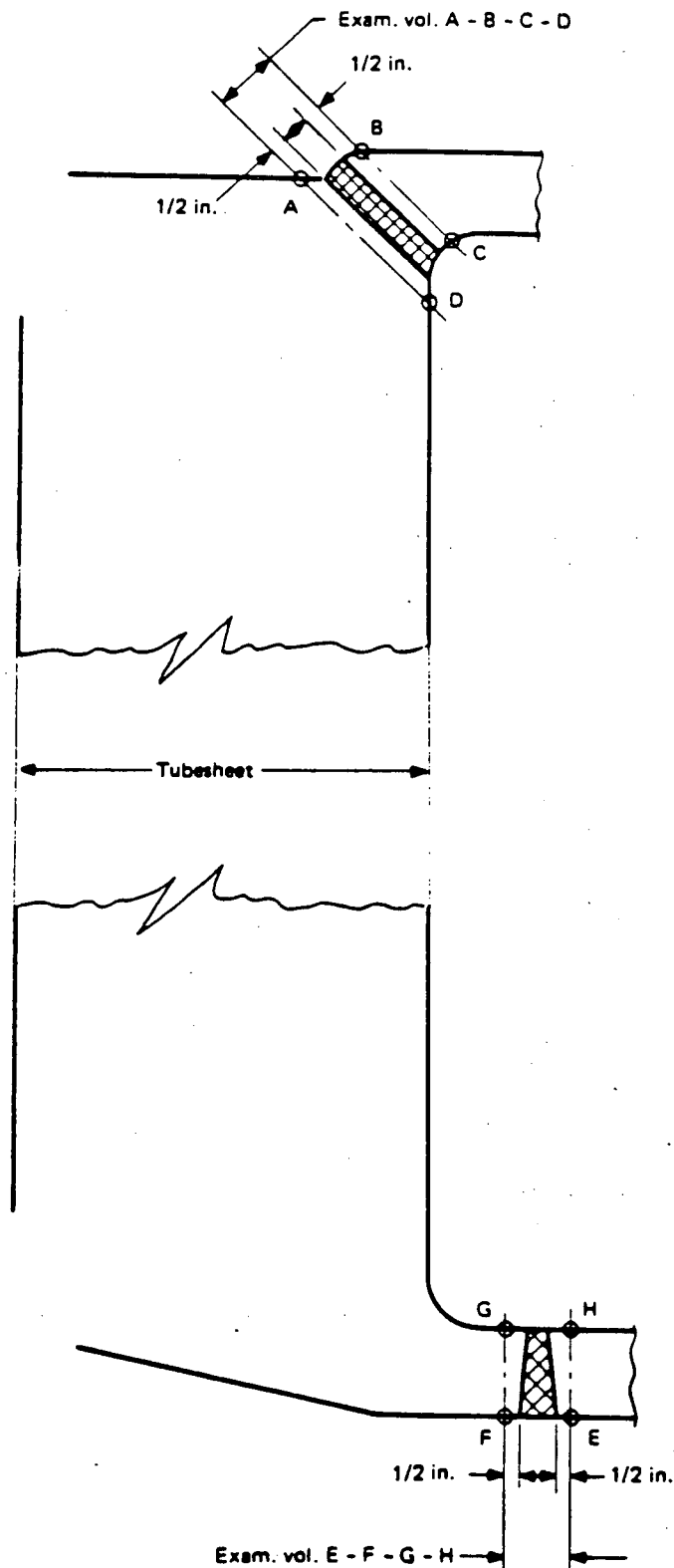
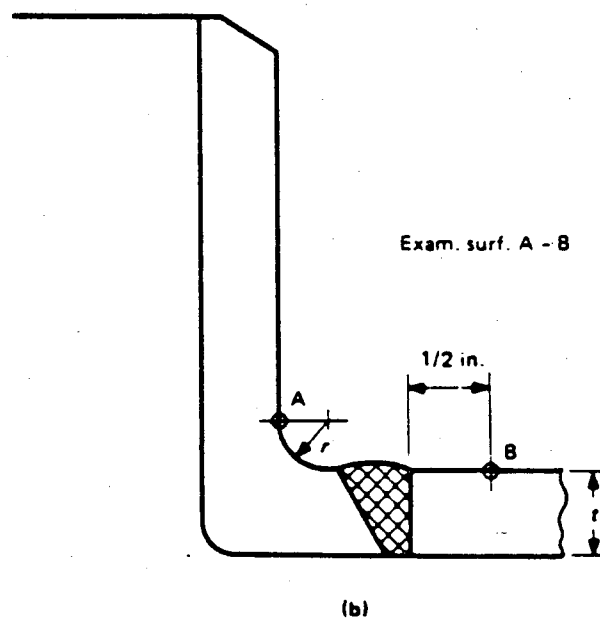
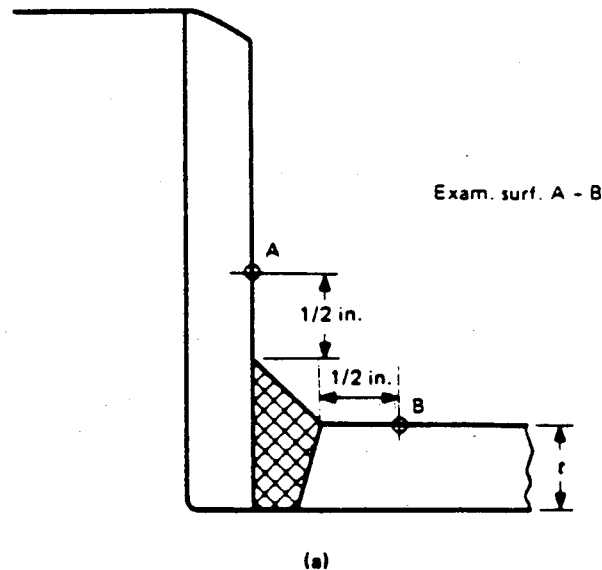


FIGURE 24

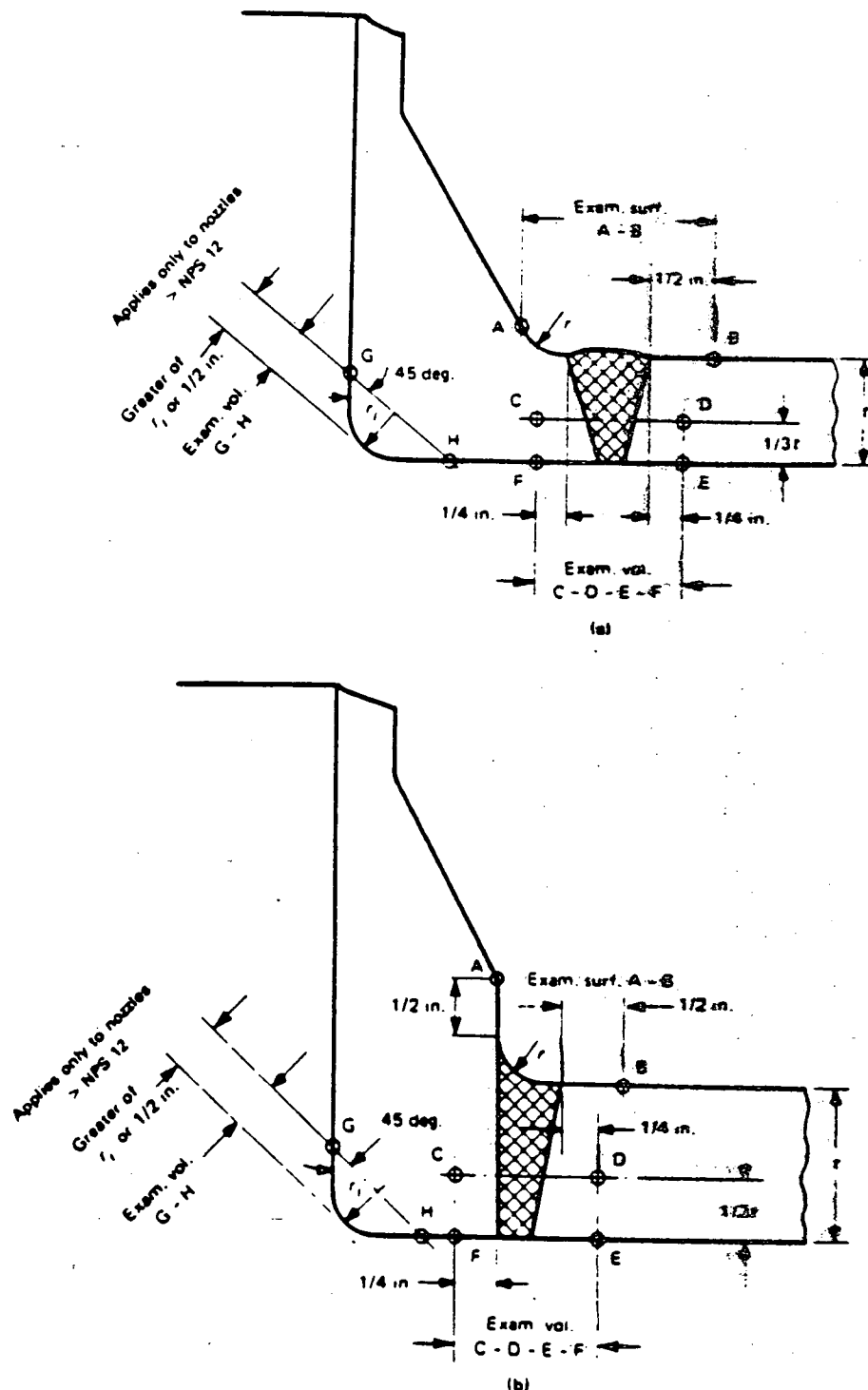
TYPICAL TUBESHEET-TO-SHELL CIRCUMFERENTIAL WELDS
(Steam Generator Designs)



GENERAL NOTE:

Nozzle sizes over NPS 4; vessel thickness $t \leq 1/2$ in.

FIGURE 25
NOZZLE-TO-VESSEL WELDS



GENERAL NOTE Nozzle sizes over NPS 4; vessel thickness over 1/2 in.

FIGURE 26
NOZZLE-TO-VESSEL WELDS

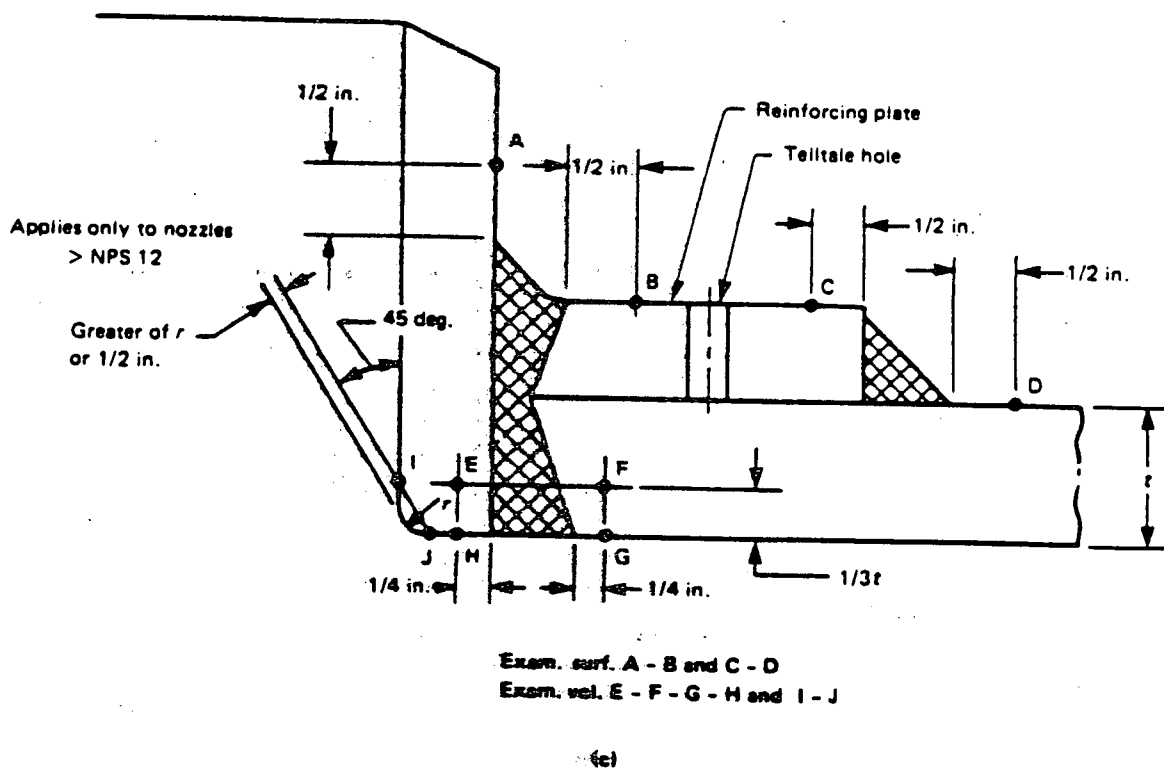


FIGURE 27
NOZZLE-TO-VESSEL WELDS
(Continued)

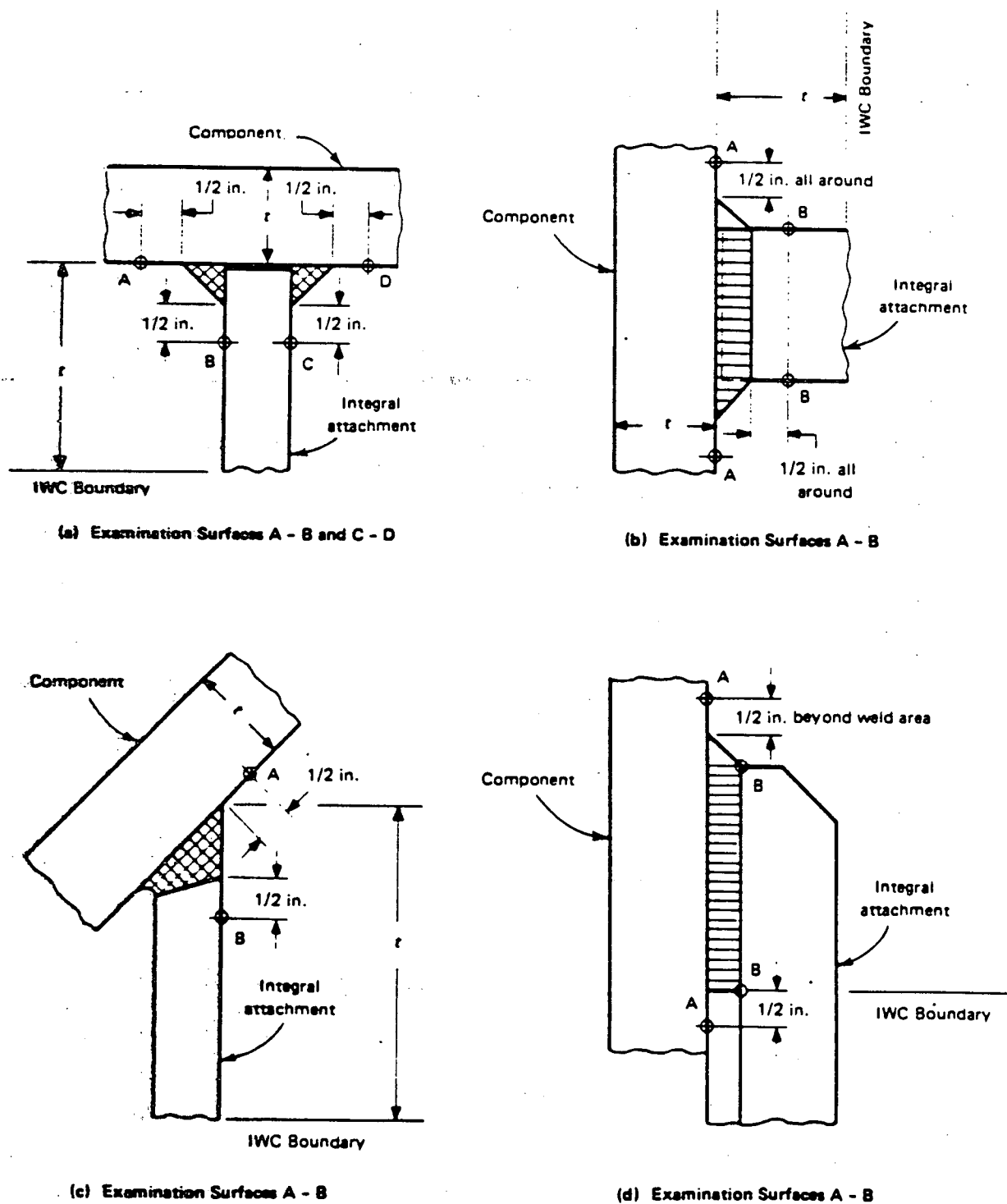


FIGURE 28
INTEGRALLY WELDED ATTACHMENTS

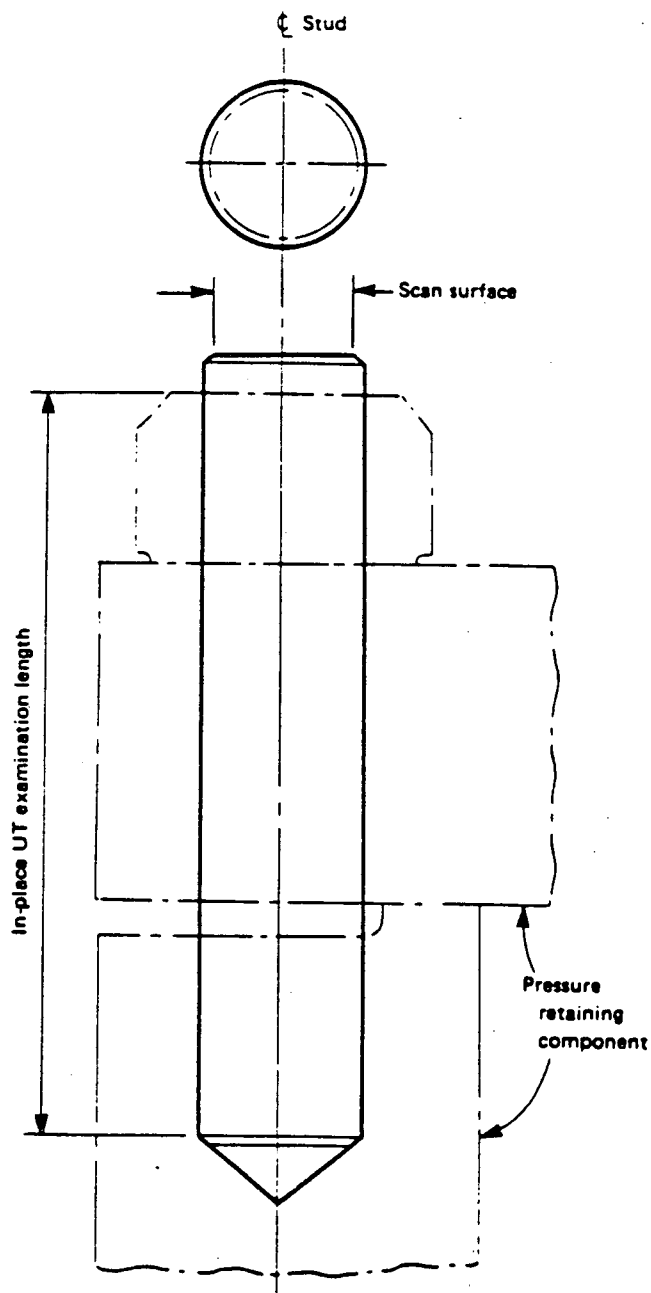
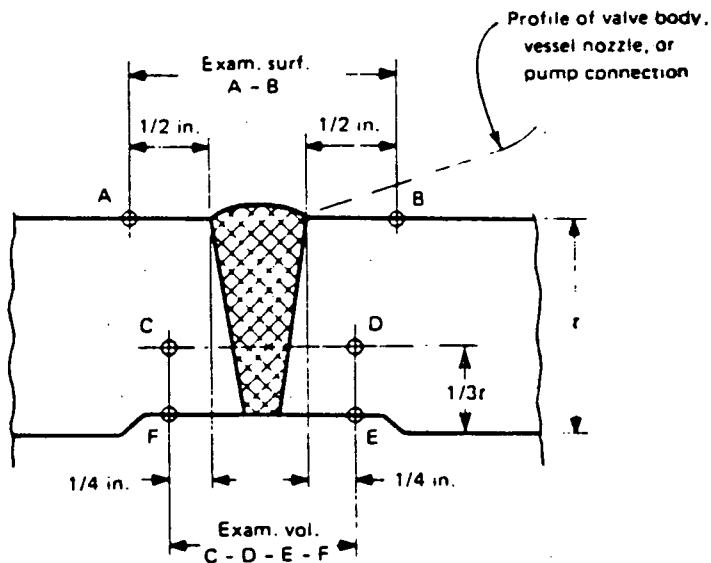
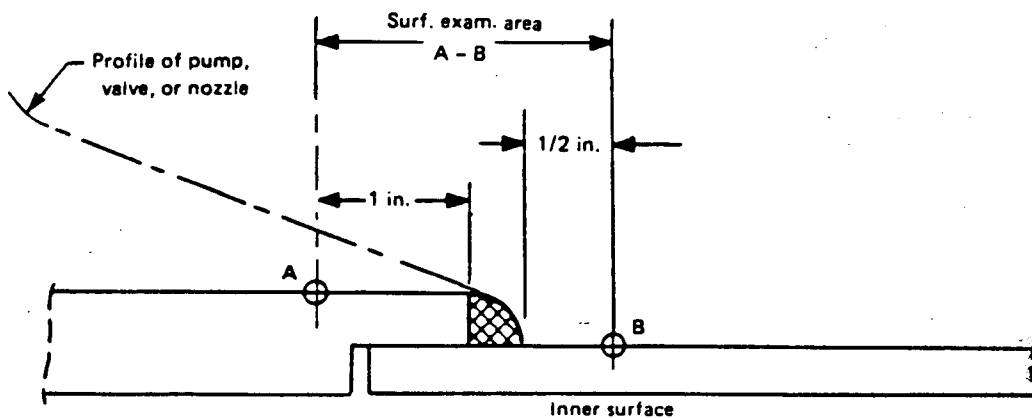


FIGURE 29
PRESSURE RETAINING BOLTING



(a) Full Penetration Weld



(b) Socket Welded Piping

FIGURE 30
WELDS IN PIPING

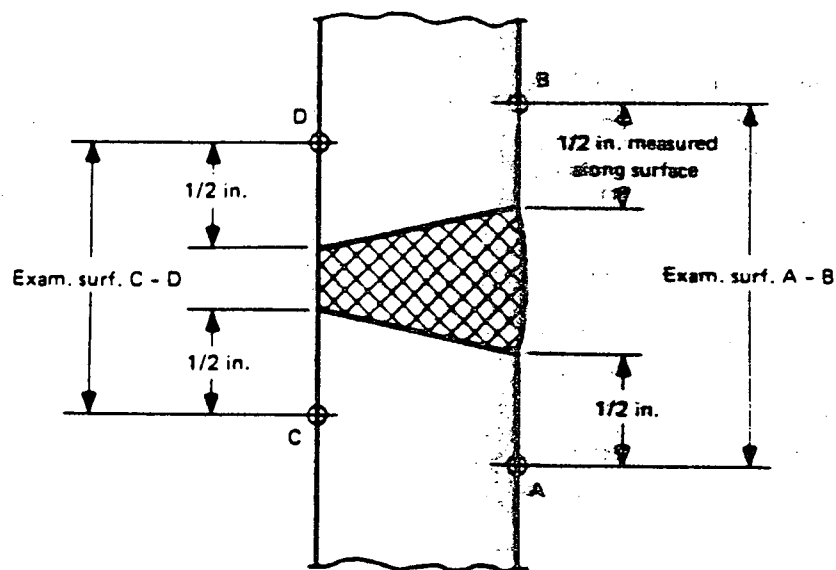


FIGURE 31
WELDS IN PUMP CASING AND VALVE BODIES

Examination Surface A - B Around Branch Connection

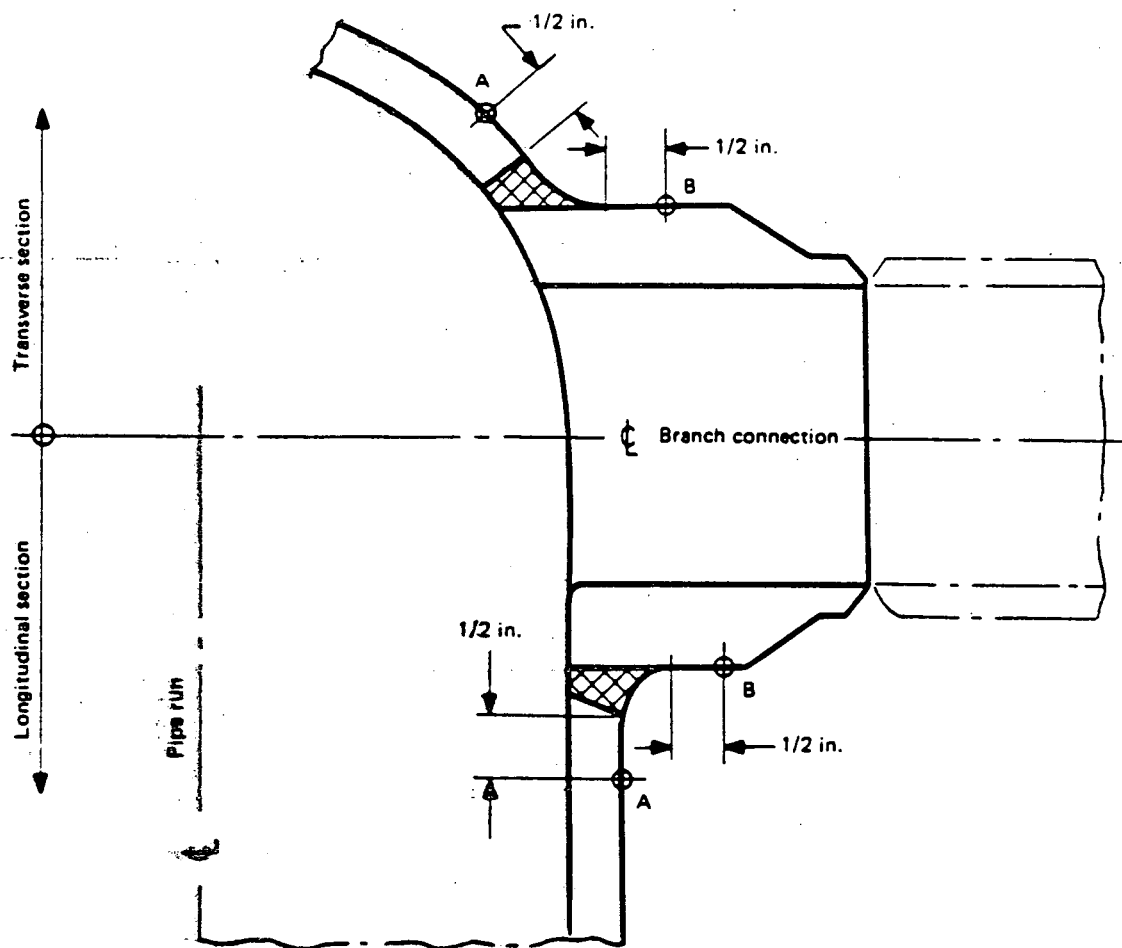


FIGURE 32
BRANCH CONNECTION WELDS

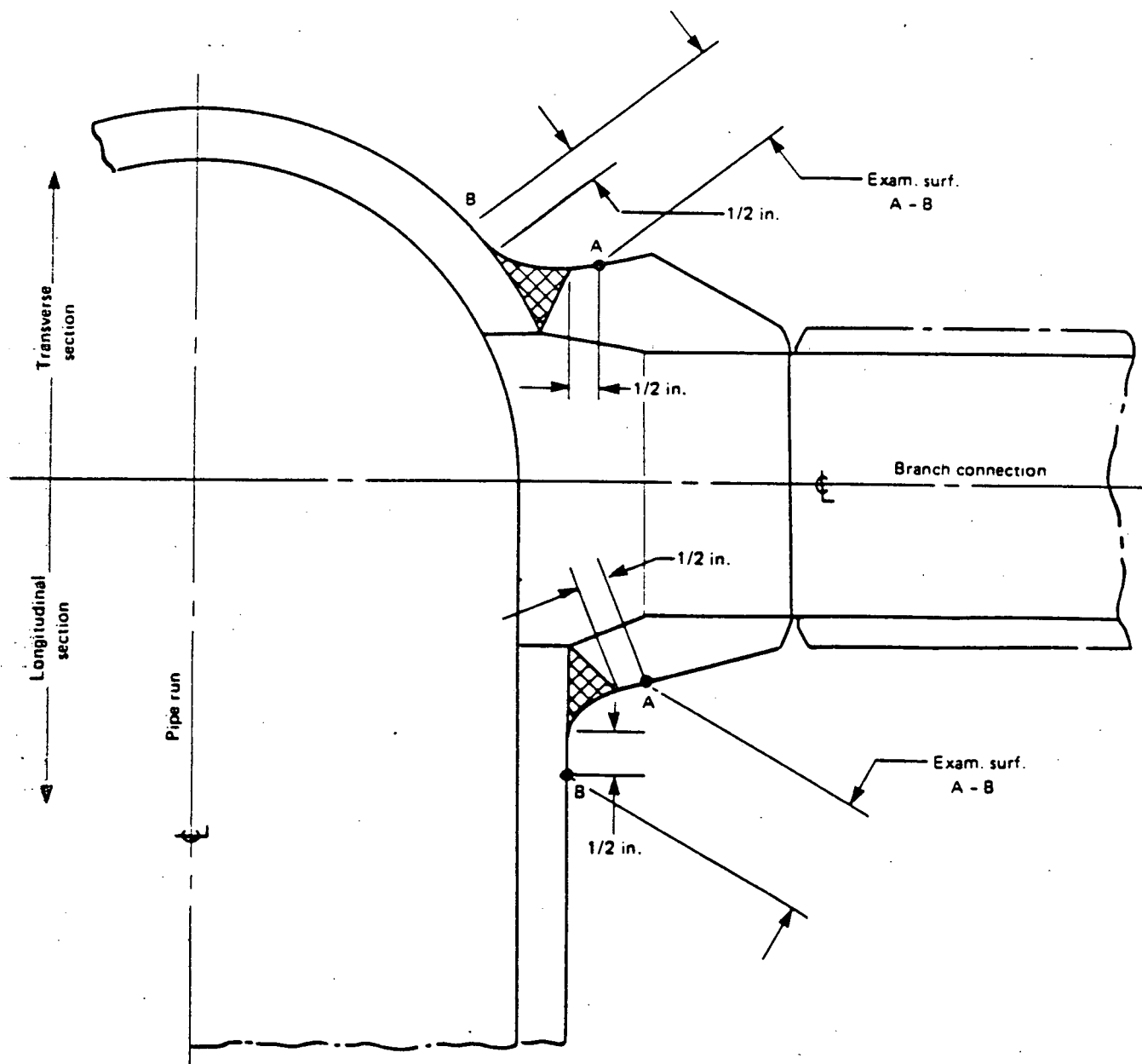


FIGURE 33
PIPE BRANCH CONNECTION

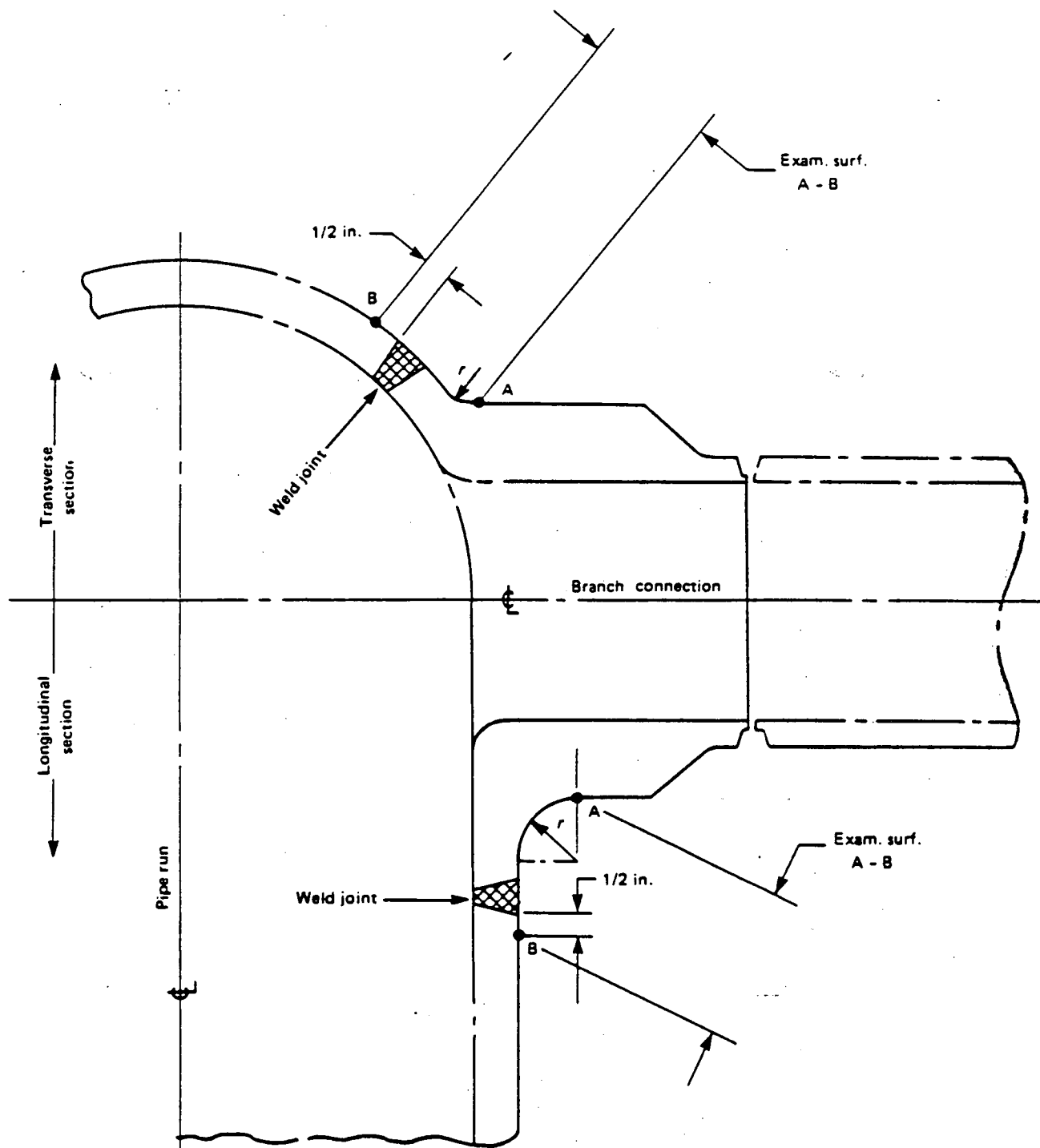


FIGURE 34
PIPE BRANCH CONNECTION

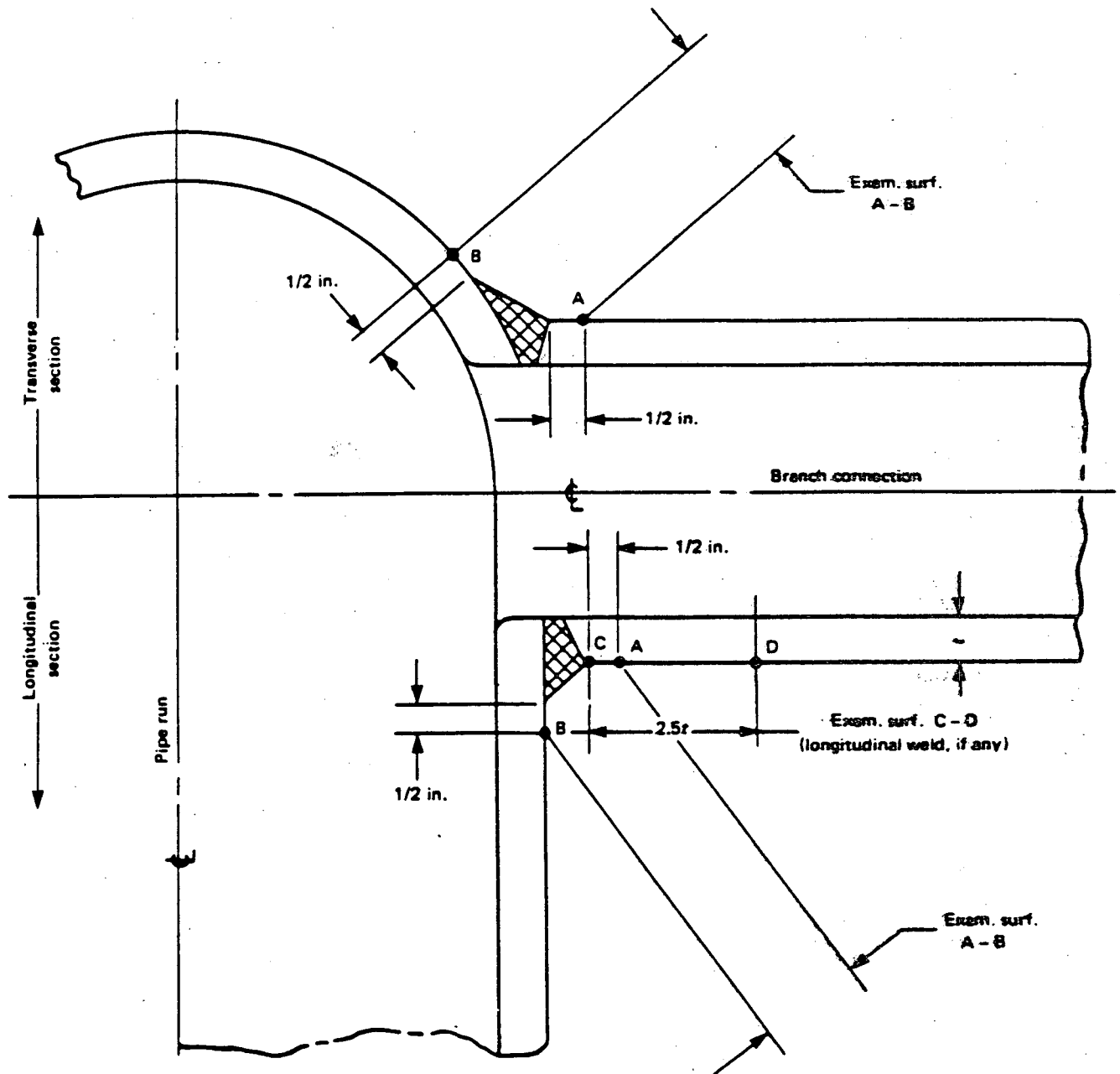


FIGURE 35
PIPE BRANCH CONNECTION

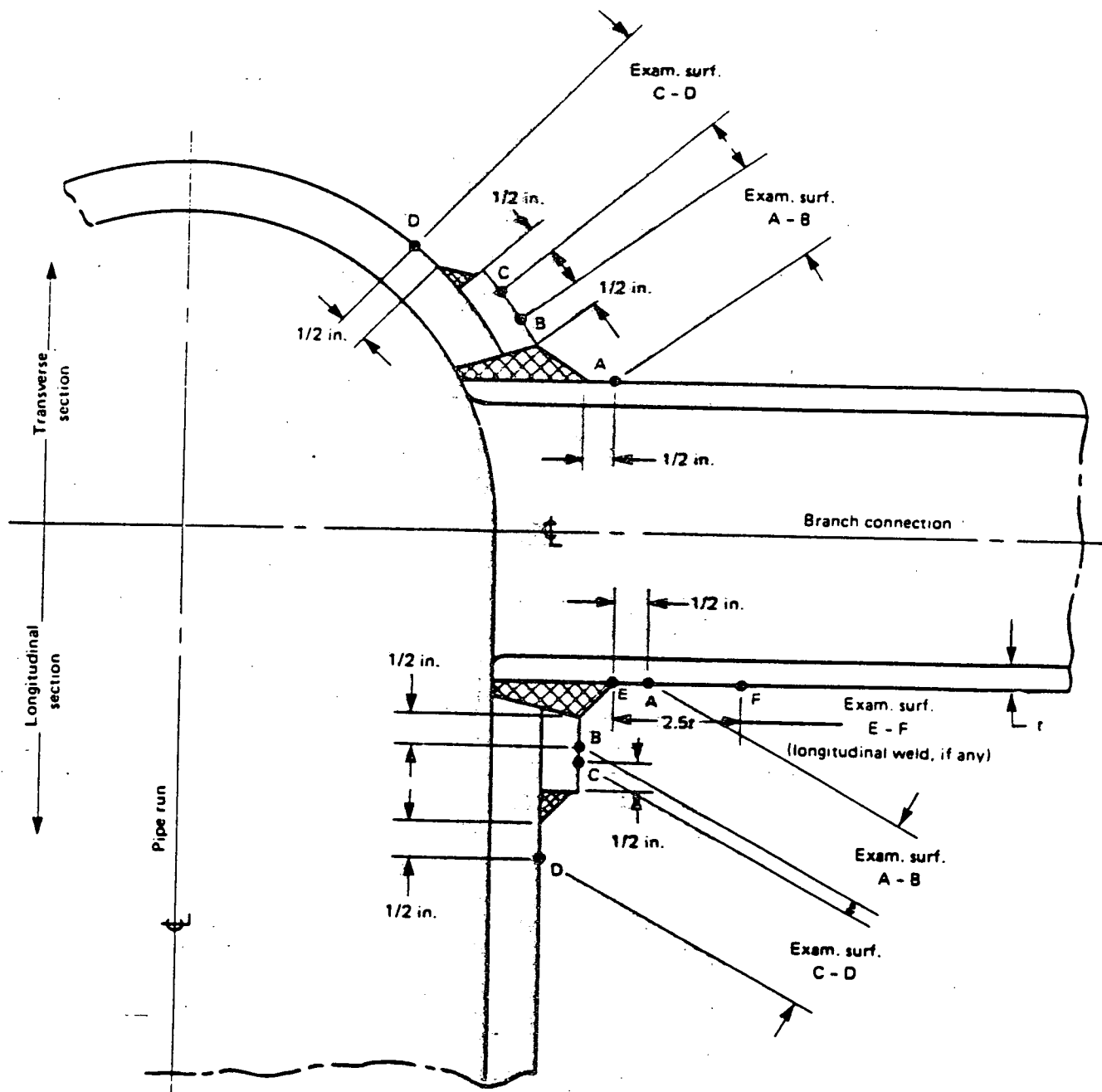


FIGURE 36
PIPE BRANCH CONNECTION

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.



NUCLEAR ENERGY SERVICES, INC.

PROCEDURE QUALIFICATION SHEET

Procedure No.	Revision	Field Change No.
NES 83A6083 SP 1139	1 0	N/A N/A

Title:

ULTRASONIC Examination of Bolting material
for HB Robinson steam Electric Plant

Personnel	U.T. Level/Date
Edmund R DONOVAN <i>Edmund R Donovan</i>	L/II Date: 4 130 192
N/A	N/A Date: N/A

Calibration Block:

CPL-61A

Qualification Specimen:

CPL-61

(Attach as-built drawing)

Scanning Speed:

less than 2" per sec.

Calibration / Sensitivity: (Complete and attach UT Calibration Data Sheets)

Qualification Results: (Complete and attach UT Data Sheet)

Witness:

Dale Murdoch

UT Level:

III

Date:

4 130 192

Authorized Inspection Agency: (Optional)

RBW
5/9/92 *R Walladanes*

Date:

4 130 192



NUCLEAR ENERGY SERVICES, INC.

PERSONNEL PERFORMANCE QUALIFICATION SHEET

Procedure No.	Revision	Field Change No.
NES 834 6083	1	N/A
SP 1139	0	N/A

Title: Ultrasonic Examination of Bolting Material
for H.B. Robinson Steam Electric Plant

Personnel	Certification Level
Edmund R Donovan Edmund R Donovan	Y II Date: 4/30/92
N/A	N/A Date: N/A

Component ID: CPL-61

Test Results: Pass ☒ Fail ☒

Limitations/Restrictions: No ☒ Yes ☒ (See Below)

Witness: Dale Murdoch UT Level: TII Date: 4/30/92

Authorized Inspection Agency: (Optional) RBW 5/1/92 BPL balladanes Date: 4/30/92

DATA SHEET NO. _____

PAGE 1 OF 3

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. SR1139 ^{NES} 8346083REV. 1CHANGE NO. N/A

INSTRUMENT

Model USK-7
 Serial No. 27276-3409
 Sweep Length 2.92 Delay 8.68
 Range 10
 Gain (coarse) 60 dB
 Gain (fine) 2.0 dB
 Reference Sensitivity 80 dB
 Remarks: _____

SEARCH UNIT

Serial No. J 21385
 Size .25"
 Frequency 10.0 MHz
 Mode LONG
 Nom. Angle 0
 Measured Angle N/A
 Cable Type R6-174/U
 Cable Length 6'
 Remarks: _____

CALIBRATION BLOCK

No. CPL-61A
 T 13.5 Dia. 2.5'
 Temperature 73 °F
 Thermometer S/N JL-9110

CALIBRATION

0° ☒ Axial ☒ Circ. ☒
 Metal Path ☒ Depth ☒
 Each Major Screen Div. = 1.4"
 Remarks 14.0" SCREEN

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1	100	50	6	50	25
2	90	45	7	40	20
3	80	40	8	30	15
4	70	35	9	20	10
5	60	30	10	10	5

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	38
80	-12	18
40	+6	84
20	+12	87

CAL. CHECKS

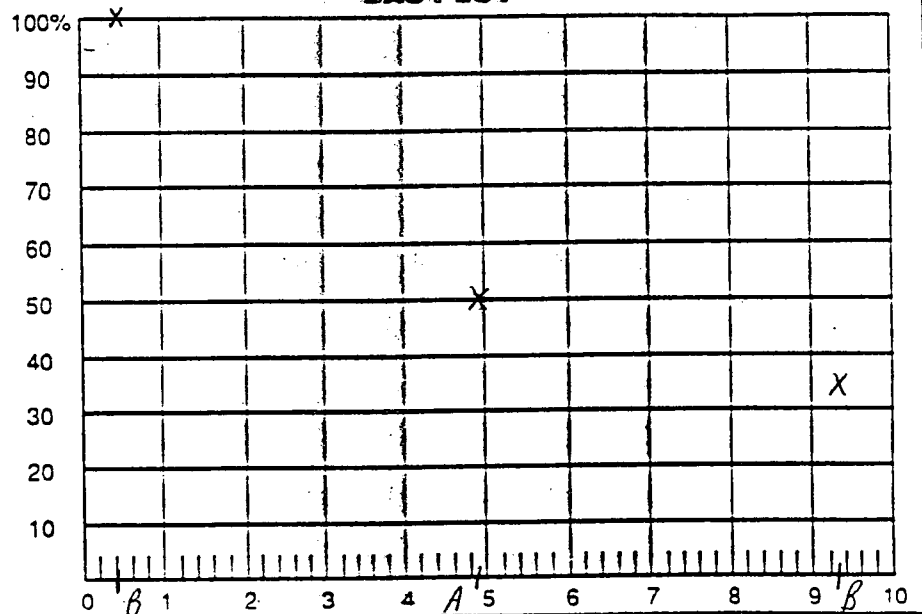
TIME

INITIAL CAL.	1946
INTERMEDIATE	N/A
INTERMEDIATE	N/A
INTERMEDIATE	N/A
FINAL CAL.	2010

COUPLANT

Brand ULTRAGEL II
 Batch No. 092 041

DAC PLOT



REMARKS: "B" HAS 4 MULTIPLES AT REFERENCE
SENSITIVITY

EXAMINERS 1 Edmund R. Donovan LEVEL II DATE 4-30-92
 2 N/A LEVEL N/A DATE N/A
 REVIEWERS 1 Chris P. LEVEL III DATE 5-1-92
 2 Richard B. Weber LEVEL N/A DATE 5/9/92
 3 R. Palladano LEVEL ANII DATE 5-13-92
20 5-15-92

NES

NUCLEAR ENERGY SERVICES, INC.

PLANT/UNIT _____

DATA SHEET NO. _____

PAGE 2 OF 3EXAMINATION
DATA SHEETPROCEDURE NO. 581137 ^{NES} 9342023REVISION/CHANGE NO. 1COMPONENT/SYSTEM N/AISO/DWG. NO. N/A REV. N/ATHERMOMETER S/N JL-9110COMPONENT TEMP. 73 ° F

EXAMINATION WELD/AREA

CPL-61 TEST STUD

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REL.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

WELD CROWN LIMITATION

☒ YES☒ NO

AREA SCANNED

SCANNED BOTH ENDS OF STUD

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REL.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REL.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SCAN USED				RECORDABLE INDICATIONS		EVALUATION	
0°	1	=		YES	NO	ACC.	REL.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WELD CROWN LIMITATION

☐ YES☐ NO

AREA SCANNED

SEE ATTACHED I.E.R.

REVIEWERS:

1 Chen R. Dawson LEVEL II DATE 4-30-92
2 N/A LEVEL N/A DATE N/A

1 U. P. LEVEL III DATE 5-1-92
2 Richard B. Weber LEVEL N/A DATE 5/9/92
3 Q. Villalobos LEVEL AND DATE 5-15-92

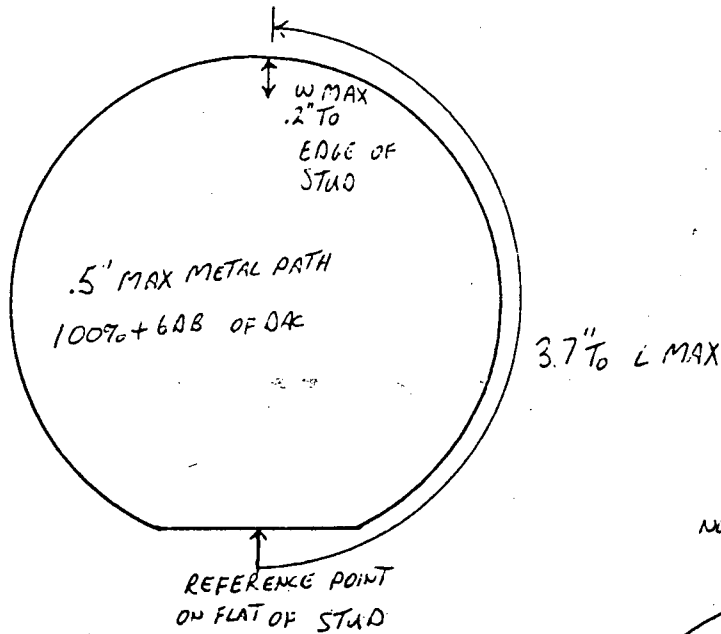
NES

NUCLEAR ENERGY SERVICES, INC.

SKETCH SHEET

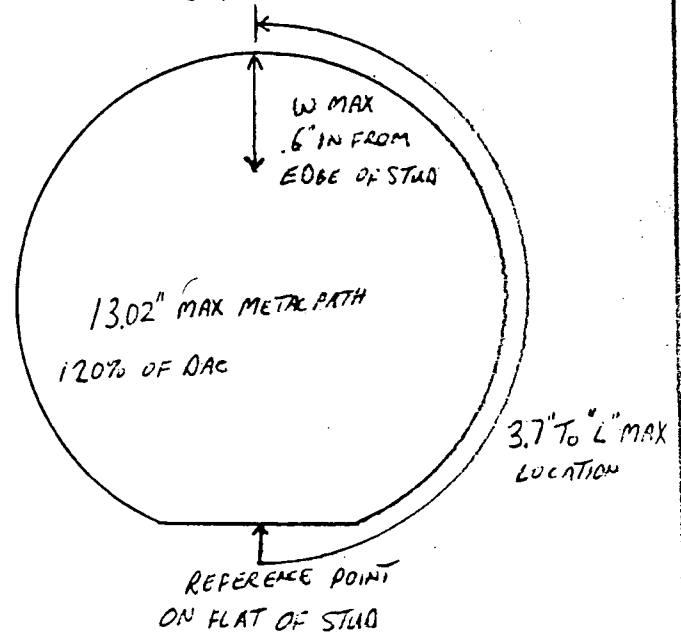
STAMPED END

TEST STUD CPL-61



3.7" T_0 L MAX

NON STAMPED END



3.7" T_0 L MAX
LOCATION

EXAMINER Edmund R. Doreau
EXAMINER NA
REVIEWER W. J. Pinner
REVIEWER Richard B. Weber
REVIEWER R. P. Valladanes

LEVEL II
LEVEL NA
LEVEL III
DATE 5/9/92
DATE 5-13-92

DATE 4-30-92
DATE NA
DATE 5-1-92

DOCUMENT CHANGE FORM

ATTACHMENT 6.1

Page 1 of 3

DCF # 92-P-0864New Rev 0Temp. # N/ATemp Change Expires N/A

Section I

Doc Kind Procedure # 5P-1139 Affected Rev 0Alternate ID 83A6083 Markup Attached? ☒ yes ☐ noDocument Title Ultrasonic Examination of Bolting Material for HBR2Rev Basis New ProcedureDue Date/Prerequisite for Refueling Outage 14Initiator Richard B. Weber Group Tech. Support Programs Date 4/30/92

Section II

Pages Revised All Pages - New Procedure PP1-24Doc Type Code NA Applic System/File #s 14506Description of Change New Procedure for ISI examinations.Reason/Justification Required for ISI examinations in accordance with Section II 1986 Edition, UFSAR and Tech. Specs.

(Attach Additional Paper If Required)

DOCUMENT CHANGE FORM

Section II (cont.)

Kind	Affected Documents	
	Number	Title
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

Comments N/A

Document Released For Review

Preparer Richard B. Weber Group Tech. Support - Programs Date 4/30/92
Recommender [Signature] Title Mgr. Ext. Program Date 5/1/92
Recommended Effective Date 5/2/92

Training required before becoming effective? yes ☒ no

description N/A

DOCUMENT CHANGE FORM

Section III

Type of Review	Req'd	Not Req'd	Assigned Reviewer	Reviewer's Signa/Date
1. Design Verification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	See Design Verification Package	(per ATTACHMENT 6.4)
2. Technical	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CARL OSMAN	Carl P. Osman 4/30/92
3. Nuclear Safety	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Safety Review Package	
4. 10CFR50 App. R	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
5a. Environmental Qual.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
5b. R.G. 1.97	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
6. PNSC	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
7. NAD	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
8. NRC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Review done, Ref. _____ Review may follow approval Permission to proceed, Ref. _____ (per Reg. Comp., signa/date _____)	
9. In-Service Inspec.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	R. Weber	Richard B. Weber 5/1/92
10. System/Compon. Engrg	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
11a. Operations	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
11b. Human Factors	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
12. Simulator	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
13. Maint-Elec/I&C	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
14. Maint-Mech/Insul	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
15. Installation	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
16. E&RC	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
17. ALARA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Bill Ritchie	W. Ritchie 5-1-92
18. Security	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
19. Fire Protection	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
20. Quality Ver. Section	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
21. Checker	<input checked="" type="checkbox"/>	<input type="checkbox"/>	W. F. Grooms	W. F. Grooms 5-1-92
22. Project Coordinator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	R. Weber	Richard B. Weber 5/1/92
23. Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
24. Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
25. Other Doc. Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	C. Wallace	6/2/92 P. Hallway for C. Wallace

Temporary Change Approval: A temporary change has a maximum duration of 21 days.

NA	NA	NA
NA	SRO	NA
Signature	Management Title	Date
Final Approval	Signature	5/2/92
		PNSC followup review recommended <input type="checkbox"/>
Void/Cancel	Signature	Date

Reason: _____

Section IV

Appropriate actions have been taken regarding these temporary changes to allow this Revision to become effective. NONE (list)

NA
Recommender Signa/Date

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON SEG PLANT

SPECIAL PROCEDURE

SP-1139

ULTRASONIC EXAMINATION OF BOLTING MATERIAL
FOR H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2

REVISION 0

Effective Date 5/2/92

Expiration Date 11/1/92

RECOMMENDED BY: Steven Edwards for 5/1/92
Engineering Manager - Programs Date

APPROVED BY: M. T. Sage 5/2/92
Manager - Technical Support Date

CONTROLLED
RECIPIENT

ID 328

LIST OF EFFECTIVE PAGES

<u>EFFECTIVE PAGES</u>	<u>REVISION</u>
Cover Sheet	0
LEP	0
3 through 24	0

ULTRASONIC EXAMINATION

OF BOLTING MATERIAL

FOR

H. B. ROBINSON STEAM ELECTRIC PLANT

UNIT 2

CONTROLLED COPY

ONLY IF THIS STAMP IS BLANK

Project Application

2454

Copy No.

Assigned To

APPROVALS

TITLE / DEPT. - SIGNATURE - DATE

REV NO

PREPARED BY

Level III

Project Mgr.

General Mgr.

0

Art Pennanen

1

Ken Eison

Dele Muroch

W. J. Kacian
for R. P. 12/29/92

H. J. Mangano
for R. P. 12/29/92

2

3

4

5

6

7

10

11

1. PURPOSE

The purpose of this procedure is to define the qualification requirements, techniques, recording criteria and equipment for ultrasonic (UT) examination of bolting material.

2. SCOPE

This procedure is limited to manual examinations of ferritic and austenitic bolts or studs in all lengths greater than 2 inches in diameter. Threads may be of any size rolled or cut and the material may be plated or unplated provided the calibration block is of the same fabrication. The examination techniques described herein comply with Reference 3.1 and 3.2 which specify qualification requirements and techniques for detection of flaws in bolting materials. Details of specific bolt or stud configurations to which this procedure may be applied are identified in the applicable attached Appendix.



3. REFERENCES

- 3.1 ASME Boiler & Pressure Vessel Code, Section XI Appendix VI 1986 Edition.
- 3.2 80A9068 – NES Procedure for Certifying Nondestructive Examination Personnel.
- 3.3 80A9053 – NES Procedure for Ultrasonic Linearity Verification.
- 3.4 83A6091 – NES Procedure for PSI/ISI Examination Areas and Volumes.

4. PERSONNEL REQUIREMENTS

- 4.1 Personnel performing examinations to this procedure shall be certified in accordance with Reference 3.1 and 3.2 and shall demonstrate by a qualification test their ability to operate the examination system, collect data and interpret the examination results in accordance with this procedure. Requalification is required for any of the following conditions:
 - A. When an examiner has not performed the bolting examination technique for which he was originally qualified for 6 months.

- B. When there is specific reason to question the ability of the examiner to perform the bolting examination technique.
 - C. When recertification is required in accordance with Reference 3.2.
- 4.2 Examiners who fail the qualification test may be retested under the following conditions:
- A. When immediate retest is taken, examiners shall demonstrate their ability to detect and locate all test part reflectors without additional guidance.
 - B. When further training or practice has taken place, a complete repeat of the qualification test is required.
- 4.3 It is recommended that the examination crews comprise at least two members. At least one member of each examination crew shall have a minimum certification of UT Level II. Evaluations shall be conducted by an examiner with a minimum certification of UT Level II.
- 4.4 A copy of each examiner's certification summary and eye test shall be maintained on site.
- 4.5 A copy of each examiner's certification summary and current eye test shall be made available to the plant owner or his agent prior to performing examinations per this procedure.

5. EQUIPMENT AND MATERIAL REQUIREMENTS

5.1 ULTRASONIC INSTRUMENT

The ultrasonic instrument shall be:

- A. A pulse echo ultrasonic flaw ~~detection~~ instrument with the following requirements:
 - 1. A current acceptable linearity in accordance with Ref. 3.3
 - 2. Operates within the minimum frequency of 1.0 to 5.0 MHz
 - 3. Equipped with a stepped gain control calibrated in units of 2 dB or less.
- B. The applicable Appendix specifies the ultrasonic instrument(s) which are acceptable for use.





5.2 SEARCH UNITS

The search units shall be the same as used for the calibration/qualification. Search unit type, size and frequency shall be specified in the applicable Appendix.

5.3 CABLE

Examinations shall be conducted using cable(s) of the same type, length and number of connectors as that used during the calibration/qualification. See applicable Appendix.

5.4 COUPLANT

Ultragel – or couplant supplied by the plant owner and shall be the same type used for calibration/qualification.

5.5 CALIBRATION BLOCK(S)

- A. Calibration blocks shall be selected and provided by the plant owner and shall as a minimum, contain reflectors that meet the requirements of Reference 3.1 of this procedure.
- B. Other calibration standards, such as IIW blocks, used for calibrating the screen size, shall be fabricated from either Stainless or Carbon Steel. Selection for use shall depend upon the material to be examined.

5.6 QUALIFICATION SPECIMEN(S)

Qualification specimens will be provided by the Plant Owner.

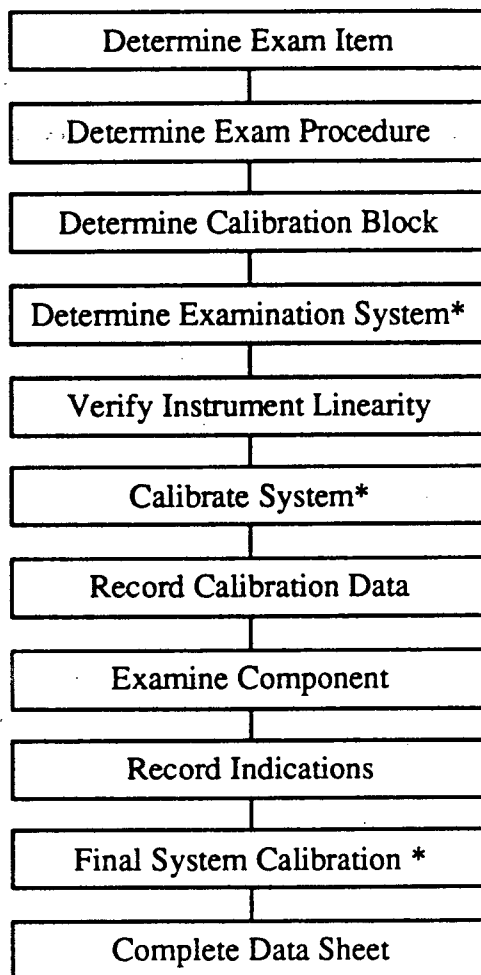




6. GENERAL PREREQUISITES

The following flow chart describes a typical examination sequence:

EXAMINATION SEQUENCE





*System = Instrument, Transducer, Wedges (where applicable) and Cable





- 6.1 The component to be examined shall be identified/determined by the Plant Owner.
- 6.2 Calibration Blocks shall be selected and provided by the Plant Owner.
- 6.3 The component shall be prepared for examination by the Plant Owner, e.g., the examination surface shall be free of foreign matter which may interfere with ultrasonic transmission.
- 6.4 Each component to be examined shall be identified by the Plant Owner.

NOTE: The examiner shall notify the NES Supervisor or other designated contact individual when surface preparation of scanning surfaces and component identification are not suitable for ultrasonic examination.


- 6.5 Previous examination data provided by the Plant Owner shall be reviewed by the examiner and the following items should be identified:
 - A. Obstructions
 - B. Recordable Indications
 - C. Previous examination technique
 - D. Whether bolting was installed or removed
 - E. Using the above data, the best examination technique to apply.
- 6.6 Examination technique (e.g., single end scanning, scanning from both ends) shall be as specified in the applicable Appendix. 
- 6.7 Linearity checks shall be performed in accordance with Reference 3.3 and shall be scheduled as follows:
 - A. Screen height, amplitude control and horizontal linearities shall be verified at the beginning and end of each outage or every three months (while in use), whichever is less.
 - B. Screen height and amplitude control linearities should be performed daily (when in use).
- 6.8 The calibration block surface temperature shall be within 25°F of the component to be examined. 




- 6.9 The "REJECT" control shall be in the "OFF" or "MIN" for linearity checks, calibration and examination.

7. CALIBRATION PROCEDURE

7.1 PREREQUISITES

- A. If the calibration block does not contain the reflectors required to perform the calibration techniques identified in this section, or is otherwise incorrect for the component to be examined, the Plant Owner shall be notified and the examination not performed.
- B. Calibration shall be performed from the end(s) in the calibration block in accordance with the examination technique identified in the Appendix. 
- C. The calibration shall be performed using the same search unit, and cables (length and number of connectors) that are used during the examination.
- D. Maximum response from the calibration reflector shall be obtained with the sound beam essentially perpendicular to the axis of and centered on the calibration reflector.

7.2 CALIBRATION

Calibration for specific examinations shall be performed in accordance with the applicable Appendix at the end of this procedure. 



8. EXAMINATION PROCEDURE

8.1 PREREQUISITES

NOTE: "SYSTEM" = Instrument, Search Unit and Cable.

8.1.1 System Calibration



Perform the complete ultrasonic examination system calibration, establishing the DAC curve, each day prior to use of the system for examination of those components for which the calibration is applicable, or at any time that any part of the system is changed.

8.1.2 System Calibration Check

- a. Verify the system calibration (instrument sensitivity, sweep range calibration) at the following intervals:
 1. At the start and finish of examinations for which the calibration applies.
 2. At intervals not to exceed 4 hours.
 3. With every change of examination personnel.
 4. With any change of batteries.
 5. If the examiner suspects any malfunction of the UT system.
- b. If any point on the DAC curve has decreased 20% or 2 dB in amplitude, all data sheets since the last calibration made and recorded and the affected component(s) reexamined.
- c. If any point of the DAC has increased more than 20% or 2dB in amplitude, recorded indications taken since the last valid calibration shall be reexamined with the correct calibration and their values changed on the data sheets. The reason for the changed values shall be noted on the Ultrasonic Calibration Data Sheet. No action is required where no recordable indications exist.

- d. If any point on the DAC curve has moved more than two minor screen division readings, correct the sweep range calibration and note the correction on the Ultrasonic Calibration Data Sheet. If recordable reflectors are noted on the data sheets, those data sheets shall be considered invalid. A new calibration shall be established and recorded and the affected component reexamined.


8.2 SCANNING

- A. Calibrate the system as described in the applicable Appendix. 
- B. Locate the component(s) to be examined by use of a sketch or drawing and verify the identification of adjacent components (e.g., valves, pumps, etc.)
- C. Verify that the surface finish on the component is similar to that of the calibration block used to calibrate the system and that the examination zone coverage will be to the extent identified in the pre-examination preparations.
- D. Scan the component from both ends if it is removed and the geometry permits, however the component shall be scanned from at least one end.
- E. Scanning shall be conducted at reference level + 6dB minimum. If excessive thread noise is encountered, the site supervisor shall be notified and may authorize performance of the examination at other than +6dB. Authorization shall be approved by a UT LIII.
- F. The entire accessible surface shall be scanned. Where more than one scan path is required to achieve coverage, the search unit shall be overlapped by 50% of a single element dimension.
- G. The rate of search unit movement shall be as specified in the applicable Appendix. 
- H. Record all indications as required by Section 9. If the component is free of recordable indications, this shall be noted on the Ultrasonic Examination Data Sheet (Exhibit 2).
- I. Record all obstructions or other conditions that interfere with the examination. Include sufficient information so that a determination/calculations subsequently can be made of the volume not covered, or which receive limited examination coverage.


- J. Remove couplant from the examination surface.

9. RECORDING

9.1 PREREQUISITES

- A. Indications shall be recorded at reference sensitivity.
- B. When using "Double DAC" examination, indications shall be recorded at the appropriate sensitivity pertaining to the specific DAC used at the time of the detection of the indication.
- C. Previously recorded geometry shall be verified at the previous recording level (% of DAC) and location. Indications need not be re-plotted, but shall be referenced on the new data sheet by previous data sheet number and date, or by attaching a copy of the previous data sheet to the new data package. 
- D. The determination that indications are of geometric or metallurgical origin shall be made by one or more of the following methods:
1. Plot and verify the indication as follows:
 - a. Record maximum amplitude as a percent of the DAC curve, sweep readings to the reflector, search unit locations and sound beam direction.
 - b. Plot location of the reflector at a representative position on a full scale cross section profile drawing, showing the source of the indication and all other relative geometric conditions.
 2. Use of other NDE Methods or techniques.
 3. Comparison with fabrication drawings.
 4. Review of fabricators NDE records.

9.2

- A. For PSI or for replaced components, indications, other than thread noise, with amplitudes 20% of DAC or greater, shall be recorded. 



B. For ISI (inservice inspection) where geometry has not been previously recorded (as referenced in 9.1.C), indications, other than thread noise, that have amplitudes 50% of DAC or greater shall be recorded.

C. For each geometric indication, other than thread noise, the Indication Report shall consist of a cross sectional plot showing OD profile and geometry in the indication area. On the plot indicate max. amplitude, the location of max. amplitude, depth to the indication, signal to noise ratio and any other pertinent information.

D. Method of Recording Geometric Indications:

Record the maximum amplitude, location, and extent of a geometric indication.

For example: Diameter change, 100% of DAC, 360°.



9.3 RECORDING CRITERIA FOR NON-GEOMETRIC INDICATIONS

A. Any indication suspected to be from a crack or any indication emanating from the thread noise with a signal to noise ratio equal to or greater than 2 to 1.

B. Indications which are determined to be non-service induced (e.g., fabrication induced flaws) and are not of geometrical or metallurgical origin shall be recorded if they meet or exceed 50% of DAC.

C. For each non-geometric indication, the Indication Report shall consist of a cross sectional plot showing the location of nongeometric reflectors. On the plot indicate maximum amplitude, search unit location at maximum amplitude, depth to the indication and any other pertinent information.

D. The examiner shall provide any additional information that will aid in dispositioning the indications.



9.4 ACCEPTANCE CRITERIA

Acceptance of indications shall be determined by the requirements of ASME Section XI, IWA-3000, or other referencing code sections as applicable.

10. EXAMINATION RECORDS

- 10.1 NES shall be responsible for submitting to the Plant Owner or his agent, a complete set of examination records.
- 10.2 Exhibits 1, 2 and 3 shall be used to record the examiners performance qualification test.
- A. The Exhibits shall be identified "Qualification Test".
 - B. The test part shall be identified on the Exhibits.
 - C. The Level III examiner who conducts the test shall identify any limitations or restrictions and sign the Exhibits.
 - D. Where appropriate, ANII approval shall be documented.
- 10.3 Exhibit 1 shall be completed by the examiners to the extent possible, at the time of calibration. Where the sheet cannot be completed at the time of calibration, the sheet shall be completed promptly after the last examination that uses that calibration.
- 10.4 Exhibits 2 and 3 shall be completed by the examiners as required.
- 10.5 The examiner(s) shall sign the completed data sheet, noting applicable NDE Certification Level(s).
- 10.6 NES record retention shall be limited to the time until the Final Report and/or the examination data is delivered to the Plant Owner or his agent.



11. ATTACHMENTS

- 11.1 Exhibit 1 – Ultrasonic Calibration Data Sheet
- 11.2 Exhibit 2 – Ultrasonic Examination Data Sheet
- 11.3 Exhibit 3 – Ultrasonic Indication Data Sheet for Bolting
- 11.4 Exhibit 4 – Procedure Qualification Sheet
- 11.5 Exhibit 5 – Personnel Performance Qualification Sheet



DATA SHEET NO. _____

PAGE _____ OF _____

ULTRASONIC CALIBRATION DATA SHEET

PROC. NO. _____

REV. _____

CHANGE NO. _____

INSTRUMENT

Model _____

Serial No. _____

Sweep Length _____ Delay _____

Range _____

Gain (coarse) _____ dB

Gain (fine) _____ dB

Reference Sensitivity _____ dB

Remarks: _____

SEARCH UNIT

Serial No. _____

Size _____

Frequency _____ MHz

Mode _____

Nom. Angle _____

Measured Angle _____

Cable Type _____

Cable Length _____

Remarks: _____

CALIBRATION BLOCK

No. _____

"T" _____ Dia. _____

Temperature _____ °F

Thermometer S/N _____

VERTICAL LINEARITY

AMPLITUDE % FSH

	HIGH	LOW		HIGH	LOW
1			6		
2			7		
3			8		
4			9		
5			10		

COUPLANT

Brand _____

Batch No. _____

CALIBRATION

0° ☐ Axial ☐ Circ. ☐

Metal Path ☐ Depth ☐

Each Major Screen Div. = _____

Remarks: _____

AMPL. CONTROL LINEARITY

INITIAL	dB	RESULT
80	-6	
80	-12	
40	+6	
20	+12	

DAC PLOT

CAL. CHECKS

CAL. CHECKS	TIME
INITIAL CAL.	
INTERMEDIATE	
INTERMEDIATE	
INTERMEDIATE	
FINAL CAL.	

REMARKS: _____

EXAMINERS 1 _____ LEVEL _____ DATE _____

2 _____ LEVEL _____ DATE _____

REVIEWERS 1 _____ LEVEL _____ DATE _____

2 _____ LEVEL _____ DATE _____

3 _____ LEVEL _____ DATE _____

NES 000 - REV. 1

DATA SHEET NO. _____		ULTRASONIC EXAMINATION DATA SHEET				COMPONENT/SYSTEM _____			
PAGE _____ OF _____						ISO/DWG. NO. _____ REV. _____			
EXAM ITEM <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>						THERMOMETER SN _____			
						COMPONENT TEMP. _____ ° F			

SCAN _____ °	EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
SCAN dB _____	YES	NO	YES	NO	YES	NO	ACC.	REJ.
0° 1 =								

REMARKS:

SCAN _____ °	EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
SCAN dB _____	YES	NO	YES	NO	YES	NO	ACC.	REJ.
0° 1 =								

REMARKS:

SCAN _____ °	EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
SCAN dB _____	YES	NO	YES	NO	YES	NO	ACC.	REJ.
0° 1 =								

REMARKS:

SCAN _____ °	EXAMINATION COMPLETE		GEOMETRIC INDICATIONS		RECORDABLE INDICATIONS		EVALUATION	
SCAN dB _____	YES	NO	YES	NO	YES	NO	ACC.	REJ.
0° 1 =								

REMARKS:

EXAMINERS:

1 _____ LEVEL _____ DATE _____

2 _____ LEVEL _____ DATE _____

REVIEWERS:

1 _____ LEVEL _____ DATE _____

2 _____ LEVEL _____ DATE _____

3 _____ LEVEL _____ DATE _____

NES 990 - REV. 1



NUCLEAR ENERGY SERVICES, INC.

ULTRASONIC EXAMINATION SHEET

EXHIBIT 2

ULTRASONIC INDICATION DATA SHEET FOR BOLTING

Procedure No.:

Revision:

Data Sheet No.:

Component ID

Nominal Diameter

In.

Length

In.

L₀ Location

From Edge

W₀ Location

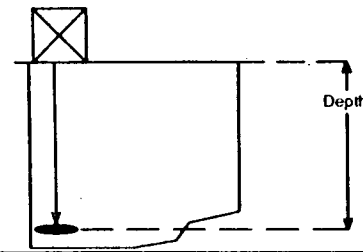
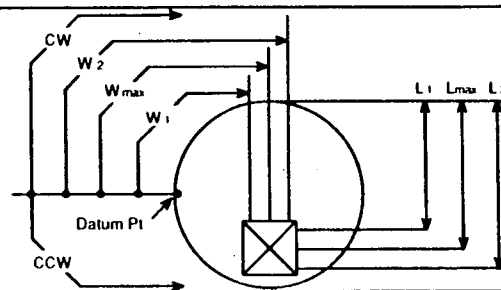
Clockwise From Datum

Angle

Scan Sensitivity

dB

Endpoints Recorded at _____ % of DAC



Ind No	% of DAC	W ₁	W _{max}	W ₂	L ₁	L _{max}	L ₂	Depth	Remarks

Component Sketch:

Examination Results: ☐ Geometric ☐ Flaw ☐ Other: _____

Examiner:	UT Level	Date	/	/	Examiner:	UT Level	Date	/	/
Reviewer:	UT Level	Date	/	/	Authorized Inspection Agency:		Date	/	/
Other:		Date	/	/			Page		of

NE S 4-92



NUCLEAR ENERGY SERVICES, INC.

EXHIBIT 3





NUCLEAR ENERGY SERVICES

DOCUMENT NO. 83A6083

PAGE 17 OF 18



NUCLEAR ENERGY SERVICES, INC.

PROCEDURE QUALIFICATION SHEET

Procedure No.	Revision	Field Change No.
Title:		
Personnel	U.T. Level/Date	
	Date: / /	
	Date: / /	
Calibration Block: _____		
Qualification Specimen: _____ (Attach as-built drawing)		
Scanning Speed: _____		
Calibration / Sensitivity: (Complete and attach UT Calibration Data Sheets)		
Qualification Results: (Complete and attach UT Data Sheet)		
Witness: _____ UT Level: _____ Date: / /		
Authorized Inspection Agency: (Optional) _____ Date: / /		

EXHIBIT 4





NUCLEAR ENERGY SERVICES

DOCUMENT NO. 83A6083

PAGE 18 OF 18



NUCLEAR ENERGY SERVICES, INC.

PERSONNEL PERFORMANCE QUALIFICATION SHEET

Procedure No.		Revision	Field Change No.
Title:			
Personnel		Certification Level	
		Date: / /	
		Date: / /	
Component ID: _____			
Test Results: Pass <input type="checkbox"/> Fail <input type="checkbox"/>			
Limitations/Restrictions: No <input type="checkbox"/> Yes <input type="checkbox"/> (See Below)			

Witness: _____ UT Level: _____ Date: / /			
Authorized Inspection Agency:(Optional) _____ Date: / /			

EXHIBIT 5



APPENDIX 1
QUALIFICATION DETAILS FOR
H.B. ROBINSON BIT MANWAY STUDS

**A. GENERAL**

- A.1 This appendix specifies the calibration sequence and additional examination details for the 13.5" long Boron Injection Tank (BIT) studs.
- A.2 The examination uses straight beam (0°), longitudinal wave, direct contact techniques. No wedges, shoes, rotating, revolving or scanning mechanisms are used.

B. EQUIPMENT**B.1 Ultrasonic Instrument**

Manufacturer: Krautkramer-Branson
Model: USK-7

B.2 Search Unit

Manufacturer: K-B Aerotech
Model: ALPHA
Size: 1/4" diameter
Frequency: 10 MHz

B.3 Coaxial Cable

Type: RG-174/U
Length: Equal to or less than 6 ft.
Number of Connectors: 1 microdot and 1 BNC

B.4 Calibration Block

See attached drawing.

C. CALIBRATION/EXAMINATION

- C.1 Using a block of known thickness and similar material, establish a 14 inch calibrated screen.

- C.2 Obtain a reflection from Notch "A" that represents half the length of the calibration stud. Maximize this response and set the amplitude to 50% FSH. Mark the amplitude on the CRT.
- C.3 Maximize the response from Notch "B" from the surface representing approximately 13" of metal path (MP). If the maximum response from this notch is not at least 20% FSH, then increase the sensitivity (gain) to set this signal to 20% FSH and mark its amplitude on the CRT.
- C.4 Connect the points on the CRT screen marked in C2 and C3 above. This is primary reference sensitivity.
- C.5 Check the response from notch "B" from the surface representing approximately .5" MP.

NOTE: The response from this notch at this metal path may be a pattern of multiples. Care should be taken during examination to accurately determine the depth of indications occurring near the front surface signal.

- C.6 Upon completion of calibration record the required instrument settings on the Calibration Data Sheet.
- C.7 Scanning speed shall not exceed 2" per second.

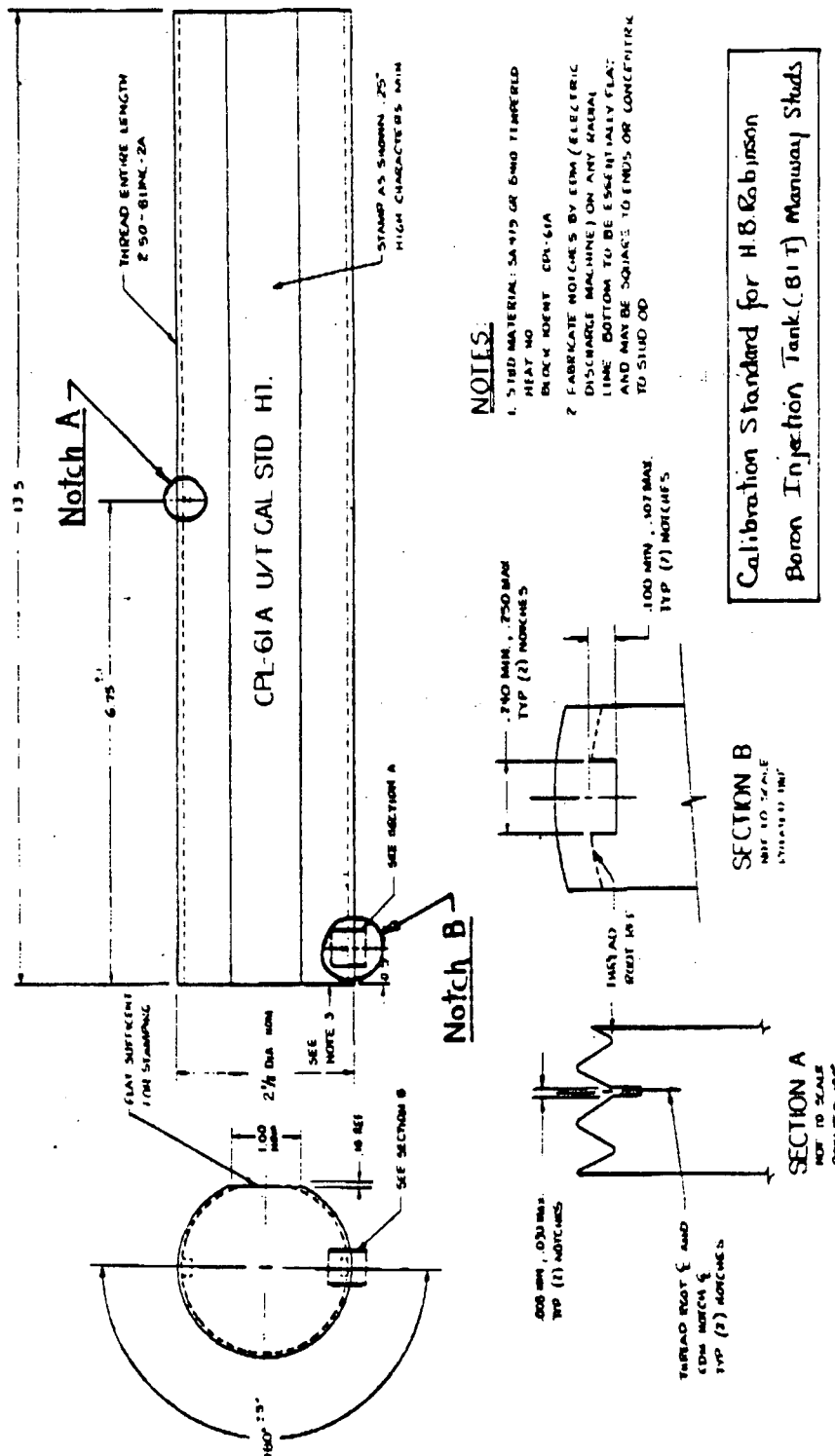


FIGURE 1

This special procedure will be sent to the vault in the 1992
90-Day Inservice Inspection Report.

REVISION 2

10CFR50.59 PROGRAM MANUAL
ATTACHMENT A
CP&L SAFETY REVIEW PACKAGE
SAFETY REVIEW COVER SHEET

Page 59

Page 1 of 8

DOCUMENT NO. SP-1139 REV. NO. 0

DESCRIPTION OF TITLE: Ultrasonic Examination of Bolting Material for HBR2

1. Assigned Responsibilities:

Safety Analysis Preparer:

Lead 1st Safety Reviewer:

2nd Safety Reviewer:

Richard B. Weber

Richard B. Weber

MILES L. RILEY

2. Safety Analysis Preparer: Complete PART I, SAFETY ANALYSIS

Safety Analysis Preparer

Richard B. Weber

SIGNATURE

4/30/92
DATE

3. Lead 1st Safety Reviewer: Complete Part II, Item Classification.

4. Lead 1st Safety Reviewer: Part III may be completed. If either question 1 or 2 is "yes," then Part IV is not required.

5. Lead 1st Safety Reviewer: Determine which DISCIPLINES are required for review of this item (including own) and mark the appropriate block(s) below.

DISCIPLINES Required:

(Print Name)

Signature/Date (Step 7)

☐ Nuclear Plant Operations

☐ Nuclear Engineering

☒ Mechanical

☐ Electrical

☐ Instrumentation & Control

☐ Structural

☐ Metallurgy

☐ Chemistry/Radiochemistry

☐ Health Physics

☐ Administrative Controls

Richard B. Weber

Richard B. Weber 4/30/92

6. A QUALIFIED SAFETY REVIEWER will be assigned for each DISCIPLINE marked in step 5 and his/her name printed in the space provided. Each person listed shall perform a SAFETY REVIEW and provide input into the Safety Review Package.

7. The Lead 1st Safety Reviewer will assure that a Part III or Part IV is completed (see step 4 above) and a Part VI if required (see 5.b of Part II). Each person listed in step 5 shall sign and date next to his/her name in step 5, indicating completion of a SAFETY REVIEW.

8. 2nd Safety Reviewer: Perform a SAFETY REVIEW in accordance with Section 8.0.

2nd Safety Reviewer

Miles L. Riley

Date 5-1-92

DISCIPLINE:

MECHANICAL

9. PNSC review required? If "yes" attach Part V and mark reason below:

Yes No
☐ ☒

☐ Potential UNREVIEWED SAFETY QUESTION

☐ Question 9 of Part IV answered "Yes"

☐ Other (specify):

REVISION 2

10CFR50.59 PROGRAM MANUAL
ATTACHMENT A
CP&L SAFETY REVIEW PACKAGE

Page 60

Page 2 of 8

PART I: SAFETY ANALYSIS
(See instructions in Section 8.4.1)
(Attach additional sheets as necessary)

DOCUMENT NO. 5P-1139 REV. NO. 0

DESCRIPTION OF CHANGE: New Procedure for ISI Examinations

ANALYSIS: This procedure is required to be performed on Safety Related Equipment in accordance with ASME Section XI 1986 Edition, UFSAR and Plant Tech. Specs. These exams are performed during refueling outages at Cold Shutdown thus there is no effect on plant equipment by use of this procedure. This procedure is intended to assure the integrity of bolting. Use of this procedure creates no unreviewed safety question and the margin of safety as defined in the bases for any technical Specification is not reduced due to implementation of this procedure

REFERENCES:

UFSAR Section 3.9.3 and 6.6
Tech. Spec. Section 4.0
ASME Section XI 1986 Edition

REVISION 2

10CFR50.59 PROGRAM MANUAL
ATTACHMENT A
CP&L SAFETY REVIEW PACKAGE

Page 61

Page 3 of 8

PART II: ITEM CLASSIFICATION

DOCUMENT NO. SP-1139

REV. NO. 0

- | | Yes | No |
|--|--------------------------|-------------------------------------|
| 1. Does this item represent: | | |
| a. A change to the facility as described in the SAFETY ANALYSIS REPORT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. A change to the procedures as described in the SAFETY ANALYSIS REPORT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. A test or experiment not described in the SAFETY ANALYSIS REPORT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Does this item involve a change to the individual plant Operating License or to its Technical Specifications? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Does this item require a revision to the FSAR? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Does this item involve a change to the Offsite Dose Calculation Manual? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Does this item constitute a change to the Process Control Program? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Does this item involve a major change to a Radwaste Treatment System? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Does this item involve a change to the Technical Specification Equipment List? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Does this item impact the NPDES Permit (all 3 sites) or constitute an "unreviewed environmental question" (SHNPP Environmental Plan, Section 3.1) or a "significant environmental impact" (BSEP)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Does this item involve a change to a previously accepted: | | |
| a. Quality Assurance Program | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Security Plan (including Training, Qualification, and Contingency Plans)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Emergency Plan? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Independent Spent Fuel Storage Installation license? (If "yes," refer to Section 8.4.2, "Question 9," for special considerations. Complete Part VI in accordance with Section 8.4.6) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SEE SECTION 8.4.2 FOR INSTRUCTIONS FOR EACH "YES" ANSWER.

REFERENCES. List FSAR and Technical Specification references used to answer questions 1-9 above. Identify specific reference sections used for any "Yes" answer.

UFSA R Section 3.9.3 and 6.6
Tech. Spec. Reference 4.0

REVISION 2

10CFR50.59 PROGRAM MANUAL
ATTACHMENT A
CP&L SAFETY REVIEW PACKAGE

Page 62

Page 4 of 8

PART III: UNREVIEWED SAFETY QUESTION DETERMINATION SCREEN

DOCUMENT NO. SP-1139

REV. NO. 0

Yes No

1. Is this change fully addressed by another completed UNREVIEWED SAFETY QUESTION determination? (See Sections 7.2.1, 7.2.2.5, and 7.9.1.1)

☐ ☒

REFERENCE DOCUMENT: N/A

REV. N/A

Yes No

2. For procedures, is the change a non-intent change which only (check all that apply): (See Section 7.2.2.3)

☐ ☒

- ☐ Corrects typographical errors which do not alter the meaning or intent of the procedure; or,
- ☐ Adds or revises steps for clarification (provided they are consistent with the original purpose or applicability of the procedure); or,
- ☐ Changes the title of an organizational position; or,
- ☐ Changes names, addresses, or telephone numbers of persons; or,
- ☐ Changes the designation of an item of equipment where the equipment is the same as the original equipment or is an authorized replacement; or,
- ☐ Changes a specified tool or instrument to an equivalent substitute; or,
- ☐ Changes the format of a procedure without altering the meaning, intent, or content; or
- ☐ Deletes a part or all of a procedure, the deleted portions of which are wholly covered by approved plant procedures?

If the answer to either Question 1 or Question 2 in PART III is "Yes," then PART IV need not be completed.

REVISION 2

10CFR50.59 PROGRAM MANUAL
ATTACHMENT A
CP&L SAFETY REVIEW PACKAGE

Page 63

Page 5 of 8

PART IV: UNREVIEWED SAFETY QUESTION DETERMINATION

DOCUMENT NO. SP-1139

REV. NO. 0

Using the SAFETY ANALYSIS developed for the change, test or experiment, as well as other required references (LICENSING BASIS DOCUMENTATION, Design Drawings, Design Basis Documents, codes, etc.), the preparer of the Unreviewed Safety Question Determination must directly answer each of the following seven questions and make a determination of whether an UNREVIEWED SAFETY QUESTION exists.

A WRITTEN BASIS IS REQUIRED FOR EACH ANSWER

- | | Yes | No |
|---|--------------------------|-------------------------------------|
| 1. May the proposed activity increase the probability of occurrence of an accident evaluated previously in the SAFETY ANALYSIS REPORT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <u>This procedure use does not increase the probability of occurrence of an accident since it is performed during cold shutdown condition.</u> | | |
| 2. May the proposed activity increase the consequences of an accident evaluated previously in the SAFETY ANALYSIS REPORT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <u>This activity does not increase the consequences of an accident since it is performed at cold shutdown.</u> | | |
| 3. May the proposed activity increase the probability of occurrence of a malfunction of equipment important to safety evaluated previously in the SAFETY ANALYSIS REPORT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <u>The occurrence of a malfunctioning of equipment is not credible since this activity is performed during cold shutdown.</u> | | |
| 4. May the proposed activity increase the consequence of a malfunction of equipment important to safety evaluated previously in the SAFETY ANALYSIS REPORT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <u>The procedure is performed during cold shutdown.</u> | | |
| 5. May the proposed activity create the possibility of an accident of a different type than any evaluated previously in the SAFETY ANALYSIS REPORT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <u>The possibility of an accident of a different type is not credible due to cold shutdown conditions.</u> | | |

REVISION 2

10CFR50.59 PROGRAM MANUAL
ATTACHMENT A
CP&L SAFETY REVIEW PACKAGE
PART IV: (Continued)

Page 64

Page 6 of 8

Yes No

6. May the proposed activity create the possibility of a malfunction of equipment important to safety of a different type than any evaluated previously in the SAFETY ANALYSIS REPORT?

☐ ☒

Same as Items 1 thru 5 above

7. Does the proposed activity reduce the margin of safety as defined in the basis of any Technical Specification?

☐ ☒

The margin of safety as defined in the basis for any tech spec is not reduced due to use of this procedure. This exam is required to be performed per tech. Specs.

8. Based on the answers to questions 1 - 7, does this item result in an UNREVIEWED SAFETY QUESTION? If the answer to any of the questions 1-7 is "Yes", then the item is considered to constitute an UNREVIEWED SAFETY QUESTION.

☐ ☒

9. Is PNSC review required for any of the following reasons?

☐ ☒

If, in answering question 1 or 3 "No," it was determined that the probability increase was small relative to the uncertainties; or, in answering question 2 or 4 "No," it was determined that the doses increased, but the dose was still less than the NRC ACCEPTANCE LIMIT; or, in answering question 7 "No," a parameter would be closer to the NRC ACCEPTANCE LIMIT, but the end result was still within the NRC ACCEPTANCE LIMIT; then PNSC review is required.

REFERENCES:

UFSA R Section 3.9.3 and 6.6
Tech. Spec. Section 4.0
ASME Section XI 1986 Edition

This Unreviewed Safety Question Determination is for the following DISCIPLINE(s):
(Additional Part IV forms may be included as appropriate.)

- ☐ Nuclear Plant Operations
☐ Nuclear Engineering
☒ Mechanical
☐ Electrical
☐ Instrumentation & Control

- ☐ Structural
☐ Metallurgy
☐ Chemistry/Radiochemistry
☐ Health Physics
☐ Administrative Controls

REVISION 2

10CFR50.59 PROGRAM MANUAL
ATTACHMENT A
CP&L SAFETY REVIEW PACKAGE

Page 65

Page 7 of 8

PART V: PNSC REVIEW

DOCUMENT NO. 5P-1139

REV. NO. 0

Determination/Evaluation:

Action Taken:

N/A

Basis:

~~D~~NSC Chairman: _____

Date: _____

REVISION 2

10CFR50.59 PROGRAM MANUAL
ATTACHMENT A
CP&L SAFETY REVIEW PACKAGE

Page 66

Page 8 of 8

PART VI: ISFSI CHANGES (10CFR72.48)

DOCUMENT NO. SP-1139

REV. NO. 0

- | | Yes | No |
|--|--------------------------|--------------------------|
| 1. Does this item represent: | | |
| a. A change to the Independent Spent Fuel Storage Facility (ISFSI) as described in the ISFSI Safety Analysis Report? | <input type="checkbox"/> | <input type="checkbox"/> |
| b. A change to the procedures as described in the ISFSI Safety Analysis Report? | <input type="checkbox"/> | <input type="checkbox"/> |
| c. A test or experiment not described in the ISFSI Safety Analysis Report? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Does this item involve a change to the license conditions incorporated in the ISFSI Operating License? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Does this item result in a significant increase in occupational exposure? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Does this item result in a significant unreviewed environmental impact? | <input type="checkbox"/> | <input type="checkbox"/> |

SEE SECTION 8.4.6 FOR INSTRUCTIONS FOR EACH "YES" ANSWER.

REFERENCES. List ISFSI SAR and Technical Specification references used to answer questions 1 and 2 above. Identify specific reference sections used for any "Yes" answer.

(EXHIBIT A)
THERMOMETER CHECK RECORD

USE FOR CONTROL THERMOMETER(S)
CONTROL THERMOMETER DATA

SERIAL NUMBER	LOW°	HIGH°	ACCEPTANCE CRITERIA	ACCEPT	REJECT
1.		N	Differential of 2% between #1 and #2 high & low readings		
2.		A			

USE FOR FIELD THERMOMETERS

Check Readings
at $\geq 50^{\circ} \Delta$

	CHECK DATE	VOID DATE	LOW°	HIGH°	SERIAL NO.	ACCEPT/REJECT
CONTROL	2/25/92	2/25/93	32°	134°	80682	
FIELD	3/16/92	6/16/92	33°	132°	JL 91-01	ACC
	3/16/92	6/16/92	32°	129°	JL 91-07	ACC
	3/16/92	6/16/92	34°	129°	JL 91-10	ACC
	3/16/92	6/16/92	33°	131°	JL 91-14	ACC

INSTRUCTIONS:

- 1) Place Control Thermometer in a can of water.
- 2) Place Field Thermometer(s) on side of the can.
- 3) Wait a minimum of ten minutes, then record low readings.
- 4) Warm the water in the can at least 50° higher than the temperature of the reading in (3).
- 5) Wait a minimum of ten minutes, then record high readings.

NOTE: ENSURE THAT THE WATER TEMPERATURE DOES NOT DROP BELOW THE DIFFERENTIAL MINIMUM OF 50°F .

- 6) The temperature readings of the Field Thermometers must be within 5% of the Control Thermometers or 5°F , whichever is greater.
- 7) Retain a copy of this form for your records, mail a copy to the equipment technician for filing at the Home Office.

TEST CONDUCTED BY:

Kenneth Buren
SIGNATURE

3-16-92
DATE

MAGNAFLUX

M-1/4.C.

Date: 5/3/89

TO:

Purchase Order No. 560376M-CL

We hereby certify that the Magnetic Particle Inspection Material type

No. 8A Red Powder, Batch No. 89D040

meets the requirements of the following specifications:

- A. ASME Boiler and Pressure Vessel Code, Section V, 1986 Edition, Nondestructive Examination, Paragraphs T-723, T-726(A) and Article 25 as applicable.
- B. ASTM E 709-80, Paragraphs 6.1, 6.2, and 6.3.
- C. NAVSEA 250-1500-1, Rev. 10 June 1979 and Rev. 11, May 1983, Paragraph 12.4.1.6.
- D. MIL-STD-1949, 1 August 1985 Paragraphs 4.10.1 and 4.10.1.1.
- E. MIL-STD-271F(SH), 27 June 1986, Paragraphs 4.2.7, 4.3.2.3, and 4.3.3.1.
- F. MIL-STD-2132A(SH), 15 March 1985, Paragraph 6.2.1.3.

We further certify that this material does not contain mercury as a basic element and no mercury bearing equipment was used in its manufacture.

Batch numbers appear on labels of bulk containers.

MAGNAFLUX CORPORATION

Cheri A. Zeleznik

M. Plamoottil - Manager, Quality Assurance
Cheri A. Zeleznik---Project Manager

Form No. 1565A R-1/89

CP&L CO.
RUN DATE 06/21/91
RUN TIME 17.25.27
MSDS CODE 3580
7241

CAROLINA POWER & LIGHT COMPANY
MATERIAL SAFETY DATA SHEET

PAGE 1
CNTL DATE 06/21/91
RPT P6098-01
UPDATED 10/02/86

#8A RED MAGNAFLUX POWDER

ALTERNATE NAMES

IRON POWDER

MANUFACTURER

MAGNAFLUX CORP
7200 W LAWRENCE AVE
CHICAGO
IL 60656 (312) 867-8000

CHEMICAL 1. FIELD TESTING AGENT
TYPE 2.
3.

OCCUPATIONAL HEALTH

HEALTH 1. EYE IRRITANT
HAZARD 3.

2. NUISANCE DUST
4.

SYMPTOMS 1. EYE IRR ON CONTACT 2.
4. 5.
7. 8.

3.
6.
9.

FIRST AID

EYES: FLUSH WITH WATER FOR 15 MIN. INHALATION: MOVE THE PERSON TO FRESH AIR
INGESTION: DRINK LARGE AMOUNTS OF WATER SKIN: WASH SKIN WITH SOAP AND WATER

ROUTE OF ENTRY
1. THROUGH EYES
2.
3.
4.

AGGRAVATED MEDICAL CONDITION
1. NONE FOUND
2.
3.
4.

FIRE AND PHYSICAL CHARACTERISTICS

PHYSICAL STATE SOLID

FIRE FIGHTING PROCEDURES

MIXTURE FLASHPOINT NONE
MIXTURE LEL NONE
MIXTURE UEL NONE

1. NOT FLAMMABLE

FIRE EXTINGUISHER WATER FIRE EXT.

2.
3.

CP&L CO.
RUN DATE 06/21/91
RUN TIME 17.25.27

CAROLINA POWER & LIGHT COMPANY
MATERIAL SAFETY DATA SHEET

PAGE 2
CNTL DATE 06/21/91
RPT P6098-01

#8A RED MAGNAFLUX POWDER

CODE 7241

PERSONAL PROTECTIVE EQUIPMENT

- EYES: 1. SAFETY GLASSES FOR ANY USE 2.
3.
- CLOTHING: 1. NORMAL WORK CLOTHING 2.
3.
- RESPIRATORY 1. RESPIRATOR NOT NECESSARY UNDER 2. NIOSH APP DISPOSABLE DUST MASK
NORMAL USE CONDITIONS FOR COMFORT. SUPPLIED AIR/SCBA
FOR HIGH EXPOSURE/CONF. SPACES
3.
- HANDS/SKIN: 1. NOT NECESSARY UNDER NORMAL USE 2.
3.

ENVIRONMENTAL & LABELING DATA

SPILL & LEAK PROCEDURES

1. WET WHILE HANDLING OR VACUUM.

2. SCOOP OR SHOVEL INTO CONTAINER

3.

WASTE HANDLING GUIDELINES

1. MAY BE HANDLED AS UNREGULATED
WASTE. DISPOSE OF USING NORMAL
TRASH/GARBAGE CONTRACTOR.

2.

3.

CONTAINER LABELING

1. SKIN AND/OR EYE IRRITANT

2. SKIN AND/OR EYE IRRITANT

3. NO RESPIRATOR DURING NORMAL
USE

4. GOGGLES

HANDLING GUIDELINES

INCOMPATIBLE WITH ACIDS. KEEP DRY.

CP&L CO.
RUN DATE 06/21/91
RUN TIME 17.25.27

CAROLINA POWER & LIGHT COMPANY
MATERIAL SAFETY DATA SHEET

PAGE 3
CNTL DATE 06/21/91
RPT P6098-01

#8A RED MAGNAFLUX POWDER

FAC CODE 7241

CONSTITUENT CHEMICAL INFORMATION

CAS NUMBER: 1309371
% IN MIXTURE: 10.00

CHEMICAL NAME & SYNONYMS

IRON OXIDE

FE2 O3

PEL: 10 MG / CU M

RUST

TLV: 5 MG / CU M

FERRIC OXIDE / FERROUS OXIDE

HEALTH HAZARD

1. BENIGN PNEUMOCONIOSIS

2.

3.

4.

PHYSICAL HAZARD

1. NON-FLAMMABLE

2.

3.

4.

CARCINOGENICITY

NO EVIDENCE OF CARCINOGENICITY

REACTIVITY

STABLE MATERIAL

FLASHPOINT: NON-FLAMMABLE

LEL: NON-FLAMMABLE

UEL: NON-FLAMMABLE

BOILING POINT: UNDETERMINED

VAPOR DENSITY: NO VAPOR STATE

VAPOR PRESSURE NO VAPOR STATE

RCRA CLASSIFICATION: NON-HAZARDOUS UNDER RCRA

* LAST PAGE OF MSDS *

NUCLEAR



U.S. United States Steel Corporation
STANDARD SWORN TEST REPORT
TUBULAR PRODUCTS

ELLWOOD, WORKS
ALLURGICAL DEPT.

DATE 4/2/71

CUSTOMER	CAPITOL PIPE & STEEL PRODUCTS INC	CUSTOMER'S ORDER NUMBER	59146 0011	INVOICE NO.	42312	U. S. STEEL ORDER NO.	KC 27420
ADDRESS	PO BOX 471	MATERIAL	SMLS STAINLESS PRESSURE PIPE			GRADE	* SEE BELOW
CITY STATE	BALA CYNWYD, PA. 19004	HEAT TREATMENT				SIZES	3.500"OD X .300"AW
SPECIFICATION OF PRODUCT DESCRIPTION			*ASTM A 312 AND ASME SA 312 - TP 304 & AS NOTED ON ORDER			3"sch 80	

[illegible]

STATE OF PENNSYLVANIA

COUNTY OF LAWRENCE

Subscribed and sworn to before me this

2ND day of APRIL

Michael H. Smith NOTARY PUBLIC

My Commission expires

M E SCHLENNER

M E SCHLEMMER, being duly sworn according to law, deposes and says that the figures set forth above are correct, as contained in the records of the company.

M. E. Schlemmer
(SIGNATURE OF EXPOSITOR)

W. A. F. [Signature]
(DEPARTMENT HEAD)

U.S. PAT. NO. 3549,900 RP
01 893 0743

NUCLEAR



United States Steel Corporation

ELLWOOD

WORKS

METALLURGICAL DEPT.

STANDARD SWORN TEST REPORT
TUBULAR PRODUCTS

DATE 2/20/70

CUSTOMER PITOL PIPE & STEEL PRODUCTS INC		CUSTOMER'S ORDER NUMBER 46964 00	INVOICE NO. 48483	U.S. STEEL ORDER NO. KB 06810
ADDRESS PO BOX 471		MATERIAL HF CLASS. SMLS STAINLESS PRESSURE PIPE		GRADE * SEE BELOW
CITY STATE BALA CYNWYD, PA. 19004		HEAT TREATMENT		SIZES 4.500"OD X .337"AW - 19 PCS
SPECIFICATION OR PRODUCT DESCRIPTION * ASTM A 312 - TP 304 - & AS NOTED ON ORDER				

HEAT NUMBER 2 B	CODE, ITEM OR LOT	CHEMICAL ANALYSIS (%)										HYDRO. TEST PRESSURE P.S.I.	MECHANICAL PROPERTIES				OTHER DATA	
		C	MN	P	S	SI	NI	CR	MO				YIELD STRENGTH POINT P.S.I.	ULTIMATE STRENGTH P.S.I.	ELONG. IN %	RED. OF A. OR HARDNESS		
P3555		.053	1.67	.028	.012	.50	10.48	18.58				2625	49170	84490	62.0			
P3564		.058	1.73	.030	.023	.47	10.41	18.67				"	48260	84380	61.0			
		THE FLATTENING TESTS WERE SATISFACTORY																
		THE MATERIAL COVERED BY THIS DOCUMENT WAS HEAT TREATED BY HEATING IN A CONTINUOUS TYPE																
		OF FURNACE CONTROLLED AT 2000 F. MINIMUM AND COOLING RAPIDLY BY MEANS OF A WATER SPRAY																
		CURTAIN POSITIONED AT EXIT OF FURNACE																
		CORRECTED COPY OF TEST REPORT DATED 12/12/69																

STATE OF PENNSYLVANIA

COUNTY OF LAWRENCE

subscribed and sworn to before me this

20TH

day of FEBRUARY

19 70

Robert C. Skewis

NOTARY PUBLIC

Commission expires

M E SCHLEMMER

being duly sworn
according to law, deposes and says that the figures set
forth above are correct, as contained in the records of
the company.

M E Schlemmer
(SIGNATURE OF DEPOSITOR)

W A Frang
(DEPARTMENT HEAD)

B-58

MAR 18 '92 02:34PM FAX#4
MAR 18 '92 14:07 ECHO ULTRASOUND

APPLIED TECHNICAL SERVICES, INCORPORATED

Branch Office
1318 Donahue Road
Circleville, South Carolina 29605
(803) 290-0525
FAX # (803) 277-2624

Main Office
1190 Atlanta Industrial Drive
Marietta, Georgia 30066
(404) 423-1400
Fax # (404) 424-6413

Branch Office
108-A Castle Drive
Madison, Alabama 35744
(205) 837-7777
Fax # (205) 830-4474

CERTIFIED TEST REPORT

REF C2-4561

DATE January 29, 1992

PAGE 1 OF 1

CHEMICAL ANALYSIS

CUSTOMER:

Echo Ultrasound, P. O. Box 118, Reedsville, Pennsylvania 17084-9772

Attention: Scott Walters

ORDER NO:

41117 SJK

PART NO/NAME:

Ultragal IX (Batch #092041)

MATERIAL DESIGNATION:

Ultrasonic Couplant

ORIGINAL

SPECIAL REQUIREMENT:

N/A

LAB COMMENT:

Analyzed by (ICP) atomic emission and wet chemical techniques.

TEST RESULTS

COMPOSITION Parts Per Million

IDENTIFICATION	S	Cl																		
ALLOY OR SPEC. REQ. (1)	(1)	(2)																		
(Batch #092041)	4	16																		
Analysis Guidelines																				
ASTM-D129-64																				
ASTM-D808-81																				
ASTM-D512-81																				
*** LAST ITEM ***																				

Robert D. DuBois
Robert D. DuBois
My Commission Expires Jan. 20, 1995

- (1) ASTM D129/ICP-AE (Total Sulfur)
- (2) ASTM D808/D512 Hg(NO₃)₂ Method (Total Chlorine)

Prepared by *[Signature]*
Approved by *[Signature]*
W. M. Katter
Chemist
F. E. Rogers
Manager
APPLIED TECHNICAL SERVICES, INC.

B/N 91M01P

DATE: December 26, 1991

PURCHASE ORDER NO. 6M4730AV

SUBJECT: Spotcheck Cleaner/Remover

TYPE: SKC-NF

BATCH No. 91M01P

We hereby certify that when tested at the time of manufacture, the above material:

1. Meets the requirements of and has been tested for sulfur and halogens according to:

- (a) ASME Boiler and Pressure Vessel Code, 1983 Edition, Section V, Nondestructive Examination, including all Addenda through Winter 1983 Addendum, Paragraph T-625 and Article 24 as applicable.
- (b) ASME Boiler and Pressure Vessel Code, 1986 Edition, Section V, Nondestructive Examination, Paragraph T-625 and Article 24 as applicable.
- (c) ASME Boiler and Pressure Vessel Code, 1989 Edition, Section V, Nondestructive Examination, Paragraph T-625 and Article 24 as applicable.
- (d) ASTM E-165-80, Paragraph 7.1.
- (e) NAVSEA 250-1500-1 (Rev. 10 June 1979, Rev. 11 May 1983, Rev. 12 December 1987) Paragraphs 12.5.1.1 and 12.5.1.1.1.
- (f) MIL-STD-271F(SH), 27 June 1986, Paragraphs 5.3 and 5.3.1.
- (g) MIL-STD-2132A(SH), 15 March 1985, Paragraphs 7.1.1, 7.1.2, and 7.1.3 and Appendix C, Paragraph 30.

The following test results were obtained:

Sulfur: NA wt. % of residue. Halogen: NA wt. % of residue

Cleaner residue (see Note 3) 0.0014 g/100g. 0.0018 g/100 ml.

2. We further certify that this material does not contain mercury as a basic element, and no mercury bearing equipment was used in its manufacture.

MAGNAFLUX®


M. Plamoottil - Manager, Quality Assurance

- NOTES: 1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
2. Most specifications require test results stated in percent but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
3. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

MAGNAFLUX®

MAGNAFLUX® MATERIAL SAFETY DATA SHEET

PRODUCT: SKC-NF CLEANER/REMOVER
(Formerly SKC-NF/ZC-7B)

IDENTIFICATION

1. ADDRESS: 7300 West Lawrence Avenue, Chicago, Illinois 60656
TELEPHONE: (708) 867-8000. (24 Hour Emergency Number - CHEMTREC - 1-800-424-9300)
PACKAGES: 1 gallon can, 5 gallon pail, 20 and 55 gallon drums, 12 oz. aerosol
CHEMICAL FAMILY: Chlorinated Alkane
HMIS RATING: Health 2, flammability 0, Reactivity 1

HAZARDOUS INGREDIENTS

2. 1,1,1-Trichloroethane (Methyl chloroform), CAS #71-55-6, OSHA PEL: 350 ppm, Conc. 96% B
Carbon dioxide (aerosol only), CAS #124-38-9, OSHA PEL: 5000 ppm, Conc. 5%
Methylal, CAS #109-87-5, OSHA PEL 1000 ppm, about 1%
2-Methyl, 2-propanol, CAS #75-65-0, OSHA PEL 100 ppm, about 1%
1,1,1 - Trichloroethane is subject to the reporting requirements of Section 313
of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part
Contains no other ingredient suspected of being hazardous according to information source
29 CFR 1910.1200, OSHA Hazard Communication Rule.

HEALTH HAZARD

3. THRESHOLD LIMIT VALUE: 350 ppm

ROUTES OF ENTRY, EFFECTS OF OVEREXPOSURE

Inhalation: Dizziness, drowsiness, nausea. Unconsciousness at high exposure
Skin Contact: Irritates by dissolving skin oils. Not absorbed through skin in s
amounts
Eye Contact: Irritating due to strong solvent action
Ingestion: Low single dose toxicity in test animals

CARCINOGENICITY: Contains no known carcinogens listed with OSHA, the IARC (Internat
for Research on Cancer Monographs or the NTP (National Toxicology
Annual Report on Carcinogens.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY EXPOSURE TO PRODUCT: None

FIRST AID

4. INHALATION: Remove to fresh air. If not breathing, call emergency vehicle immediately.
Give mouth-to-mouth resuscitation. If breathing is difficult, give
SKIN CONTACT: Wash off in flowing water or shower. Remove contaminated clothes and
before re-use. Use soothing lotion.
EYE CONTACT: Lift upper eyelid, depress lower eyelid, and flush eye with a steady
flow of water. Roll eyeball in all directions while flushing.
INGESTION: Do not induce vomiting; if vomit is inhaled, it may cause asphyxiation.
physician immediately.

IMPORTANT:

POISON CONTROL CENTER NUMBER

In all severe cases, contact physician immediately. Local telephone
are able to furnish number of Regional Poison Control Center to assist
physician.

FIRE HAZARD

PRIMARY HAZARD: Can be a major contributing factor to a fire in progress, see stability below.
SPECIAL FIRE FIGHTING PROCEDURE: Keep containers cool with water spray.
FLASH POINT: None
FLAMMABLE LIMITS IN AIR: 10 - 15%, using intense ignition sources.
EXTINGUISHING MEDIA: None
UNUSUAL FIRE HAZARDS: Aerosol cans may burst at temperatures over 130°F. Vapors partially decompose to toxic gases when exposed to flame, arcs, or red hot surfaces.

REACTIVITY HAZARDS

6. **STABILITY:** Partially decomposes in flame, arcs, near red hot surfaces.
INCOMPATIBILITY: Powdered zinc and aluminum
HAZARDOUS DECOMPOSITION PRODUCTS: Phosgene, hydrochloric acid. Phosgene CAS #75-44-5 is extremely toxic, TLV 0.1 ppm and cannot be reliably detected by odor. Hydrochloric acid CAS #7647-01-0 is almost as toxic, TLV 5 ppm, and is detectable and even irritating at this concentration.

SAFE HANDLING PROCEDURES

7. **GENERAL:** Do not breathe vapors. Exposures above the TLV can result in clumsiness and poor judgment, with resulting danger to the victim and those around him. Much like ingesting too much alcohol. If victim is unconscious, death is possible, due to either suffocation (lack of oxygen), or cardiac arrest. For avoidance see next two sections.

Avoid frequent or prolonged exposure to skin as the solvent can irritate skin.
Do not use around flame, arcs, red hot surfaces or lighted smoking materials, so as to avoid exposure to phosgene and hydrochloric acid.

Do not heat aerosol cans above 130°F to eliminate the possibility of their bursting and releasing unwanted vapors.

Store away from heat sources to minimize the danger from exposure to fires.
Store pallets of aerosol cartons as Level 1 Aerosol (NFPA 30B).

PERSONAL PROTECTIVE EQUIPMENT:

In poorly ventilated areas such as small rooms with no windows, or in sumps or other low areas (SKC-NF vapors are dense and sink to low spots) the user should wear a respirator with chemical cartridge

In confined, unventilated spaces, such as the inside of tanks or small compartments, the inspector should wear a full mask with separate air supply

If hand exposure to SKC-NF is unavoidable, wear nitrile rubber gloves, to avoid skin contact.

Wear full goggles if the application of SKC-NF includes splashing or the possibility of spraying into the eyes. Be sure the goggles are clean and not apt to degrade the inspection procedure.

CONTROLS: SKC-NF vapors cannot be allowed to collect. It is preferred to use SKC-NF either in a spray booth or next to an exhaust vent. Remember that the vapors tend to settle to the floor.

General ventilation must be sufficient to keep the concentration below 350 ppm. Almost all of the SKC-NF that is used will evaporate into the surrounding air. Base ventilation rate on consumption.

8.

DISPOSAL

SPILLS AND LEAKS: Less than 1 Quart - Wipe up, following guidelines above in "Safe Handling Procedure".

One quart or more - EVACUATE AREA. Ensure that clean up crew wears all personal safety wear as presented in "Safe Handling Procedure". The nose is NOT a reliable gauge of air contamination.

WASTE DISPOSAL: Dispose of as EPA hazardous waste #F002.
May be sent to solvent reclaimer. Ensure that aerosol cans are empty and depressurized before discarding, unless a waste treatment facility is approved to accept the as is.

9.

PHYSICAL PROPERTIES

BOILING POINT:	162°F	VAPOR PRESSURE:	230 mm at 100°F
PERCENT VOLATILE:	100%	VAPOR DENSITY:	6
DENSITY:	1.3	EVAPORATION RATE:	3 times faster than ethyl alcohol
WATER SOLUBILITY:	Negligible	APPEARANCE:	Clear, colorless, mobile liquid
pH:	Neutral		
WARNING PROPERTIES: Odor can be detected at 100 ppm, but is not strong enough to cause discomfort at 1000 ppm.			

10.

DOT SHIPPING

SHIPPING NAME: For Bulk - 1-1-1, TRICHLOROETHANE, (METHYL CHLOROFORM)
For Aerosol - Consumer commodity.

MARKING: For Bulk - None
For Aerosol - None.

HAZARD CLASS: For Bulk - CRM-A
For Aerosol - CRM-D.

IDENTIFICATION: For Bulk - UN2331
For Aerosol - None.

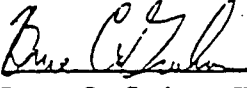
11.

CERTIFIED

SKC-NF is composed entirely of materials listed in the TOSCA Inventory of Chemical Substances.

DATE: January 1, 1991.
Supercedes MSDS dated May 1, 1990.

SIGNED:


Bruce C. Graham, Chief Chemist
MAGNAFLUX®

12. SPECIAL NOTE: SKC-NF should not be used in a vapor degreaser.

RECEIPT INSPECTION REPORT			PERF: <u>927</u>	Rev. <u>1</u>	Page <u>1</u> of <u>1</u>															
No: <u>836801</u> Procurement <input checked="" type="checkbox"/> NG <input type="checkbox"/> CG PO: <u>6M4730</u> Class <input type="checkbox"/> AQ <input type="checkbox"/> Other			Criteria <u>N/A</u> Vendor Code <u>A</u>																	
Item	Qty	Description/CP&L P/N <u>714.863-44</u>	S	S	D	N	E	G	D	P	I	P	C	W	L	C	D	W	C	
		<u>Cleener</u>	pt	act	um	T	l	a	s	y	&	s	l	o	u	b	a	m	e	
<u>1</u>	<u>8</u>		I	S	e		I	a	a	r	a	a	i	n	a	&	s	P		
			s	n	t		n	n	n	p	k	g	s	p	s		P	e		
			p				s										n	p		
			p				u											S		
			e				l											e		
			t															a		
Inspections Required _____			-	-	<input checked="" type="checkbox"/>	-	-	-	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	-	-	
Inspections Performed A=Accept *=Reject			-	-	<u>A</u>	-	-	-	-	-	<u>A</u>	<u>A</u>	<u>A</u>							
ID#		Manufacturer	ID#		Manufacturer															
<u>RN 91M01P</u>		<u>Magnaflux</u>	<u>N/A</u>																	
Calibrated Tools Used <u>N/A</u> Model No. _____ SN _____ Mfg _____																				
Remarks: <u>N/A</u>																				
INSPECTED BY: <u>[Signature]</u> Rec. Insp. <u>03/13/92</u> Date <u>[Signature]</u> REVIEWED BY: <u>3-16-92</u> Date																				
Corrective Action/Disposition Details: <u>N/A</u>																				
COMPLETED BY: <u>N/A</u> Rec. Insp. <u>N/A</u> Date <u>N/A</u> REVIEWED BY: <u>N/A</u> Date																				

MAGNAFLUX®

B/N 90J03P

Date: October 5, 1990

Purchase Order/Contract No. CP&L 6E3361

We hereby certify that the Spotcheck Cleaner/Remover, Type SKC-NF,
Batch No. 90J03P, supplied meets the requirements of MIL-I-25135E,
and is approved by the U.S. Air Force.

When tested according to paragraph 4.4.1.2., Sampling Plan A, the following results were
obtained:

(a) Flash Point (PMCT), 4.5.3	<u>None</u> °F
(b) Viscosity, (<u> </u> cs Nominal), 4.5.4	<u>NA</u> cs @ 100°F
(c) Developer Fluorescence, 4.5.14	<u>NA</u>
(d) Water Content, 4.5.21	<u>NA</u> %
(e) Penetrant Removability, 4.5.17 (<u>R-1</u> Standard)	<u>Passes</u>
(f) Water Tolerance, 4.5.12	<u>NA</u> %
(g) Fluorescent Brightness of Penetrants, 4.5.7 (<u> </u> Standard)	<u>NA</u> %
(h) Surface Wetting, 4.5.6	<u>NA</u>
(i) Thermal Stability, 4.5.9	<u>NA</u> %
(j) Redispersibility, 4.5.13	<u>NA</u>
(k) Valve Leakage, 4.5.20	<u>NA</u>
(l) Net Content, 4.5.19	<u>NA</u>

We further certify that this material meets the requirements of MIL-STD-6866 (29 November 1985), Paragraph 4.4.1 and where applicable, 5.8.4.

MAGNAFLUX®

M. J. Plamoottil
M.J. Plamoottil - Manager, Quality Assurance

CERTIFICATE OF CONFORMANCE

I HEREBY CERTIFY THAT ON October 1990 MAGNAFLUX CORPORATION PROVIDED THE SUPPLIES ORDERED FOR BY CONTRACT NUMBER 6E3361AV VIA FED EX IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS FOR SHIPMENT. I FURTHER CERTIFY THAT THE SUPPLIES ARE OF THE QUALITY SPECIFIED AND ARE IN ALL RESPECTS IN CONFORMANCE WITH THE CONTRACT REQUIREMENTS, INCLUDING SPECIFICATIONS AND/OR DRAWING, PRESERVATION, PACKAGING, AND PACKING AND MARKING REQUIREMENTS: PHYSICAL ITEM IDENTIFICATION, AND IN THE QUANTITY SHOWN ON THIS, OR THE ATTACHED DOCUMENT.

Spotcheck Cleaner/Remover, Type SKC-NF
B/N 90J03P, P/N 01-5719-68
Manufacture Date: September 1990
Expiration Date: 2 Years
Quantity: 12 Aerosol Cases

DATE: October 26, 1990

SIGNATURE & TITLE: Mathew Plamootttil
Mathew Plamootttil, Quality Assurance Manager

BEST COPY AVAILABLE

Initial MP Date 11-1-90

Date: October 5, 1990

Purchase Order No. CP&L 6E3361

SUBJECT: Spotcheck Cleaner/Remover Type: SKC-NF Batch No. 90I03P

We hereby certify that when tested at the time of manufacture, the above material:

1. Meets the requirements of and has been tested for sulfur and halogens according to:
 - (a) ASME Boiler and Pressure Vessel Code, 1983 Edition, Section V, Nondestructive Examination, including all Addenda through Winter 1983 Addendum, Paragraph T-625 and Article 24 as applicable.
 - (b) ASME Boiler and Pressure Vessel Code, 1986 Edition, Section V, Nondestructive Examination, Paragraph T-625 and Article 24 as applicable.
 - (c) ASME Boiler and Pressure Vessel Code, 1989 Edition, Section V, Nondestructive Examination, Paragraph T-625 and Article 24 as applicable.
 - (d) ASTM E-165-80, Paragraph 7.1.
 - (e) NAVSEA 250-1500-1 (Rev. 10 June 1979, Rev. 11 May 1983, Rev. 12 December 1987) Paragraphs 12.5.1.1 and 12.5.1.1.1.
 - (f) MIL-STD-271F(SH), 27 June 1986, Paragraphs 5.3 and 5.3.1.
 - (g) MIL-STD-2132A(SH), 15 March 1985, Paragraphs 7.1.1, 7.1.2, and 7.1.3 and Appendix C, Paragraph 30.

The following test results were obtained:

Sulfur: 0.0425 wt. % of residue. Halogen: 0.0893 wt. % of residue
Cleaner residue (see Note 3) 0.0077 g/100g. 0.0101 g/100 ml.

2. We further certify that this material does not contain mercury as a basic element, and no mercury bearing equipment was used in its manufacture.

MAGNAFLUX®


M. Plamoottil - Manager, Quality Assurance

- NOTES:**
1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
 2. Most specifications require test results stated in percent but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
 3. NAVSEA 250-1500-1, MIL-STD-271, MIL-STD-2132, and ASME Section V all require that materials be subject to a procedure to evaporate off volatile solvents before analysis for sulfur and halogen. According to these specifications, only those residues higher than 0.005 g/100 ml shall be analyzed for sulfur and halogen. Lower residues shall be reported.
 4. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

Form No. 1569 R-1/90

Initial 110 Date 11-1-90DISPOSAL

8.

SPILLS AND LEAKS: Less than 1 Quart - Wipe up, following guidelines above in "Safe Handling Procedure".

One quart or more - EVACUATE AREA. Ensure that clean up crew wears all personal safety wear as presented in "Safe Handling Procedure". The nose is NOT a reliable gauge of air contamination.

WASTE DISPOSAL: Dispose of as EPA hazardous waste #F002.
May be sent to solvent reclaimer. Ensure that aerosol cans are empty and depressurized before discarding, unless a waste treatment facility is approved to accept them as is.

PHYSICAL PROPERTIES

9.

BOILING POINT: 162°F
PERCENT VOLATILE: 100%
DENSITY: 1.3
WATER SOLUBILITY: Negligible
pH: Neutral

VAPOR PRESSURE: 230 mm at 100°F
VAPOR DENSITY: 4
EVAPORATION RATE: 3 times faster than ethyl alcohol
APPEARANCE: Clear, colorless, mobile liquid

WARNING PROPERTIES: Odor can be detected at 100 ppm, but is not strong enough to cause discomfort at 1000 ppm.

DOT SHIPPING

10.

SHIPPING NAME: For Bulk - Methyl Chloroform
For Aerosol - Compressed Gas, N.O.S.
MARKING: For Bulk - None
For Aerosol - Nonflammable Gas. (Methyl Chloroform)
HAZARD CLASS: For Bulk - ORM-A
For Aerosol - Nonflammable Gas
IDENTIFICATION: For Bulk - UN2831
For Aerosol - UN1956

CERTIFIED

11.

SKC-NF is composed entirely of materials listed in the TOSCA Inventory of Chemical Substances.

DATE: May 1, 1990

Supersedes MSDS dated May 26, 1989.

SIGNED: Bruce C. Graham

Bruce C. Graham, Chief Chemist
MAGNAFLUX®

12. **SPECIAL NOTE:** SKC-NF should not be used in a vapor degreaser.

Initial MD Date 11-1-90

5.

FIRE HAZARD

PRIMARY HAZARD: Can be a major contributing factor to a fire in progress, see stability below.

SPECIAL FIRE FIGHTING PROCEDURE: Keep containers cool with water spray.

FLASH POINT: None

FLAMMABLE LIMITS IN AIR: 10 - 15%, using intense ignition sources.

EXTINGUISHING MEDIA: None

UNUSUAL FIRE HAZARDS: Aerosol cans may burst at temperatures over 130°F. Vapors partially decompose to toxic gases when exposed to flame, arcs, or red hot surfaces.

6.

REACTIVITY HAZARDS

STABILITY: Partially decomposes in flame, arcs, near red hot surfaces.

INCOMPATIBILITY: Powdered zinc and aluminum

HAZARDOUS DECOMPOSITION PRODUCTS: Phosgene, hydrochloric acid. Phosgene CAS #75-44-5 is extremely toxic, TLV 0.1 ppm and cannot be reliably detected by odor. Hydrochloric acid CAS #7647-01-0 is almost as toxic, TLV 5 ppm, and is detectable and even irritating at this concentration.

7.

SAFE HANDLING PROCEDURES**GENERAL:**

Do not breathe vapors. Exposures above the TLV can result in clumsiness and poor judgment, with resulting danger to the victim and those around him. Much like ingesting too much alcohol. If victim is unconscious, death is possible, due to either suffocation (lack of oxygen), or cardiac arrest. For avoidance see next two sections.

Avoid frequent or prolonged exposure to skin as the solvent can irritate skin. Do not use around flame, arcs, red hot surfaces or lighted smoking materials, so as to avoid exposure to phosgene and hydrochloric acid.

Do not heat aerosol cans above 130°F to eliminate the possibility of their bursting and releasing unwanted vapors.

Store away from heat sources to minimize the danger from exposure to fires.

PERSONAL PROTECTIVE EQUIPMENT:

In poorly ventilated areas such as small rooms with no windows, or in sumps or other low areas (SKC-NF vapors are dense and sink to low spots) the user should wear a respirator with chemical cartridge.

In confined, unventilated spaces, such as the inside of tanks or small compartments, the inspector should wear a full mask with separate air supply.

If hand exposure to SKC-NF is unavoidable, wear nitrile rubber gloves, to avoid skin contact.

Wear full goggles if the application of SKC-NF includes splashing or the possibility of spraying into the eyes. Be sure the goggles are clean and not apt to degrade the inspection procedure.

CONTROLS:

SKC-NF vapors cannot be allowed to collect. It is preferred to use SKC-NF either in a spray booth or next to an exhaust vent. Remember that the vapors tend to settle to the floor.

General ventilation must be sufficient to keep the concentration below 350 ppm. Almost all of the SKC-NF that is used will evaporate into the surrounding air. Base ventilation rate on consumption.

MAGNAFLUX®

MAGNAFLUX® MATERIAL SAFETY DATA SHEET

PRODUCT: SKC-NF CLEANER/REMOVER
(Formerly SKC-NF/ZC-7B)

BEST COPY AVAILABLE

Initial JD Date 11-1-90

IDENTIFICATION

1. ADDRESS: 7300 West Lawrence Avenue, Chicago, Illinois 60656
TELEPHONE: (708) 867-8000. (Off-Hour Emergency Number - CHEMTREC - 1-800-424-9300).
PACKAGES: 1 gallon can, 5 gallon pail, 20 and 55 gallon drums, 12 oz aerosol
CHEMICAL FAMILY: Chlorinated Alkane
HMIS RATING: Health 2, flammability 0, Reactivity 1

HAZARDOUS INGREDIENTS

2. 1,1,1-Trichloroethane (Methyl chloroform), CAS #71-55-6, OSHA PEL: 350 ppm, Conc. 96% Bulk, 95% Aerosol
Carbon dioxide (aerosol only), CAS #124-38-9, OSHA PEL: 5000 ppm, Conc. 5%
Methylal, CAS #109-87-5, OSHA PEL 1000 ppm, about 1%
2-Methyl, 2-propanol, CAS #75-65-0, OSHA PEL 100 ppm, about 1%
1,1,1 - Trichloroethane is subject to the reporting requirements of Section 313
of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
Contains no other ingredient suspected of being hazardous according to information sources given in
29 CFR 1910.1200, OSHA Hazard Communication Rule.

HEALTH HAZARD

3. THRESHOLD LIMIT VALUE: 350 ppm

ROUTES OF ENTRY, EFFECTS OF OVEREXPOSURE

Inhalation: Dizziness, drowsiness, nausea. Unconsciousness at high exposure
Skin Contact: Irritates by dissolving skin oils. Not absorbed through skin in significant amounts
Eye Contact: Irritating due to strong solvent action
Ingestion: Low single dose toxicity in test animals

CARCINOGENICITY: Contains no known carcinogens listed with OSHA, the IARC (International Agency for Research on Cancer Monographs or the NTP (National Toxicology Program) Annual Report on Carcinogens.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY EXPOSURE TO PRODUCT: None

FIRST AID

4. INHALATION: Remove to fresh air. If not breathing, call emergency vehicle immediately. Give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen.
SKIN CONTACT: Wash off in flowing water or shower. Remove contaminated clothes and wash before re-use. Use soothing lotion.
EYE CONTACT: Lift upper eyelid, depress lower eyelid, and flush eye with a steady, gentle flow of water. Roll eyeball in all directions while flushing.
INGESTION: Do not induce vomiting; if vomit is inhaled, it may cause asphyxiation. Contact physician immediately.

IMPORTANT:

POISON CONTROL CENTER NUMBER

In all severe cases, contact physician immediately. Local telephone operators are able to furnish number of Regional Poison Control Center to assist physician.

RECEIPT INSPECTION REPORT				PERF 927		Rev. 0		Page 1 of 1												
90-710186 Quality <input checked="" type="checkbox"/> NG [] CG				Discrepancy Code NA																
PO: 6E3361 Class [] AQ [] Other				Vendor Code: 42303																
Item	Qty	Description		714-863-44	Sub E	Sub S	Doc	Ins	Gas	De	Phys	ID	Phys	Clean	Work	Lub	Coat	Dim	Weld	Cover
1	60	CLEANER, INSP, SPOT CHECK																		
Inspections Required																				
Inspections Performed																				
A - Accept				* - Reject																
I	Qty	ID#	Manufacturer	I	Qty	ID#	Manufacturer													
1	60	90J63P	MAGNAFLUX																	
Remarks:																				
INSPECTED BY: [Signature]				10-29-90				[Signature]				11/1/90								
Receipt Inspector				Date				QA/QC Specialist				Date								
Corrective Action/Disposition Details																				
Completed by Receipt Inspector				Date				QA/QC Specialist				Date								

RECEIPT INSPECTION REPORT

PERF 927 .000

Rev. 1

Page 1 of 1

No: 90-712992 Quality ☒ NG [] CG
 Class [] AQ [] Other

Discrepancy Code

Vendor Code: 42303

PO: 6E3361

Item	Qty	Description
1	7	71A-863-4A CLEANER, INSP SPOTCHECK

COVER & SPEEL
WEAR
DIRT
COAT & PILES
LUBRICANTS
WORKMANSHIP
CLEANLINESS
PHYS DISEASE
ID & MARKING
PHYS PROPO
DESSICANT
GAS BLANKET
ELEC HES-I
NFI
DOCUHECT
STRUCT
SUSC EESHS

Inspections Required

Inspections Performed

A - Accept

* - Reject

I	Qty	ID#	Manufacturer	I	Qty	ID#	Manufacturer

Remarks:

INSPECTED BY:

Mary Beasley
Receipt Inspector

11-7-90
Date

QA/QC Specialist

Date

Corrective Action/Disposition Details

Completed by Receipt Inspector Date

QA/QC Specialist

Date

MAGNAFLUX

Lot No. 90K07P

Date: December 13, 1990

Purchase Order/Contract No. 661581AV

We hereby certify that the Spotcheck Penetrant, Type SKL-RF/S

Batch No. 90K07P, supplied meets the requirements of MIL-STD-883C

and is approved by the U.S. Air Force.

When tested according to paragraph 4.4.1.2., Sampling Plan A, the following results were obtained:

(a) Flash Point (PMCT), 4.5.3	210	°F
(b) Viscosity, (3.04 cs Nominal), 4.5.4	2.87	cs @ 100°F
(c) Developer Fluorescence, 4.5.14	NA	
(d) Water Content, 4.5.21	NA	%
(e) Penetrant Removability, 4.5.17 (VP-1 Standard)	PASSES	
(f) Water Tolerance, 4.5.12	NA	%
(g) Fluorescent Brightness of Penetrants, 4.5.7 (Standard)	NA	%
(h) Surface Wetting, 4.5.8	PASSES	
(i) Thermal Stability, 4.5.9	NA	%
(j) Redispersibility, 4.5.13	NA	
(k) Valve Leakage, 4.5.20	PASSES	
(l) Net Content, 4.5.19	256-280	gm.

We further certify that this material meets the requirements of MIL-STD-883C (20 November 1985), Paragraph 4.4.1 and where applicable, 5.8.4.

MAGNAFLUX

M. Plamoottil
M.J. Plamoottil - Manager, Quality Assurance

Form No. 1579B
Rev 10/89

Pg. 16 of 16

MAGNAFLUX®

Date: December 13, 1990

Purchase Order No. 6G1581AV

SUBJECT: Spotcheck Penetrant

Type: SKL-HF/S

Batch No. 90K07P

We hereby certify that when tested at the time of manufacture, the above material:

1. Meets the requirements of and has been tested for sulfur and halogens according to:
 - (a) ASME Boiler and Pressure Vessel Code, 1983 Edition, Section V, Nondestructive Examination, including all Addenda through Winter 1983 Addendum, Paragraph T-625 and Article 24 as applicable.
 - (b) ASME Boiler and Pressure Vessel Code, 1986 Edition, Section V, Nondestructive Examination, Paragraph T-625 and Article 24 as applicable.
 - (c) ASME Boiler and Pressure Vessel Code, 1989 Edition, Section V, Nondestructive Examination, Paragraph T-625 and Article 24 as applicable.
 - (d) ASTM E-165-80, Paragraph 7.1.
 - (e) NAVSEA 250-1500-1 (Rev. 10 June 1979, Rev. 11 May 1983, Rev. 12 December 1987) Paragraphs 12.3.1.1 and 12.3.1.1.1.
 - (f) MIL-STD-271F(SH), 27 June 1986, Paragraphs 3.3 and 3.3.1.
 - (g) MIL-STD-2132A(SH), 15 March 1985, Paragraphs 7.1.1, 7.1.2, and 7.1.3 and Appendix C, Paragraph 30.

The following test results were obtained:

Sulfur: 0.0160 wt. % of residue. Halogen: 0.0166 wt. % of residue
Cleaner residue (see Note 3) NA g/100g. NA g/100 ml.

2. We further certify that this material does not contain mercury as a basic element, and no mercury bearing equipment was used in its manufacture.

MAGNAFLUX®

M. Plamoottil
M. Plamoottil - Manager, Quality Assurance

- NOTES:**
1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
 2. Most specifications require test results stated in percent but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
 3. NAVSEA 250-1500-1, MIL-STD-271, MIL-STD-2132, and ASME Section V all require that materials be subject to a procedure to evaporate off volatile solvents before analysis for sulfur and halogen. According to these specifications, only those residues higher than 0.005 g/100 ml shall be analyzed for sulfur and halogen. Lower residues shall be reported.
 4. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

Form No. 1569 R-1/98

15

TO CAROLINA POWER & LIGHT CO
P.O. BOX 1551
RALEIGH NC 27602

SHIP TO CAROLINA POWER & LIGHT CO
ROBINSON SE PLANT
HIGHWAY 151 & 23
HARTSVILLE SC 29550
G. J. MCCOY

021905 01/22/91 023040 1 33 UPS COLLECT

3510	3	0	<p>01-3148-68 90k07P SKL-HF/S 12 CAN CASE AERO TYPE II METHOD C GPL</p> <p>***** ORDER COMMENTS ***** MUST HAVE CP& L PURCHASE ORDER ON EACH CARTON. SEND SHELF LIFE LETTER SEE MATT P. FOR CERTS</p> <p>SL 10-1-92</p>	EA	(02/04/91)	1 -Loc
------	---	---	---	----	------------	--------

S.H. COMMENTS

RECEIPT INSPECTION REPORT

REF: 726/13 Permeant KING 1000
 DATE: 01/29/91
 INSPECTOR: GARY

QTY	DESCRIPTION	INSPECTION	PERMEANT	BLANKET	MARKING	DAMAGE	MANUFACTURE	SEAL	PREP	DISPOSITION	REMARKS
1	3	ASME SECTION V ARTICLE 5									

Inspections Required

Inspections Performed A=Accept **=Reject

ID#	Manufacturer	ID#	Manufacturer
PM SKL HT/S	MAGNETUM INC		
2			
3			
4			

Remarks: S/L 10/01/92

01/29/91
 INSPECTED BY: Rec Insp BRASLEY GARY QA/QC Spec

Corrective Action/Disposition Details

COMPLETED BY: Rec Insp QA/QC Spec

8

MAGNADILIX

IDENTIFICATION
PRODUCT: MAGNADILIX SECTION: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

ADDRESS: 7300 West Lawrence Avenue, Chicago, Illinois 60656
TELEPHONE: (708) 867-8000. (24 Hour Emergency Number - CHEMTREC - 1-800-426-9300).
PACKAGES: 1 gallon can, 5 gallon pail, 20 and 55 gallon drums, 12 fl. oz. aerosol
CHEMICAL FAMILY: Mixture, mostly aromatic hydrocarbons
HAZARD RATING: Health 1, Flammability 1, (Aerosol Flammability 4), Reactivity 0.

HAZARDOUS INGREDIENTS

Disinfectant: 1,2-dichloroethane, CAS #78-07-6, OSHA PEL: 100 mg/m³, About 10%
TLV: Not Established, Over 8%
Kerosene: CAS #8008-20-6, OSHA PEL: 100 mg/m³, About 10%
Aerosol only: 30% Isobutane, CAS #75-28-3, OSHA PEL: 1000 ppm, About 30%.
Naphthalene: CAS #91-20-3, OSHA PEL: 10 ppm, about 4%.
Naphthalene is subject to the Reporting Requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Contains no other ingredient suspected of being hazardous according to information sources given in 29 CFR 1910.1200, OSHA Hazard Communication Rule.

HEALTH HAZARD

THRESHOLD LIMIT VALUE: OSHA PEL: for oily mist, 5 mg/m³.

ROUTES OF ENTRY, EFFECTS OF OVEREXPOSURE.

Inhalation: Dizziness, nausea, from inhalation of spray mist from can.
Skin Contact: Irritation, dissolves skin oils. Possible dermatitis on frequent or prolonged exposure.
Eye Contact: Moderately irritating. Rinse eyes copiously with water.
Ingestion: Low toxicity, but hazardous if aspirated into lungs during ingestion or vomiting.

CARCINOGENICITY: Contains no known carcinogens listed with OSHA, The International Agency for Research on Cancer Monographs, or the National Toxicology Programs Annual Report on Carcinogens.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY EXPOSURE TO PRODUCT: None

FIRST AID

INHALATION: Remove to fresh air. If not breathing, call emergency vehicle immediately. Give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen.
SKIN CONTACT: Wash off in flowing water or shower. Remove contaminated clothes and wash before re-use. Use soothing lotion.
EYE CONTACT: Lift upper eyelid, depress lower eyelid, and flush eye with a steady, gentle flow of water. Roll eyeball in all directions while flushing.
INGESTION: Do not induce vomiting; if vomit is inhaled, it may cause asphyxiation. Contact physician immediately.

IMPORTANT: POISON CONTROL CENTER NUMBER

In all severe cases, contact physician immediately. Local telephone operators are able to furnish number of regional poison control center to assist physician.

A Division of Illinois Tool Works Inc.
7300 West Lawrence Avenue | Chicago, IL 60656 | Telephone: 708-867-8000
Page 1 of 3

12

2. **FLAME POINT:** 210°F (77°C) (at 100% concentration)

EXTINGUISHING MEDIA: Carbon dioxide, foam

SPECIAL FIRE FIGHTING PROCEDURES: Keep containers cool with water spray.

UNUSUAL FIRE HAZARDS: Aerosol cans may burst at temperatures over 1300°F and spray flammable liquid into the fire.

REACTIVITY HAZARDS

STABILITY: Stable, except when heated to burning temperatures.

INCOMPATIBILITY: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: If burning -- smoke, soot, and oxides of carbon and nitrogen.

SAFE HANDLING PROCEDURES

GENERAL: Do not breathe vapors. Significant exposure can result in dizziness and poor judgement with resulting danger to the victim and those around him. Much like ingesting too much alcohol.

Avoid frequent or prolonged exposure to skin as the solvent can irritate skin.

Do not spray into flame, arcs, red hot surfaces or lighted smoking materials, as spray may ignite.

Do not heat aerosol cans above 1300°F to eliminate the possibility of their bursting and releasing unwanted spray.

Store away from heat sources to minimize the danger from exposure to fires.

Store pallets of aerosol cartons as Level 3 Aerosol (NFPA 308).

PERSONAL PROTECTIVE EQUIPMENT:

In poorly ventilated areas such as small rooms with no windows, or in attics or other low areas the user should wear a respirator with chemical cartridge.

In confined, unventilated spaces, such as the inside of tanks or small compartments, the inspector should wear a full mask with separate air supply.

If hand exposure to SKL-HF/S is unavoidable, wear nitrile rubber gloves, to avoid skin contact.

Wear full goggles if the application of SKL-HF/S includes splashing or the possibility of spraying into the eyes. Be sure the goggles are clean and not apt to degrade the inspection procedure.

CONTROLS:

It is preferred to use SKL-HF/S either in a spray booth or next to an exhaust vent.

General ventilation must be sufficient to keep the concentration low.

DISPOSAL

SPENT MATERIAL: MOPPED-UP SPILLS & LEAKS:

(incinerate or send to Waste Disposer who can incinerate it)

AEROSOL CANS: Empty out aerosol cans before disposal. Pressurized aerosol cans are not an acceptable waste.

PHYSICAL PROPERTIES

BOILING POINTS: 100-110°C

Aerosol

PERCENT VOLATILE: None

DENSITY: 0.97

WATER SOLUBILITY: 0

pH: Neutral

VAPOR DENSITY: Over 15

EVAPORATION RATE: None

APPEARANCE: Dark red liquid

DOT SHIPPING

SHIPPING NAME: For Bulk - Liquid Stain

For Aerosol - Consumer commodity.

MARKING: For Bulk - None

For Aerosol - None.

HAZARD CLASS: For Bulk - None

For Aerosol - ORM-D.

IDENTIFICATION: For Bulk - None

For Aerosol - None.

CERTIFIED

SKL-HF/S is composed entirely of materials listed in the TSCA Chemical Substance Inventory.

DATE: January 1, 1991.

Supersedes MSDS dated May 1, 1990.

Page 3 of 3 (SKL-HF/S)

SIGNED:



Bruce C. Graham, Chief Chemist

INCHAFLEX®

MAGNAFLUX®

Date: August 20, 1990

Purchase Order/Contract No. 6E2966AV

We hereby certify that the Spotcheck Penetrant, Type SKL-HF/S
Batch No. 90H03K, supplied meets the requirements of MIL-I-25135E,
and is approved by the U.S. Air Force.

When tested according to paragraph 4.4.1.2., Sampling Plan A, the following results were obtained:

(a) Flash Point (PMCT), 4.5.3	208	of
(b) Viscosity, (3.04 cs Nominal), 4.5.4	2.85	cs @ 100°F
(c) Developer Fluorescence, 4.5.14	NA	
(d) Water Content, 4.5.21	NA	%
(e) Penetrant Removability, 4.5.17 (Standard)	PASSES	
(f) Water Tolerance, 4.5.12	NA	%
(g) Fluorescent Brightness of Penetrants, 4.5.7 (Standard)	NA	%
(h) Surface Wetting, 4.5.6	PASSES	
(i) Thermal Stability, 4.5.9	NA	%
(j) Redispersibility, 4.5.13	NA	
(k) Valve Leakage, 4.5.20	PASSES	
(l) Net Content, 4.5.19	268.9	gm.

We further certify that this material meets the requirements of MIL-STD-6866 (29 November 1985), Paragraph 4.4.1 and where applicable, 5.8.4.

MAGNAFLUX®

M. J. Plamootil

M.J. Plamootil - Manager, Quality Assurance

Form No. 1579B
Rev 10/89

Py. 16 of 16

MAGNAFLUX®

Date: August 20, 1990Purchase Order No. 6E2966AVSUBJECT: Spotcheck Penetrant Type: SKL-HF/S Batch No. 90H03K

We hereby certify that when tested at the time of manufacture, the above material:


1. Meets the requirements of and has been tested for sulfur and halogens according to:
 - (a) ASME Boiler and Pressure Vessel Code, 1983 Edition, Section V, Nondestructive Examination, including all Addenda through Winter 1983 Addendum, Paragraph T-625 and Article 24 as applicable.
 - (b) ASME Boiler and Pressure Vessel Code, 1986 Edition, Section V, Nondestructive Examination, Paragraph T-625 and Article 24 as applicable.
 - (c) ASME Boiler and Pressure Vessel Code, 1989 Edition, Section V, Nondestructive Examination, Paragraph T-625 and Article 24 as applicable.
 - (d) ASTM E-165-80, Paragraph 7.1.
 - (e) NAVSEA 250-1500-1 (Rev. 10 June 1979, Rev. 11 May 1983, Rev. 12 December 1987) Paragraphs 12.5.1.1 and 12.5.1.1.1.
 - (f) MIL-STD-271F(SH), 27 June 1986, Paragraphs 5.3 and 5.3.1.
 - (g) MIL-STD-2132A(SH), 15 March 1985, Paragraphs 7.1.1, 7.1.2, and 7.1.3 and Appendix C, Paragraph 30.

The following test results were obtained:

Sulfur: 0.0151 wt. % of residue. Halogen: 0.0218 wt. % of residue
Cleaner residue (see Note 3) NA g/100g. NA g/100 ml.

2. We further certify that this material does not contain mercury as a basic element, and no mercury bearing equipment was used in its manufacture.

MAGNAFLUX®


M. Plamoottil - Manager, Quality Assurance

NOTES:

1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
2. Most specifications require test results stated in percent but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
3. NAVSEA 250-1500-1, MIL-STD-271, MIL-STD-2132, and ASME Section V all require that materials be subject to a procedure to evaporate off volatile solvents before analysis for sulfur and halogen. According to these specifications, only those residues higher than 0.005 g/100 ml shall be analyzed for sulfur and halogen. Lower residues shall be reported.
4. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

Form No. 1569 R-1/90

CERTIFICATE OF CONFORMANCE

BEST COPY AVAILABLE

Initial MD Date 11-12-90

I HEREBY CERTIFY THAT ON October 1990 MAGNAFLUX CORPORATION FURNISHED THE SUPPLIES CALLED FOR BY CONTRACT NUMBER 6E2966AV VIA UPS IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS FOR SHIPMENT. I FURTHER CERTIFY THAT THE SUPPLIES ARE OF THE QUALITY SPECIFIED AND ARE IN ALL RESPECTS IN CONFORMANCE WITH THE CONTRACT REQUIREMENTS, INCLUDING SPECIFICATIONS AND/OR DRAWING, PRESERVATION, PACKAGING, AND PACKING AND MARKING REQUIREMENTS: PHYSICAL ITEM IDENTIFICATION, AND IN THE QUANTITY SHOWN ON THIS, OR THE ATTACHED DOCUMENT.

Spotcheck Penetrant, Type SKL-HF/S
B/N 90H03K, Quantity 3 Cases
Manufacture Date: August 1990
Expiration Date: 2 Years

DATE: October 31, 1990

SIGNATURE: Mathew Plamoottil
NAME & TITLE: Mathew Plamoottil, Quality Assurance Manager

14

MAGNAFLUX® MATERIAL SAFETY DATA SHEET

BEST COPY AVAILABLE

PRODUCT: SKL-HF/S SPOTCHECK PENETRANT

Initial MD Date 11-12-90

IDENTIFICATION

ADDRESS: 7300 West Lawrence Avenue, Chicago, Illinois 60656
 TELEPHONE: (708) 867-8000, (Off-Hour Emergency Number - CHEMTREC - 1-800-426-9300).
 PACKAGES: 1 gallon can, 5 gallon pail, 20 and 55 gallon drums, 12 fl. oz. aerosol
 CHEMICAL FAMILY: Mixture, mostly aromatic hydrocarbons
 HAZARD RATINGS: Health 1, Flammability 1, (Aerosol Flammability 4), Reactivity 0.

HAZARDOUS INGREDIENTS

Distillates (Petroleum), catalytic reformer fractionator residue, low boiling, CAS #68477-31-6,
 TLV: Not Established, Over 85%
 Xerocene, CAS #8008-20-6, OSHA PEL: 100 mg/m³, About 10%
 Aerosol only: 30% Isobutane, CAS #75-28-5, OSHA PEL: 1000 ppm, About 30%
 Naphthalene, CAS #91-20-3, OSHA PEL: 10 ppm, about 4%
 Naphthalene is subject to the Reporting Requirements of Section 313 of Title III of the Superfund
 Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
 Contains no other ingredient suspected of being hazardous according to information sources given in
 29 CFR 1910.1200, OSHA Hazard Communication Rule.

HEALTH HAZARD

THRESHOLD LIMIT VALUE: OSHA PEL: for oily mist, 5 mg/m³.

3 ROUTES OF ENTRY, EFFECTS OF OVEREXPOSURE.

Inhalation: Dizziness, nausea, from inhalation of spray mist from can.
 Skin Contact: Irritation, dissolves skin oils. Possible dermatitis on frequent or
 prolonged exposure.
 Eye Contact: Moderately irritating. Rinse eyes copiously with water.
 Ingestion: Low toxicity, but hazardous if aspirated into lungs during ingestion or vomiting.

CARCINOGENICITY: Contains no known carcinogens listed with OSHA, The International Agency for
 Research on Cancer Monographs, or the National Toxicology Programs Annual Report on
 Carcinogens.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY EXPOSURE TO PRODUCT: None

FIRST AID

INHALATION: Remove to fresh air. If not breathing, call emergency vehicle immediately. Give
 mouth-to-mouth resuscitation. If breathing is difficult, give oxygen.
 SKIN CONTACT: Wash off in flowing water or shower. Remove contaminated clothes and wash before
 re-use. Use soothing lotion.
 EYE CONTACT: Lift upper eyelid, depress lower eyelid, and flush eye with a steady, gentle stream of
 water. Roll eyeball in all directions while flushing.
 INGESTION: Do not induce vomiting. If vomit is inhaled, it may cause asphyxiation. Contact
 physician immediately.

POISON CONTROL CENTER NUMBER

In all severe cases, contact physician immediately. Local telephone operators are
 able to furnish number of regional poison control center to physician.

A Division of Illinois Tool Works Inc.
 7300 West Lawrence Avenue | Chicago, IL 60656 | Telephone: 708-867-8000

BEST COPY AVAILABLE

Initial 110 Date 11-12-90

FIRE HAZARD

FLASH POINT:

Minimum 2000F Pensky - Martens (-1200F aerosol)

FLAMMABLE LIMITS IN AIR: Low 1%, High 6%

EXTINGUISHING MEDIA:

Carbon dioxide, foam

SPECIAL FIRE FIGHTING PROCEDURES:

Keep containers cool with water spray.

UNUSUAL FIRE HAZARDS:

Aerosol cans may burst at temperatures over 1300F and spray flammable liquid into the fire.

REACTIVITY HAZARDS

STABILITY:

Stable, except when heated to burning temperatures.

INCOMPATIBILITY:

Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:

If burning -- smoke, soot, and oxides of carbon and nitrogen.

SAFE HANDLING PROCEDURES

GENERAL:

Do not breathe vapors. Significant exposure can result in clumsiness and poor judgment with resulting danger to the victim and those around him. Much like ingesting too much alcohol.

Avoid frequent or prolonged exposure to skin as the solvent can irritate skin.

Do not spray into flame, arcs, red hot surfaces or lighted smoking materials, as it may ignite.

Do not heat aerosol cans above 1300F to eliminate the possibility of their bursting releasing unwanted spray.

Store away from heat sources to minimize the danger from exposure to fires.

PERSONAL PROTECTIVE EQUIPMENT

In poorly ventilated areas such as small rooms with no windows, or in pumps or other areas the user should wear a respirator with chemical cartridge.

In confined, unventilated spaces, such as the inside of tanks or small compartments, the inspector should wear a full mask with separate air supply.

If hand exposure to SKL-HF/S is unavoidable, wear nitrile rubber gloves, to avoid contact.

Wear full goggles if the application of SKL-HF/S includes splashing or the possibility of spraying into the eyes. Be sure the goggles are clean and not apt to degrade the inspection procedure.

CONTROLS:

It is preferred to use SKL-HF/S either in a spray booth or next to an exhaust vent.

General ventilation must be sufficient to keep the concentration low.

121

DISPOSAL

8. SPENT MATERIAL, MOPPED-UP SPILLS & LEAKS:

Incinerate or send to Waste Disposer who can incinerate it.

AEROSOL CANS: Empty out aerosol cans before disposal. Pressurized aerosol cans are not an acceptable waste.

PHYSICAL PROPERTIES

9. BOILING POINT: 400°F (-46°F for aerosol)
PERCENT VOLATILE: None
DENSITY: 0.97
WATER SOLUBILITY: 0
pH: Neutral
VAPOR PRESSURE: Below 0.3mm at 100°F
(105 psi at 75°F for aerosol)
VAPOR DENSITY: Over 1
EVAPORATION RATE: None
APPEARANCE: Dark red liquid

DOT SHIPPING


10. SHIPPING NAME: For Bulk - Liquid Stain
For Aerosol - Compressed Gas N.O.S.
MARKING: For Bulk - None
For Aerosol - Flammable Gas. (Kerosene, Isobutane)
HAZARD CLASS: For Bulk - None
For Aerosol - Flammable Gas
IDENTIFICATION: For Bulk - None
For Aerosol - UN 1958

CERTIFIED

11. SKL-HF/S is composed entirely of materials listed in the TOSCA Chemical Substance Inventory.

DATE: May 1, 1990
Supercedes MSDS dated Dec. 19, 1989

SIGNED:


Bruce G. Graham, Chief Chemist
MAGNAFLUX®

Page 3 of 3 (SKL-HF/S)

Discrepancy Code MC
Vendor Code: 83093

[illegible]

Remarks:

INSPECTED BY: Harry Beasley 11-8-90 J. Beauchamp 11/11/90
 Receipt Inspector Date QA/QC Specialist Date

Corrective Action/Disposition Details

Completed by Receipt Inspector Date

QA/QC Specialist

Date _____

MAGNAFLUX®

B/N 90L03P

CERTIFICATE OF CONFORMANCE

I HEREBY CERTIFY THAT ON December of 1990 MAGNAFLUX PROVIDED
THE SUPPLIES LISTED FOR BY CONTRACT NUMBER 6E 8066AV ✓ VIA

TPS IN ACCORDANCE WITH ALL ATTACHED REQUIREMENTS FOR

INSPECTION. I HEREBY CERTIFY THAT THE SUPPLIES ARE OF THE QUALITY
SPECIFIED AND ARE IN ALL RESPECTS IN CONFORMANCE WITH THE CONTRACT
REQUIREMENTS, INCLUDING SPECIFICATIONS AND/OR DRAWING, PRESERVATION,
PACKAGING, AND PACKING AND MARKING REQUIREMENTS: PHYSICAL ITEM IDENTIFICATION, AND IN THE QUANTITY SHOWN ON THIS OR THE ATTACHED DOCUMENT.

VENT. Spotcheck Developer, Type SKD-NF ✓
B/N 90L03P, P/N 01-5320-68
Manufacture Date: November 1990
Expiration Date: 2 Years ✓
Quantity: 4 Aero Cases

DATE: December 12, 1990

NAME & TITLE: Matthew Plamoottil
Matthew Plamoottil, Quality Assurance Manager

14

3 6 3 7

0 4 9 6

MAGNAFLUX®

Date: November 21, 1990

Purchase Order/Contract No. 6E 8066AV ✓

We hereby certify that the Spotcheck Developer, Type SKD-NF ✓

Batch No. 90103P ✓

Supplied meets the requirements of MIL-STD-6866, and is approved by the U.S. Air Force.

When tested according to paragraph 4.4.1.2., Sampling Plan A, the following results were obtained:

- (a) Flash Point (PMCT), 4.5.3
- (b) Viscosity, (_____ cs Nominal), 4.5.4
- (c) Developer Fluorescence, 4.5.14
- (d) Water Content, 4.5.21
- (e) Penetrant Removability, 4.5.17 (_____ Standard)
- (f) Water Tolerance, 4.5.12
- (g) Fluorescent Brightness of Penetrants, 4.5.7 (_____ Standard)
- (h) Surface Wetting, 4.5.6
- (i) Thermal Stability, 4.5.9
- (j) Redispersibility, 4.5.13
- (k) Valve Leakage, 4.5.20
- (l) Net Content, 4.5.19

None	OF
NA	cs @ 100°F
PASSES	
NA	%
NA	
NA	%
NA	%
NA	
NA	%
PASSES	
NA	
NA	

We further certify that this material meets the requirements of MIL-STD-6866 (29 November 1985), Paragraph 4.4.1 and where applicable, 5.3.4.

MAGNAFLUX®

M. J. Plamootil
M.J. Plamootil - Manager, Quality Assurance

Form No. 15795
Rev 10/89

15

3637 0497

MAGNAFLUX®

Date: November 21, 1990

Purchase Order No. 6E 8066AV

SUBJECT: Spotcheck Developer

Type: SKD-NF

Batch No. 90L03P

We hereby certify that when tested at the time of manufacture, the above material:

1. Meets the requirements of and has been tested for sulfur and halogens according to:
 - (a) ASME Boiler and Pressure Vessel Code, 1983 Edition, Section V, Nondestructive Examination, including all Addenda through Winter 1983 Addendum, Paragraph T-623 and Article 24 as applicable.
 - (b) ASME Boiler and Pressure Vessel Code, 1986 Edition, Section V, Nondestructive Examination, Paragraph T-623 and Article 24 as applicable.
 - (c) ASME Boiler and Pressure Vessel Code, 1989 Edition, Section V, Nondestructive Examination, Paragraph T-623 and Article 24 as applicable.
 - (d) ASTM E-165-80, Paragraph 7.1.
 - (e) NAVSEA 250-1500-1 (Rev. 10 June 1979, Rev. 11 May 1983, Rev. 12 December 1987) Paragraphs 12.3.1.1 and 12.3.1.1.1.
 - (f) MIL-STD-271F(SH), 27 June 1986, Paragraphs 3.3 and 5.3.1.
 - (g) MIL-STD-2132A(SH), 15 March 1985, Paragraphs 7.1.1, 7.1.2, and 7.1.3 and Appendix C, Paragraph 30.

The following test results were obtained:

Sulfur: 0.0341 wt. % of residue. Halogen: 0.0349 wt. % of residue
Cleaner residue (see Note 3) NA g/100g. NA g/100 ml.

2. We further certify that this material does not contain mercury as a basic element, and no mercury bearing equipment was used in its manufacture.

MAGNAFLUX®

M. Plamoottil - Manager, Quality Assurance

- NOTES:
1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
 2. Most specifications require test results stated in percent but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
 3. NAVSEA 250-1500-1, MIL-STD-271, MIL-STD-2132, and ASME Section V all require that materials be subject to a procedure to evaporate off volatile solvents before analysis for sulfur and halogen. According to these specifications, only those residues higher than 0.005 g/100 ml shall be analyzed for sulfur and halogen. Lower residues shall be reported.
 4. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

Form No. 1569 R-1/90

SAFETY DATA SHEET

SAFETY DATA SHEET
Product Name: 1,1,1-Trichloroethane
Chemical Name: 1,1,1-Trichloroethane

IDENTIFICATION

ADDRESS: 7300 West Lawrence Avenue, Chicago, Illinois 60656
TELEPHONE: (312) 440-0000 (Toll-Free) 1-800-421-2300
PACKAGES: 1 gallon can, 5 gallon pail, 55 gallon drum, 12 oz aerosol
CHEMICAL FAMILY: Chlorinated Alkane. HAZIS RATING: Health 2, Flammability 0, Reactivity 1.

HAZARDOUS INGREDIENTS

1,1,1-Trichloroethane (Methyl chloroform), CAS #71-35-6, OSHA PEL: 350 ppm, 90% Bulk, 6% Aerosol
Chlorodifluoromethane CAS #75-45-6, TLV: 1000 ppm. (Aerosol only), about 27%
Methylal, CAS #109-87-3, OSHA PEL 1000 ppm, about 2%
2-Methyl, 2-propanol, CAS #75-65-0, OSHA PEL 100 ppm, about 1%
1,1,1-Trichloroethane is subject to the reporting requirements of Section 313 of Title III of the
Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
Contains no other ingredient suspected of being hazardous according to information sources given in
29 CFR 1910.1200, OSHA Hazard Communication Rule.

HEALTH HAZARD

THRESHOLD LIMIT VALUE: 350 ppm

ROUTES OF ENTRY, EFFECTS OF OVEREXPOSURE

Inhalation: Dizziness, drowsiness, nausea. Unconsciousness at high exposure.
Skin Contact: Irritates by dissolving skin oils. Not absorbed through skin in significant amounts.
Eye Contact: Irritating due to strong solvent action.
Ingestion: Low single dose toxicity in test animals.

CARCINOGENICITY: Contains no known carcinogens listed with OSHA, the IARC
(International Agency for Research on Cancer) Monographs, or the NTP
(National Toxicology Program) Annual Report on Carcinogens.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY EXPOSURE TO PRODUCT: None

FIRST AID

INHALATION: Remove to fresh air. If not breathing, call emergency vehicle immediately. Give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen.
SKIN CONTACT: Wash off in flowing water or shower. Remove contaminated clothes and wash before re-use. Use soothing lotion.
EYE CONTACT: Lift upper eyelid, depress lower eyelid, and flush eye with a steady, gentle flow of water. Roll eyeball in all directions while flushing.
INGESTION: Do not induce vomiting; if vomit is inhaled, it may cause asphyxiation. Contact physician immediately.

IMPORTANT:

POISON CONTROL CENTER NUMBER

In all severe cases, contact physician immediately. Local telephone operators are able to furnish number of Regional Poison Control Center to assist physician.

FIRE HAZARD

HAZARD: Can be a major contributing factor to a fire in progress, see stability data.

SPECIAL FIRE FIGHTING PROCEDURES: Keep containers cool with water spray.

FLASH POINT: None

FLAMMABLE LIMITS IN AIR: 10-12%, using intense ignition sources.

AUTOMATICALLY IGNITING: None

OTHER FIRE HAZARDS: Aerosol may burst at temperatures over 100°F. Vapors partially decompose to toxic gases when exposed to flame, arcs, or red hot surfaces.

STABILITY

STABILITY: Partially decomposes in flame, arcs, near red hot surfaces.

INCOMPATIBILITY: Powdered zinc and powdered aluminum

HAZARDOUS DECOMPOSITION PRODUCTS: Phosgene, hydrochloric acid. Phosgene CAS #75-44-5 is extremely toxic, TLV 0.1 ppm and cannot be reliably detected by odor. Hydrochloric acid CAS #7647-01-0 is almost as toxic, TLV 5 ppm, and is detectable and even irritating at this concentration.

SAFE HANDLING PROCEDURES

GENERAL:

Do not breathe vapors. Exposures above the TLV can result in clumsiness and poor judgment, with resulting danger to the victim and those around him. Much like ingesting too much alcohol. If victim is unconscious, death is possible, due to either suffocation (lack of oxygen), or cardiac arrest. For avoidance see next two sections.

Avoid frequent or prolonged exposure to skin as the solvent can irritate skin.

Do not use around flame, arcs, red hot surfaces or lighted smoking materials, so as to avoid exposure to phosgene and hydrochloric acid.

Do not heat aerosol cans above 130°F to eliminate the possibility of their bursting and releasing unwanted vapors.

Store away from heat sources to minimize the danger from exposure to fires.

PERSONAL PROTECTIVE EQUIPMENT:

In poorly ventilated areas such as small rooms with no windows, or in sumps or other low areas (SKD-NF vapors are dense and sink to low spots) the user should wear a respirator with chemical cartridge.

In confined, unventilated spaces, such as the inside of tanks or small compartments, the inspector should wear a full mask with separate air supply.

If hand exposure to SKD-NF is unavoidable, wear nitrile rubber gloves, to avoid skin contact.

Wear full goggles if the application of SKD-NF includes splashing or the possibility of spraying into the eyes. Be sure the goggles are clean and not apt to degrade the inspection procedure.

CONTROLS:

SKD-NF vapors cannot be allowed to collect. It is preferred to use SKD-NF either in a spray booth or next to an exhaust vent. Remember that the vapors tend to settle to the floor.

General ventilation must be sufficient to keep the concentration below 350 ppm. Almost all of the SKD-NF that is used will evaporate into the surrounding air. Base ventilation rate on consumption.

DISPOSAL

SPILLS AND LEAKS: Less than 1 Quart - Wipe up, following guidelines above in "Safe Handling Procedure"

One quart or more - EVACUATE AREA. Ensure that clean up crew wears all personal safety gear as presented in "Safe Handling Procedure". The nose is NOT a reliable gauge of air contamination.

WASTE DISPOSAL: Dispose of as EPA hazardous waste #F002.
May be sent to solvent reclaimer. Ensure that aerosol cans are empty and depressurized before discarding, unless a waste treatment facility is approved to accept them as is.

PHYSICAL PROPERTIES

BOILING POINT:	162°F	VAPOR PRESSURE:	230 mm at 100°F
PERCENT VOLATILE:	100%	VAPOR DENSITY:	4
DENSITY:	1.3	EVAPORATION RATE:	3 times faster than ethyl alcohol
WATER SOLUBILITY:	Negligible	APPEARANCE:	White, mobil. liquid
pH:	Neutral		
WARNING PROPERTIES:	Odor can be detected at 100 ppm, but is not strong enough to cause discomfort at 1000 ppm.		

DOT SHIPPING

SHIPPING NAME: For Bulk - Methyl Chloroform
For Aerosol - Compressed Gas, N.O.S.

MARKING: For Bulk - None
For Aerosol - Nonflammable Gas. (Methyl Chloroform).

HAZARD CLASS: For Bulk - ORM-A
For Aerosol - Nonflammable Gas

IDENTIFICATION: For Bulk - UN2831
For Aerosol - UN1936

CERTIFIED

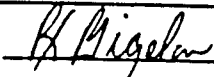
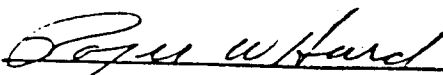
SDS-62 is composed entirely of materials listed in the TOSCA Inventory of Chemical Substances.

DATE: May 1, 1996
Supersedes MSDS dated May 26, 1989

SIGNED:

Bruce C. Graham
Bruce C. Graham, Chief Chemist
MAGNAFLUX®

RECEIPT INSPECTION REPORT		REF: 90-725775-0001 Rev. 1 Page 1 of 1	
No: 90-725775 Acquisition (XING / 100) Class: 111Q FOI: 680056		Criteria: 901-WECC-14-0004 Vendor Code: 20091/MAGNAFLUX	
Qty: 1	Description: 714-543-43 DEVELOPER, TYPE SKD-NF SHELF LIFE EXPIRATION DATE: NOVEMBER, 1992	Spec Inspect	Doc Inspect
Inspections Required			
Inspections Performed A=Accept **Reject		*	
ID#	Manufacturer	ID#	Manufacturer
01 B/N 190L00P	MAGNAFLUX		
Remarks: 1. ORDERED 12 OZ. CANS, RECEIVED 14 OZ. CANS. 2. VENDOR CERTIFICATE OF CONFORMANCE STATES P/N # 01-5320-68 PART # ON CAN IS #1-5320-58.			
12/18/90 <u>BS</u> INSPECTED BY: Rec Insp SIMMONS, R.		QA/QC Spec <u>N-A</u>	
Corrective Action/Disposition Details USE AS IS REF.DE 90-725775			
05/21/91 <u>RD Stokes</u> COMPLETED BY: Rec Insp RD STOKES		21 <u>J. Beauchamp</u> QA/QC Spec <u>05/22/91</u>	

DISPOSITION EVALUATION		DE 90-725775	Rev. 0	Page 1 of 1
PERF 925.000 Rev. 2		Title R1176 File No. 44 17040H		
REFERENCE				
P.O. No. 6E8066 P.O. Item No. 1 S/N N-A CP&L Part No. 714-863-69 Supplier Part No. 01-5320-68 Code 83093 Supplier MAGNAFLUX Name Description DEVELOPER, TYPE SKD-NF				
FAILURE/CONCERNS REFERENCE 90-725775 [] Attachment				
DISPOSITION <input checked="" type="checkbox"/> Use as is [] Scrap <input type="checkbox"/> Rework [] Onsite [] Vendor <input type="checkbox"/> Repair to other than original specifications [] Onsite [] Vendor <input type="checkbox"/> Reinspection required <input type="checkbox"/> Other disposition(s) as follows: [] Attachment				
New CP&L Part No.				
JUSTIFICATION FOR DISPOSITION [] Attachment REVISED PERF 925.000 TO REFLECT THE CORRECT PART NUMBER AND TO REMOVE THE CAN SIZE REQUIREMENT (SINCE ONLY ONE CAN SIZE IS MANUFACTURED).				
ATTACHMENTS (Requirements/References) <input type="checkbox"/> RIR - <input type="checkbox"/> SRF <input type="checkbox"/> PTI <input type="checkbox"/> Engineering Evaluation <input type="checkbox"/> Application Package [] Other				
APPROVALS <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 20px;"> <div style="text-align: center;">  Responsible Engineer BIGELOW R.X. </div> <div style="text-align: center;">  Reviewer HURD R.W. </div> <div style="text-align: center;"> 05/15/91 Date </div> <div style="text-align: center;"> 05/15/91 Date </div> </div>				

(EXHIBIT A)
THERMOMETER CHECK RECORDUSE FOR CONTROL THERMOMETER(S)
CONTROL THERMOMETER DATA

SERIAL NUMBER	LOW°	HIGH°	ACCEPTANCE CRITERIA	ACCEPT	REJECT
1.		N	Differential of 2% between #1 and #2 high & low readings		
2.		A			

USE FOR FIELD THERMOMETERS

Check Readings
at $\geq 50^{\circ} \Delta$

	CHECK DATE	VOID DATE	LOW°	HIGH°	SERIAL NO.	ACCEPT/ REJECT
CONTROL	2/25/92	2/25/93	33°	135°	80682	
FIELD	3/20/92	6/20/92	37°	131°	MR92-04	ACC
	3/20/92	6/20/92	37°	134°	MR92-05	ACC
	3/20/92	6/20/92	36°	130°	MR92-06	ACC

INSTRUCTIONS:

- 1) Place Control Thermometer in a can of water.
- 2) Place Field Thermometer(s) on side of the can.
- 3) Wait a minimum of ten minutes, then record low readings.
- 4) Warm the water in the can at least 50° higher than the temperature of the reading in (3).
- 5) Wait a minimum of ten minutes, then record high readings.

NOTE: ENSURE THAT THE WATER TEMPERATURE DOES NOT DROP BELOW THE DIFFERENTIAL MINIMUM OF 50°F .

- 6) The temperature readings of the Field Thermometers must be within 5% of the Control Thermometers or 5°F , whichever is greater.
- 7) Retain a copy of this form for your records, mail a copy to the equipment technician for filing at the Home Office.

TEST CONDUCTED BY:


SIGNATURE

 3-20-92
DATE

(EXHIBIT A)
THERMOMETER CHECK RECORD

USE FOR CONTROL THERMOMETER(S)
CONTROL THERMOMETER DATA

SERIAL NUMBER	LOW°	HIGH°	ACCEPTANCE CRITERIA	ACCEPT	REJECT
1.		N	Differential of 2% between #1 and #2 high & low readings		
2.		A			

USE FOR FIELD THERMOMETERS

Check Readings
at $\geq 50^{\circ} \Delta$

	CHECK DATE	VOID DATE	LOW°	HIGH°	SERIAL NO.	ACCEPT/REJECT
CONTROL	2/25/92	2/25/93	32°	122°	80682	
FIELD	3/16/92	6/16/92	33°	121°	SEP90-01	ACC
	3/16/92	6/16/92	33°	117°	JL91-05	ACC

INSTRUCTIONS:

- 1) Place Control Thermometer in a can of water.
- 2) Place Field Thermometer(s) on side of the can.
- 3) Wait a minimum of ten minutes, then record low readings.
- 4) Warm the water in the can at least 50° higher than the temperature of the reading in (3).
- 5) Wait a minimum of ten minutes, then record high readings.

NOTE: ENSURE THAT THE WATER TEMPERATURE DOES NOT DROP BELOW THE DIFFERENTIAL MINIMUM OF 50°F .

- 6) The temperature readings of the Field Thermometers must be within 5% of the Control Thermometers or 5°F , whichever is greater.
- 7) Retain a copy of this form for your records, mail a copy to the equipment technician for filing at the Home Office.

TEST CONDUCTED BY:

Penelope Bures
SIGNATURE

3-16-92

DATE

Ultrasonic Instrument Linearity Record

Ultrasonic Instrument:

Make KBI Model # USK-7 Serial # 27276-3784

Transducer: 0° Angle Beam N/A
 Freq. 5MHz Size .25 Serial # C12620 Serial # N/A

Calibration Standard: Rompas SS 863265

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10

**Screen Height Linearity
Signal Amplitude in % FSH**

No.	Actual Higher Signal	(Calculate)		Actual Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	50
2	90	45	(50) - (40)	45
3	80	40	(45) - (35)	40
4	70	35	(40) - (30)	35
5	60	30	(35) - (25)	30
6	50	25	(30) - (20)	25
7	40	20	(25) - (15)	20
8	30	15	(20) - (10)	15
9	20	10	(15) - (05)	10

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6	41	32% - 48%
80% FSH	Down 12	21	16% - 24%
40% FSH	Up 6	79	64% - 96%
20% FSH	Up 12	78	64% - 96%

Gain Control Full Range Checked: ☒ Yes ☐ No

This Instrument is Considered: ☒ Acceptable ☐ Not Acceptable

Examiner [Signature] ID N/A Level III

Date 6-15-92

Reviewed by [Signature] ID N/A Level III

Date 6-25-92

Ultrasonic Instrument Linearity Record

Ultrasonic Instrument:

Make KBI Model # USK-7 Serial # 27276-3702

Transducer: 0° Angle Beam N/A
 Freq. 5 MHz Size .25 Serial # C12620 Serial # N/A

Calibration Standard: Rompas 55 86 3265

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10

Screen Height Linearity Signal Amplitude In % FSH

No.	Actual Higher Signal	(Calculate)		Actual Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	50
2	90	45	(50) - (40)	45
3	80	40	(45) - (35)	40
4	70	35	(40) - (30)	35
5	60	30	(35) - (25)	30
6	50	25	(30) - (20)	25
7	40	20	(25) - (15)	20
8	30	15	(20) - (10)	15
9	20	10	(15) - (05)	10

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6	40	32% - 48%
80% FSH	Down 12	20	16% - 24%
40% FSH	Up 6	80	64% - 96%
20% FSH	Up 12	80	64% - 96%

Gain Control Full Range Checked: ☒ Yes ☐ No

This Instrument is Considered: ☒ Acceptable ☐ Not Acceptable

Examiner [Signature] ID N/A Level III

Date 6-15-92

Reviewed by [Signature] ID N/A Level III-UT

Date 6-25-92

Ultrasonic Instrument Linearity Record

Ultrasonic Instrument:

Make KBI Model # USK-7 Serial # 27276-3409

Transducer: 0° Angle Beam N/A
 Freq. 5MHz Size 25 Serial # C12620 Serial # N/A

Calibration Standard: Rompas S.S. 86 3265

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10

Screen Height Linearity
Signal Amplitude in % FSH

No.	Actual Higher Signal	(Calculate)		Actual Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	50
2	90	45	(50) - (40)	45
3	80	40	(45) - (35)	40
4	70	35	(40) - (30)	35
5	60	30	(35) - (25)	30
6	50	25	(30) - (20)	25
7	40	20	(25) - (15)	20
8	30	15	(20) - (10)	15
9	20	10	(15) - (05)	10

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6	40	32% - 48%
80% FSH	Down 12	20	16% - 24%
40% FSH	Up 6	80	64% - 96%
20% FSH	Up 12	80	64% - 96%

Gain Control Full Range Checked: ☒ Yes ☒ No

This Instrument is Considered: ☒ Acceptable ☒ Not Acceptable

Examiner Scott Lan ID N/A Level TII

Date 6-15-92

Viewed by Shahin ID N/A Level III UT

Date 6-25-92

Ultrasonic Instrument Linearity Record

Ultrasonic Instrument:

Make KBI Model # USK-7 Serial # 27276-3789

Transducer: 0° Angle Beam N/A
 Freq. 5.142 Size .25 Serial # C12620 Serial # N/A

Calibration Standard: Rompas S.S. 86 3265

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10

**Screen Height Linearity
Signal Amplitude in % FSH**

No.	Actual Higher Signal	(Calculate)		Actual Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	50
2	90	45	(50) - (40)	45
3	80	40	(45) - (35)	40
4	70	35	(40) - (30)	35
5	60	30	(35) - (25)	30
6	50	25	(30) - (20)	25
7	40	20	(25) - (15)	20
8	30	15	(20) - (10)	15
9	20	10	(15) - (05)	10

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6	40	32% - 48%
80% FSH	Down 12	18	16% - 24%
40% FSH	Up 6	80	64% - 96%
20% FSH	Up 12	76	64% - 96%

Gain Control Full Range Checked: ☒ Yes ☐ No

This Instrument is Considered: ☒ Acceptable ☐ Not Acceptable

Examiner Scott Lane ID N/A Level III
 Date 6-15-92

Reviewed by Phakumy ID N/A Level III UT
 Date 6-25-92

Ultrasonic Instrument Linearity Record

Ultrasonic Instrument:

Make KBI Model # USK-7 Serial # 27276-3784

Transducer: 0° Angle Beam 45° 2.25 MHz 0.5"
 Freq. 2.25 Size 0.5" Serial # J10523 Serial # E18404

Calibration Standard: MINI IIW STEEL SN 6086-83

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	1.0
2	2	2.0
3	3	3.0
4	4	4.0
5	5	5.0
6	6	6.0
7	7	7.0
8	8	8.0
9	9	9.0
10	10	10.0

Screen Height Linearity Signal Amplitude in % FSH

No.	Actual Higher Signal	(Calculate)		Actual-Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	50
2	90	45	(50) - (40)	45
3	80	40	(45) - (35)	40
4	70	35	(40) - (30)	35
5	60	30	(35) - (25)	30
6	50	25	(30) - (20)	25
7	40	20	(25) - (15)	20
8	30	15	(20) - (10)	15
9	20	10	(15) - (05)	10

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6	41	32% - 48%
80% FSH	Down 12	21	16% - 24%
40% FSH	Up 6	79	64% - 96%
20% FSH	Up 12	78	64% - 96%

Gain Control Full Range Checked: ☒ Yes ☐ No

This Instrument is Considered: ☒ Acceptable ☐ Not Acceptable

Examiner Charles R. Donovan ID 088-48-8859 Level II

Date 3-25-92

Reviewed by C. R. P. ID 031-32-4208 Level III

Date 3-26-92

Ultrasonic Instrument Linearity Record

Ultrasonic Instrument:

Make KBI Model # USK-7 Serial # 27276-3702

Transducer: 0° Angle Beam 45° 2.25 MHz 0.5"
 Freq. 2.25 Size 0.5" Serial # J10 523 Serial # E18404

Calibration Standard: MINI IIW STEEL SN 6086-83

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	1.0
2	2	2.0
3	3	3.0
4	4	4.0
5	5	5.0
6	6	6.0
7	7	7.0
8	8	8.0
9	9	9.0
10	10	10.0

Screen Height Linearity Signal Amplitude In % FSH

No.	Actual Higher Signal	(Calculate)		Actual-Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	50
2	90	45	(50) - (40)	45
3	80	40	(45) - (35)	40
4	70	35	(40) - (30)	35
5	60	30	(35) - (25)	30
6	50	25	(30) - (20)	25
7	40	20	(25) - (15)	20
8	30	15	(20) - (10)	15
9	20	10	(15) - (05)	10

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6	40	32% - 48%
80% FSH	Down 12	20	16% - 24%
40% FSH	Up 6	80	64% - 96%
20% FSH	Up 12	80	64% - 96%

Gain Control Full Range Checked: ☒ Yes ☐ No

This Instrument is Considered: ☒ Acceptable ☐ Not Acceptable

Examiner Edmund R. Donover ID 088-48-8859 Level II

Date 3-25-92

Reviewed by Edmund R. Donover ID 031-32-4208 Level III

Date 3-26-92

Ultrasonic Instrument Linearity Record

Ultrasonic Instrument: KB I Model # USK-7 Serial # 27276-3409
 Transducer: 0° Angle Beam 45° 2.25 MHz 0.5"
 Freq. 2.25 Size 5" Serial # J10523 Serial # E18404
 Calibration Standard: MINI IIW STEEL SN-6086-83

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	1.0
2	2	2.0
3	3	3.05
4	4	4.05
5	5	5.05
6	6	6.0
7	7	7.0
8	8	8.0
9	9	9.0
10	10	10.0

Screen Height Linearity Signal Amplitude in % FSH

No.	Actual Higher Signal	(Calculate)		Actual Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	50
2	90	45	(50) - (40)	45
3	80	40	(45) - (35)	40
4	70	35	(40) - (30)	35
5	60	30	(35) - (25)	31
6	50	25	(30) - (20)	26
7	40	20	(25) - (15)	21
8	30	15	(20) - (10)	16
9	20	10	(15) - (05)	11

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6	39	32% - 48%
80% FSH	Down 12	19	16% - 24%
40% FSH	Up 6	81	64% - 96%
20% FSH	Up 12	83	64% - 96%

Gain Control Full Range Checked: ☒ Yes ☐ No

This Instrument is Considered: ☒ Acceptable ☐ Not Acceptable

Examiner Edmund R. Donohue ID 088-48-8859 Level II

Date 3-25-92

Reviewed by Octav R. Puma ID 031-32-4208 Level III

Date 3-26-92

Ultrasonic Instrument Linearity Record

Ultrasonic Instrment:

Make KBI Model # USK-7 Serial # 27276-3789

Transducer: 0° Angle Beam 45° 2.25MHZ 0.5"
 Freq. 2.25 Size 0.5 Serial # J10523 Serial # E18404

Calibration Standard: MINI IIW STEEL SN 6086-83

Horizontal Linearity

Back Reflect.	Grid Loc.	Actual Loc.
1	1	1.0
2	2	2.0
3	3	3.0
4	4	4.05
5	5	5.05
6	6	6.05
7	7	7.05
8	8	8.05
9	9	9.0
10	10	10.0

Screen Height Linearity Signal Amplitude in % FSH

No.	Actual Higher Signal	(Calculate)		Actual-Lower Signal
		1/2 of Higher	Acceptable Limits*	
1	100	50	(55) - (45)	50
2	90	45	(50) - (40)	45
3	80	40	(45) - (35)	40
4	70	35	(40) - (30)	35
5	60	30	(35) - (25)	30
6	50	25	(30) - (20)	25
7	40	20	(25) - (15)	19
8	30	15	(20) - (10)	14
9	20	10	(15) - (05)	9

* Acceptance limits are 1/2 of the Higher Signal + or - 5% FSH

Amplitude Control Linearity

Initial Amplitude	Db Change	Results	Limit
80% FSH	Down 6	40	32% - 48%
80% FSH	Down 12	19	16% - 24%
40% FSH	Up 6	80	64% - 96%
20% FSH	Up 12	81	64% - 96%

Gain Control Full Range Checked: ☒ Yes ☐ No

This Instrument is Considered: ☒ Acceptable ☐ Not Acceptable

Examiner Edmund R. Donovan ID 088-48-8859 Level II
 Date 3-25-92

Reviewed by Arthur R. P... ID 031-32-4208 Level III
 Date 3-26-92

TRANSDUCER CERTIFICATION

Transducer Description

Model Gamma HP S/N M12411
Frequency 5.0 MHz Size 50
Style F Connector MD
☒ Contact ☐ Immersion ☐ Nonfocused I
Water Path 1A ☐ Spherical
Target 3.0" STEEL ☐ Cylindrical TRACE II
Relative Sensitivity 63 dB
Energy Setting 4 Impedance 250 TRACE III
☒ Peak or ☐ Center Frequency 5.3 MHz
Inspector SCD Date 2-24-86

REVIEWED BY Cat Ruma LEVEL III
3-3-86
NUCLEAR ENERGY SERVICES

Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a flat steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Dual contact transducers are tested on a flat polymer block unless otherwise specified. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the delay line. Nonfocused immersion transducers are tested in water over a flat steel plate using a water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (± 1 dB) on the CRT. With the vertical calibration of Trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

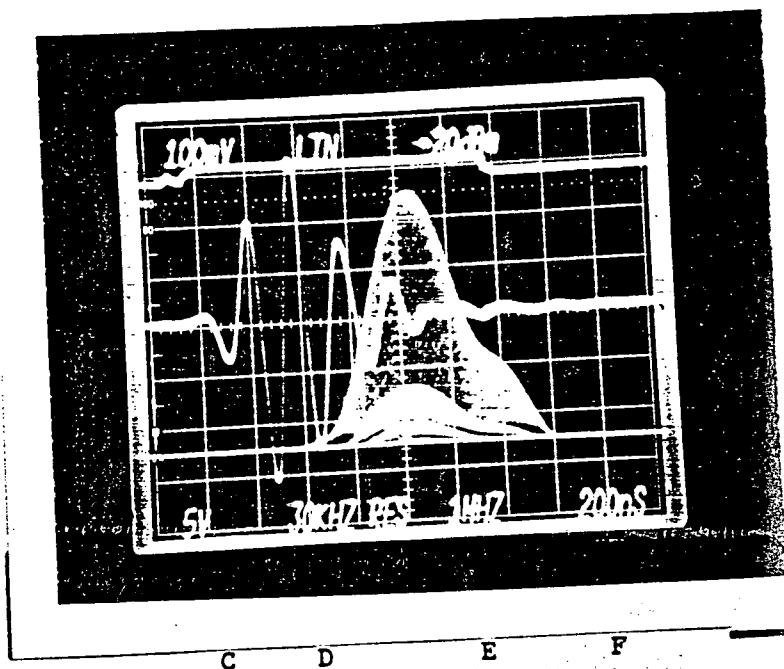
Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for Trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for Trace I is the same as that for Trace II. The portion of Trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for Trace III. Figures B and D show the spectrum analyzer's attenuator and resolution settings respectively.

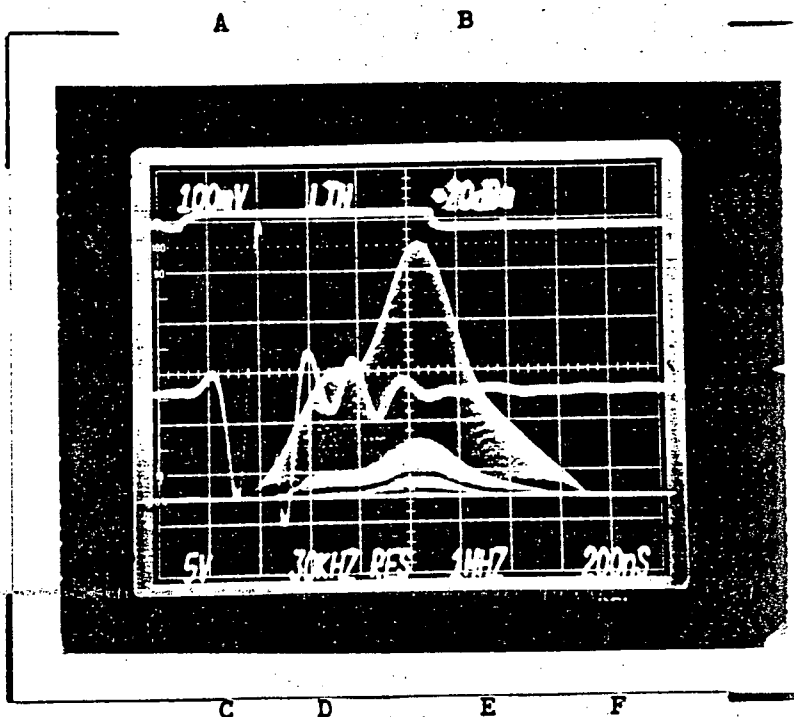


KRAUTKRAMER BRANSON
P. O. Box 350
Lewistown, PA 17044

TRANSDUCER CERTIFICATION

Transducer Description

Model GAMMA HP S/N B17620
Frequency 5.0 MHz Size .25
Style F Connector MD
☒ Contact ☐ Immersion ☐ Nonfocused
Water Path NA ☐ Spherical
Target 3.0" STEEL ☐ Cylindrical
Relative Sensitivity 59 dB
Energy Setting 4 Impedance 250
☒ Peak or ☐ Center Frequency 5.2 MHz
Inspector SD Date 2-24-86
Reviewed By W. P. [Signature] LEVEL III
NUCLEAR ENERGY SERVICES 3-3-86



Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Dual contact transducers are tested on a flat polymer block unless otherwise specified. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the delay line. Nonfocused immersion transducers are tested in water over a flat steel plate using a water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (± 1 dB) on the CRT. With the vertical calibration of Trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for Trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for Trace I is the same as that for Trace II. The portion of Trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for Trace III. Figures B and D show the spectrum analyzer's attenuator and resolution settings respectively.

KRAUTKRAMER BRANSON
P. O. Box 350
Lewistown, PA 17044

TRANSDUCER CERTIFICATION

MICHAEL L. SHAKINOVSKY
4-2-86

Transducer Description

Series Gamma HP S/N C21620

Frequency 5.0 MHz Size .25

Style F Connector MD

☒ Contact ☐ Immersion ☐ Nonfocused TRACE I

Water Path WA ☐ Spherical

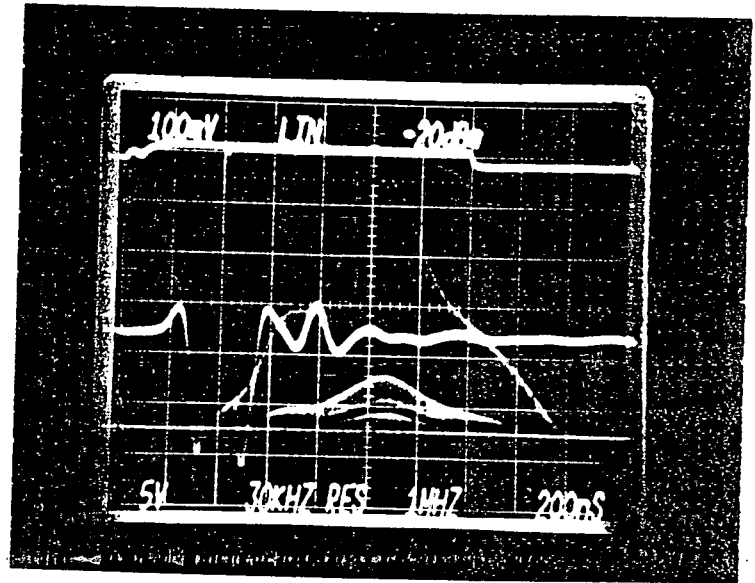
Target 3.0" STEEL ☐ Cylindrical TRACE II

Relative Sensitivity 58 dB

Energy Setting 4 Impedance 250 TRACE III

☒ Peak or ☐ Center Frequency 5.3 MHz

Inspector SCD Date 3-26-86



Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a flat steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Dual contact transducers are tested on a flat polymer block unless otherwise specified. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the probe line. Nonfocused immersion transducers are tested in water over a flat steel plate using a water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (± 1 dB) on the CRT. With the vertical calibration of Trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for Trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for Trace I is the same as that for Trace II. The portion of Trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for Trace III. Figures B and D show the spectrum analyzer's attenuator and resolution settings respectively.

KRAUTKRAMER BRANSON
P. O. Box 350
Lewistown, PA 17044

ULTRASONIC SEARCH UNIT QUALIFICATION

SEARCH UNIT DATA

Manufacturer: K-B Aerotech
 Serial No.: B02380
 Mfg. Designation: Gamma
 Nominal Angle: 0° (Check One)
☒ Long. ☐ Shear
 Nominal Frequency: 5.0 MHz
 Element Dimensions: 0.50" DIA.
 Element Material: N/A
 Tuning: (Check One)
☐ Tuned ☒ Untuned
 Intended Use: (Check One)
☒ Contact ☐ Immersion ☐ Other
 Connector: BNC

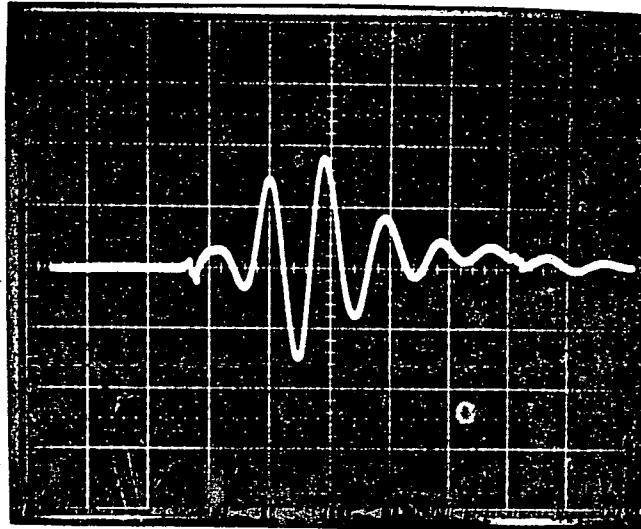
Peak Distance:
N/A in N/A
 (Check One)
 Element N/A Peak (for dual) N/A
 I N/A Focus N/A Point Focus N/A
 Other: N/A

TEST DATA

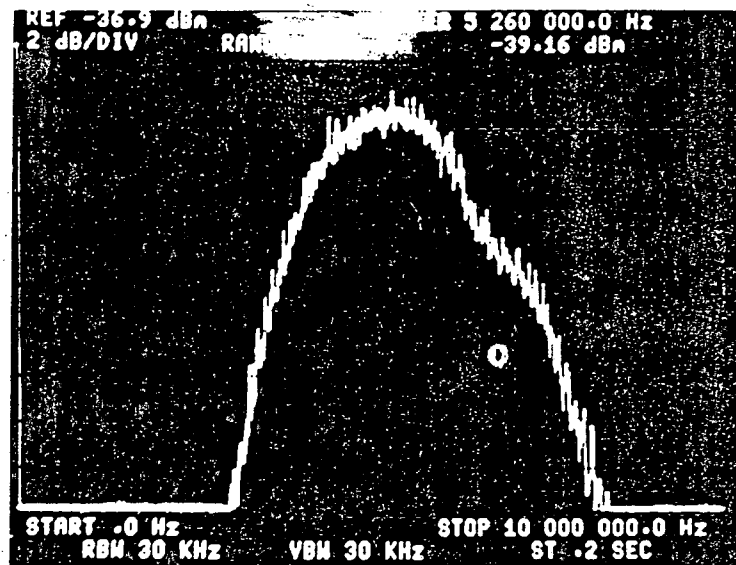
Test Block S/N: 57A6314-18
 Block Material: C/S
 Block Dimension Used: 1"
 Cable Type: RG 58 A/U
 Cable Length: 6"
 Pulser/Receiver
 Gain: 40 Energy: 2
 Receiver Attenuation: 62 db
 Receiver Damping: 200 Ohms
 3 db Limits: Lower 4.15 MHz
 Upper 6.32 MHz
 Center Freq.: 5.23 MHz
 6 db Limits: Lower 3.82 MHz
 Upper 6.67 MHz
 Measured Peak Freq.: 5.26 MHz
 Bandwidth: 2.85 MHz
 Measured Angle: 0° in C/S

REAL TIME WAVEFORM

.2 μ S/Div. .2 Volts/Div.



SPECTRUM ANALYSIS



REMARKS

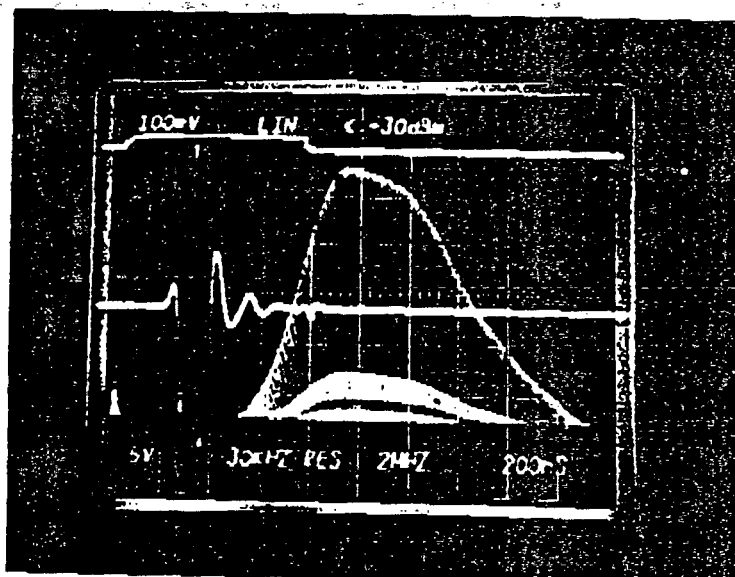
CERTIFICATION PERFORMED BY: John J. Hayden
 DATE: 1/15/87 ACCEPTED REJECTED
 BY: John J. Hayden 1/15/87 UT LEVEL III
 RECERTIFY BEFORE: N/A

1125

CLEAR
ENERGY
SERVICES, INC.

FREQUENCY SPECTRUM ANALYSIS

MANUFACTURER: KRAUTKRAMER BRANSON S/N 021385
MARKED NOMINAL FREQUENCY: 10.0 SIZE .25"



RESULTS

HORIZONTAL SCALE 10 MHz

Chelving 3/21/92
8 2 MHz/DIVISION

TRANSDUCER CENTRAL FREQUENCY 9.8 MHz

XX ACCEPTABLE

UNACCEPTABLE

INTERPRETATION BY

S. L. Foote
S. L. Foote, Level III

DATE 10/3/83

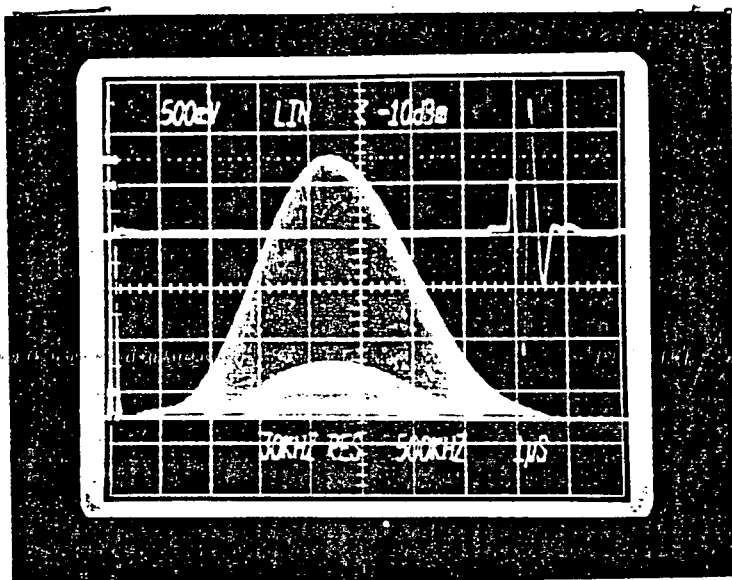


AUTOMATION INDUSTRIES, INC.

SPERRY PRODUCTS DIVISION

SHELTER ROCK ROAD
DANBURY, CONN. 06810
(203) 748-3581

FREQUENCY SPECTRUM ANALYSIS

PART NUMBER 57A9712SERIAL NUMBER D86189DATE 4/11/86INSPECTOR B.V.Nominal Angle: 0° (Check One)☒ Long.☐ ShearNominal Frequency: 2.25 MHzElement Dimensions: .25 in. DIA.Element Material: LTZ-2

Tuning: (Check One)

☐ Tuned☒ Untuned

Intended Use: (Check One)

☒ Contact☐ Immersion☐ OtherConnector: MICRODOT

From IIW Block 4.0" Radius

From a Flat Aluminum Block @ IN.From a Flat Steel Block @ IN.From a Flat Glass Plate @ IN.From a IN. Steel Ball @ IN.

FROM .5" PLEXIGLASS BLOCK

Waterpath @ FOCAL LENGTH IN.Waterpath @ FOCAL LENGTH IN.Waterpath @ FOCAL LENGTH IN.Waterpath @ FOCAL LENGTH IN.

U.A. MODEL 5052UA

REP. RATE 2KDAMPING 50ΩENERGY 1RCVR ATTN 6 dBGAIN 40 dBH.P. FILTER 1.00.5 VOLTS / DIV.

CONNECTION CABLES

U.A. to CRYSTAL 6FT. RG-174U.A. to SCOPE 2FT. RG-62

TEKRONIX SCOPE 7704A

SCOPE SERIAL NO. B219567U.A. SERIAL NO. 267**NUCLEAR ENERGY SERVICES**

UT LTR

N. McManis 6-23-86REVIEWED BY 1 DATEQ.C. FORM 203
REVISED JAN. 1984

ULTRASONIC SEARCH UNIT QUALIFICATION

Report No. 7790787

SEARCH UNIT DATA

Manufacturer: Aerotech
 Serial No.: L17910
 Mfg. Designation: Gamma
 Nominal Angle: 0° (Check One)
☒ Long. ☐ Shear
 Nominal Frequency: 2.25 MHz
 Element Dimensions: 1/2 x 1
 Element Material: NA
 Tuning: (Check One)
☒ Tuned ☐ Untuned
 Intended Use: (Check One)
☒ Contact ☐ Immersion ☐ Other
 Connector: BNC
 Peak Distance:
NA in NA
 (Check One)

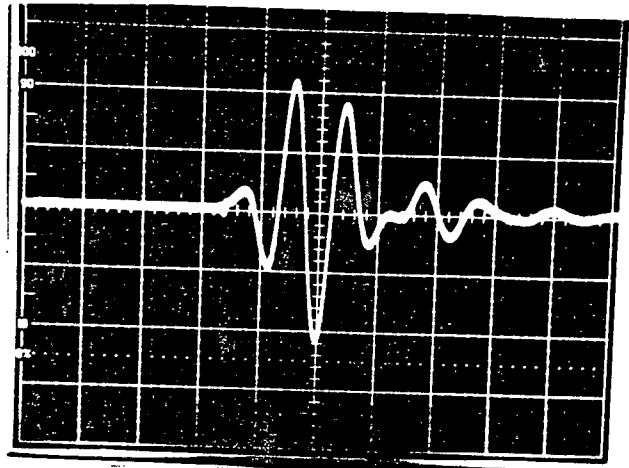
Y₀: NA Peak (for dual) NA
 Line Focus NA Point Focus NA
 Other: NA

TEST DATA

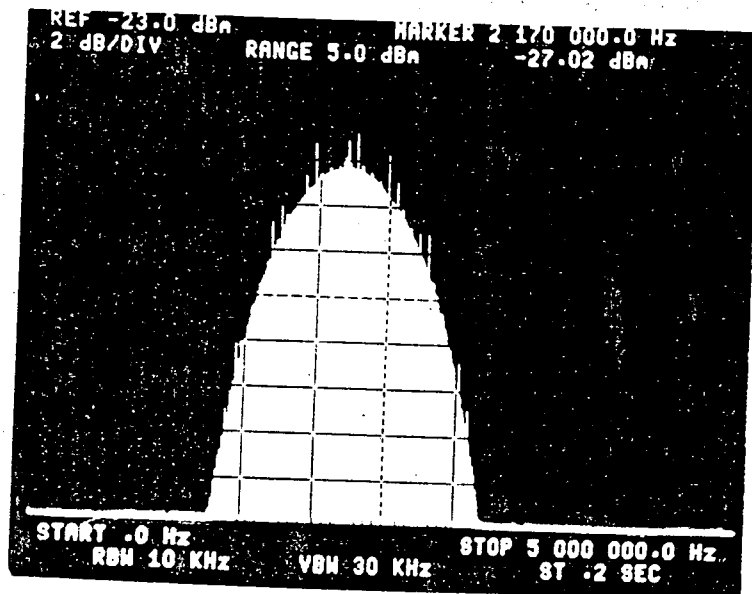
Test Block S/N: NA
 Block Material: UVA II
 Block Dimension Used: 1"
 Cable Type: RG 58A/U
 Cable Length: 6'
 Pulser/Receiver
 Gain: 40 Energy: 4
 Receiver Attenuation: 46 db
 Receiver Dampings: 500 Ohms
 3 db Limits: Lower 1.70 MHz
 Upper 2.66 MHz
 Center Freq.: 2.18 MHz
 5 db Limits: Lower 1.54 MHz
 Upper 2.86 MHz
 Measured Peak Freq.: 2.17 MHz
 Bandwidth: 1.32 MHz
 Measured angle: 0L° in UVA II

REAL TIME WAVEFORM

0.5 μ S/Div. 0.5 Volts/Div.



SPECTRUM ANALYSIS



REMARKS

CERTIFICATION PERFORMED BY: Dan M. Ensign
 DATE: 7/31/87 ACCEPTED ☐ REJECTED ☐
 BY: Phalun UT LEVEL III
 RECERTIFY BEFORE: N/A

E18413

TRANSDUCER CERTIFICATION

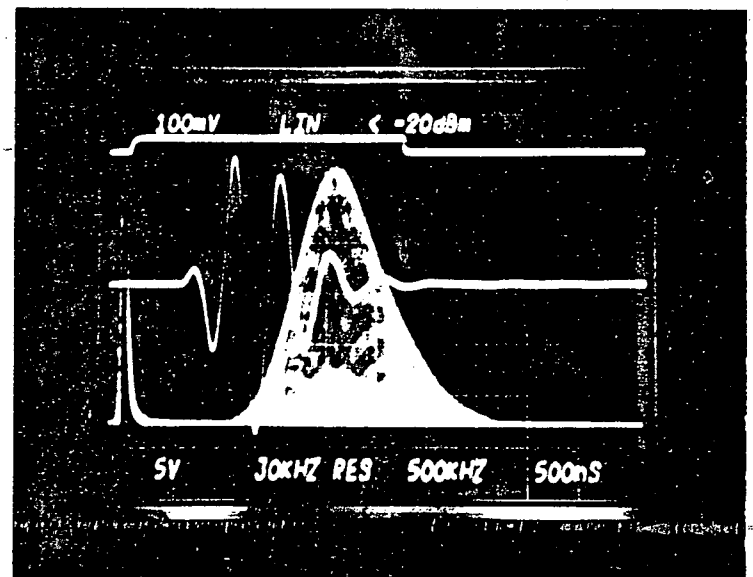
Transducer Description

Series Hanna S/N E18413
Frequency 2.25 MHz Size .50"
Style MSWS Connector M.O.
☒ Contact ☐ Immersion ☐ Nonfocused
Water Path ☐ Spherical
Target 1.0" Plexiglas ☐ Cylindrical
Relative Sensitivity 38 dB
Energy Setting 2 Impedance 50A
☒ Peak or ☐ Center Frequency 2.1 MHz
Inspector JEF Date 5-29-84

TRACE I

TRACE II

TRACE III



Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a flat steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Dual contact transducers are tested on a flat polymer block unless otherwise specified. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the delay line. Nonfocused immersion transducers are tested in water over a flat steel plate using a water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (± 1 dB) on the CRT. With the vertical calibration of Trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for Trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for Trace I is the same as that for Trace II. The portion of Trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for Trace III. Figures B and D show the spectrum analyzer's attenuator and resolution settings respectively.

KRAUTKRAMER BRANSON
P. O. Box 350
Lewistown, PA 17044

TRANSDUCER CERTIFICATION

Transducer Description

Series Hamma S/N E18404

Frequency 2.25 MHz Size .50"

Style MSWS Connector M.O.

☒ Contact ☐ Immersion ☐ Nonfocused

Water Path ☐ Spherical

Target 1.0" Plexiglas ☐ Cylindrical

Relative Sensitivity 37 dB

Energy Setting 2 Impedance 50Ω

☒ Peak or ☐ Center Frequency 2.1 MHz

Inspector JCF Date 5-29-84

[Signature] 7/31/91

Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a 1" steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Dual contact transducers are tested on a flat polymer block unless otherwise specified. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the delay line. Nonfocused immersion transducers are tested in water over a flat steel plate using water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (± 1 dB) on the CRT. With the vertical calibration of Trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

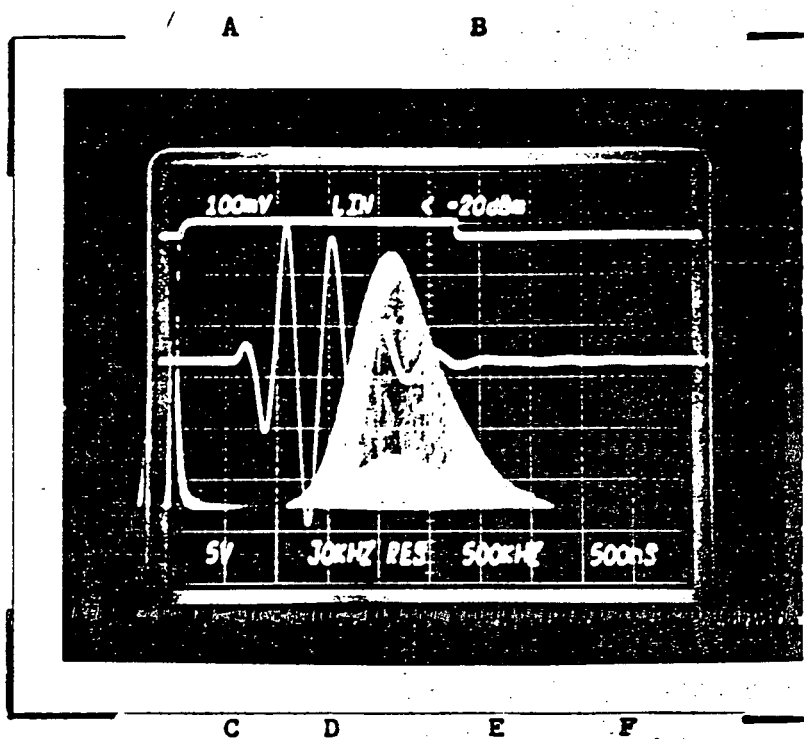
Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for Trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for Trace I is the same as that for Trace II. The portion of Trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for Trace III. Figures B and D show the spectrum analyzer's attenuator and resolution settings respectively.



ULTRASONIC SEARCH UNIT QUALIFICATION

Report No. 6980187

SEARCH UNIT DATA

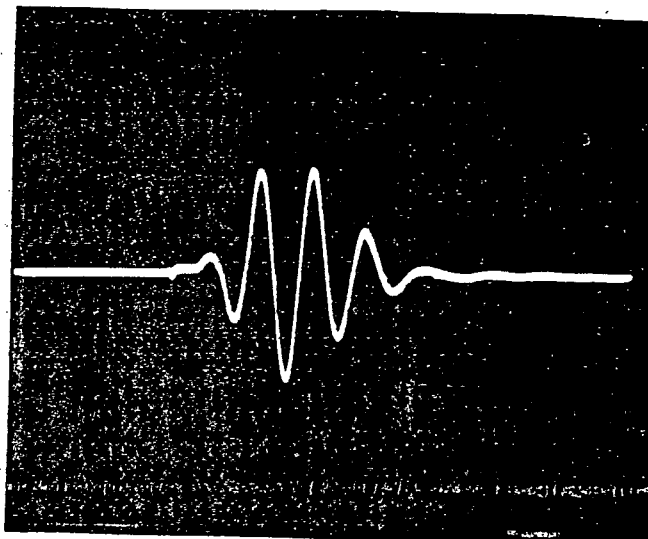
Manufacturer: Aerotech
 Serial No.: G 20839
 Mfr. Designation: Gamma
 Nominal Angle: 0° (Check One)
☒ Long. ☐ Shear
 Nominal Frequency: 2.25 MHz
 Element Dimensions: 0.25" DIA.
 Element Material: N/A
 Tuning: (Check One)
☐ Tuned ☒ Untuned
 Intended Use: (Check One)
☒ Contact ☐ Immersion ☐ Other
 Connector: MICRODOT
 Peak Distance:
N/A in N/A
 (Check One)
 at Y₀ N/A Peak (for dual) N/A
 Line Focus N/A Point Focus N/A
 Other: N/A

TEST DATA

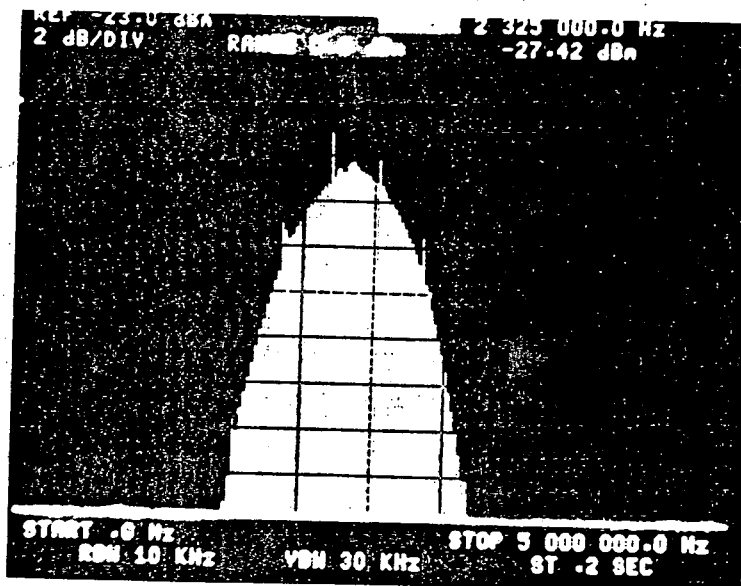
Test Block S/N: N/A
 Block Material: UVA II
 Block Dimension Used: 1"
 Cable Type: RG 174 U
 Cable Length: 6'
 Pulser/Receiver
 Gain: 40 Energy: 2
 Receiver Attenuation: 28 db
 Receiver Damping: 200 Ohms
 3 db Limits: Lower 1.18 MHz
 Upper 2.77 MHz
 Center Freq.: 1.97 MHz
 3 db Limits: Lower 1.71 MHz
 Upper 2.91 MHz
 Measured Peak Freq.: 2.35 MHz
 Bandwidth: 1.20 MHz
 Measured Angle: 0° in UVA II

REAL TIME WAVEFORM

.5 uS/Div. .5 Volts/Div.



SPECTRUM ANALYSIS



REMARKS

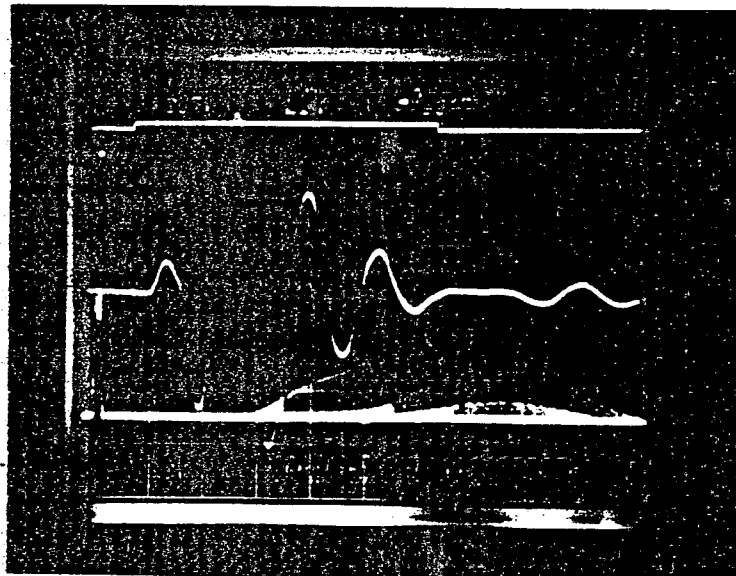
CERTIFICATION PERFORMED BY: John J. Hayden
 DATE: 1/12/87
 BY: John J. Hayden 1/12/87 ACCEPTED REJECTED
 RECERTIFY BEFORE: N/A

1125

NUCLEAR
ENERGY
SERVICES, INC.

FREQUENCY SPECTRUM ANALYSIS

MANUFACTURER: K. B. AEROTECH S/N D15358
MARKED NOMINAL FREQUENCY: 1.5 SIZE .25"



RESULTS

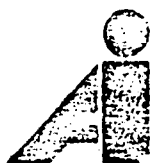
HORIZONTAL SCALE 2 MHz (.2 MHz/DIVISION)

TRANSDUCER CENTRAL FREQUENCY 1.51 MHz

XX ACCEPTABLE

UNACCEPTABLE

INTERPRETATION BY *S. L. Foote* DATE 5/4/83
S. L. Foote, Level III



AUTOMATION INDUSTRIES, INC.

SPERRY PRODUCTS DIVISION

SHELTER ROCK ROAD
DANBURY, CONN. 06810
(203) 748-3561

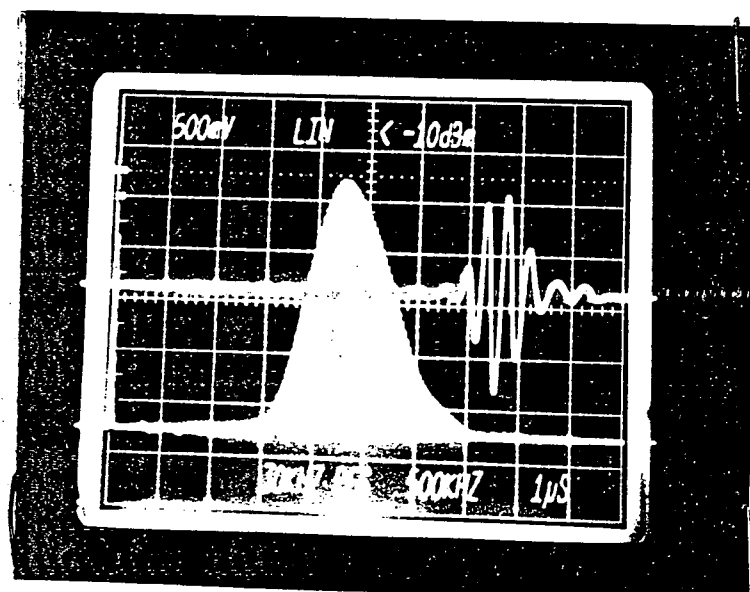
FREQUENCY SPECTRUM ANALYSIS

PART NUMBER GAMMA

SERIAL NUMBER D22064

DATE 8/2/84

INSPECTOR B.V.



Nominal Angle: 45° (Check One)
USED WITH WEDGE
☐ Long. ☒ Shear

Nominal Frequency: 2.25 MHz

Element Dimensions: .5"

Element Material: N/A

Tuning: (Check One)

☐ Tuned ☒ Untuned

Intended Use: (Check One)

☒ Contact ☐ Immersion ☐ Other

Connector: MICRODOT

☒ From IIW Block 4.0" Radius
☐ From a Flat Aluminum Block @ IN. Waterpath @ FOCAL LENGTH IN.
☐ From a Flat Steel Block @ IN. Waterpath @ FOCAL LENGTH IN.
☐ From a Flat Glass Plate @ IN. Waterpath @ FOCAL LENGTH IN.
☐ From a IN. Steel Ball @ IN. Waterpath @ FOCAL LENGTH IN.

U.A. MODEL 5052UA
REP. RATE 2K
DAMPING 500Ω
ENERGY 4
RCVR ATTN 10 dB
GAIN 40 dB
H.P. FILTER 1.0
0.5 VOLTS /DIV

CONNECTION CABLES
U.A. to CRYSTAL 6F RG-
U.A. to SCOPE 2F RG-62
TEKRONIX SCOPE 770A
SCOPE SERIAL NO. B219567
U.A. SERIAL NO. 267

ULTRASONIC SEARCH UNIT QUALIFICATION

Report No. 7430187

SEARCH UNIT DATA

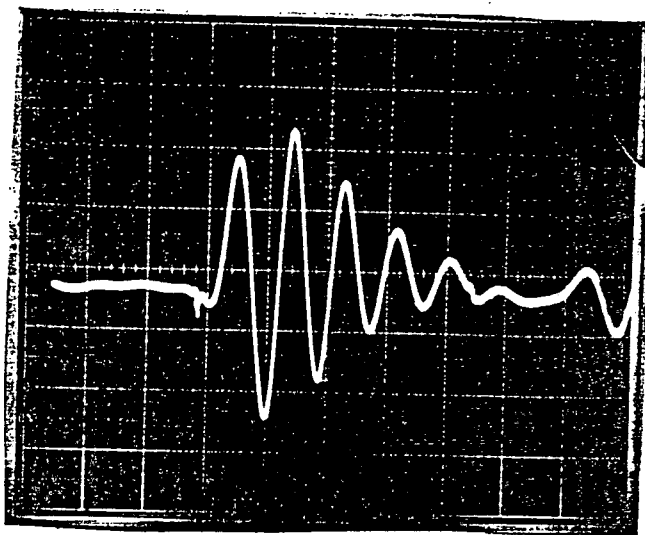
Manufacturer: K-B Acoustech
 Serial No.: KB 10175
 Mfg. Designation: Gamma DUEP
 Nominal Angle: 0° (Check One)
☒ Long. ☐ Shear
 Nominal Frequency: 2.25 MHz
 Element Dimensions: 0.50" DIA. (DUAL)
 Element Material: N/A
 Tuning: (Check One)
☐ Tuned ☒ Untuned
 Intended Use: (Check One)
☒ Contact ☐ Immersion ☐ Other
 Connector: BNC/BNC
 Peak Distance:
~.70" in 5/s
 (Check One)
 Flat Y₀ N/A Peak (for dual) N/A
 Focal Point N/A Point Focus N/A
 Other: N/A

TEST DATA

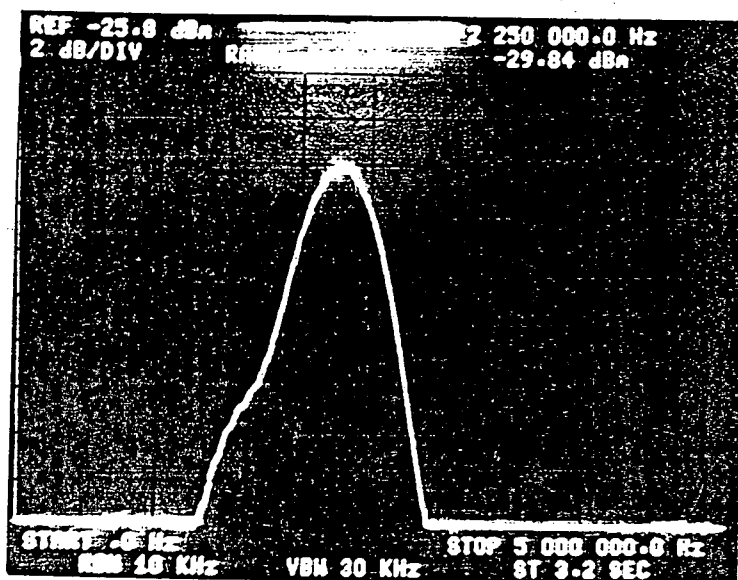
Test Block S/N: 57A6314-18
 Block Material: C/S
 Block Dimension Used: 1"
 Cable Type: Integral
 Cable Length: 6'
 Pulsar/Receiver
 Gain: 40 Energy: 4
 Receiver Attenuation: 22 db
 Receiver Damping: 200 Ohms
 3 db Limits: Lower 1.98 MHz
 Upper 2.53 MHz
 Center Freq.: 2.25 MHz
 6 db Limits: Lower 1.86 MHz
 Upper 2.64 MHz
 Measured Peak Freq.: 2.25 MHz
 Bandwidth: 0.78 MHz
 Measured Angle: N/A° in N/A

REAL TIME WAVEFORM

.5 uS/Div. .2 Volts/Div.



SPECTRUM ANALYSIS



REMARKS

The connector containing ID information is considered to be the transmitter.

CERTIFICATION PERFORMED BY: John J Hayden

DATE: 1/16/87

ACCEPTED

REJECTED

BY: John J Hayden 1/16/87 UT LEVEL III

RECERTIFY BEFORE: N/A

1025



NUCLEAR
ENERGY
SERVICES, INC.

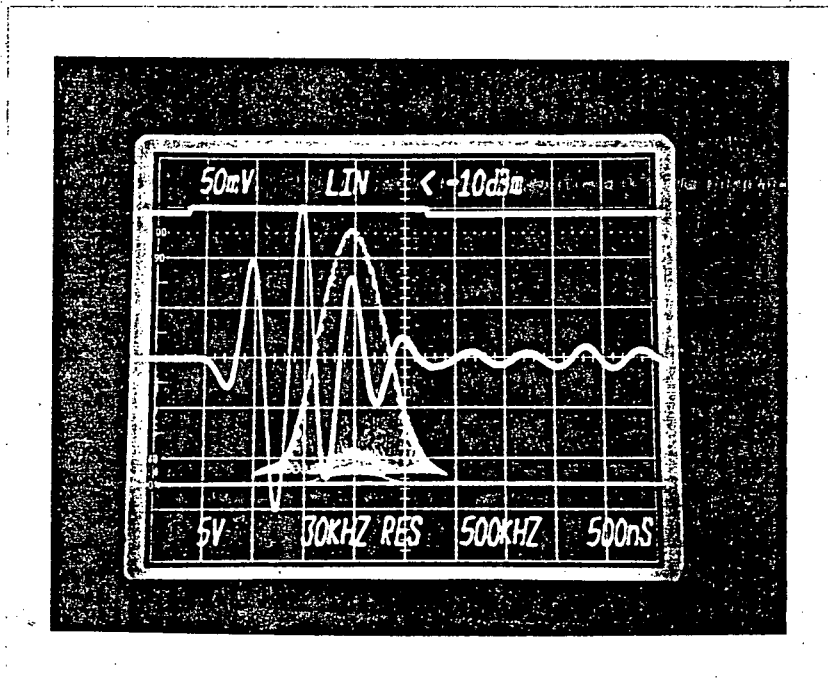
FREQUENCY SPECTRUM ANALYSIS

MANUFACTURER: Aerotech

S/N KB2825

MARKED FREQUENCY: 2.25 MHz

SIZE .50



RESULTS

Central Scale 2.5 MHz (.5 MHz/Division)

Transducer Central Frequency 2.0 MHz

X Acceptable

 Unacceptable

Interpretation By M. Stamm

M. Stamm

1/13/82
Date

ULTRASONIC SEARCH UNIT QUALIFICATION

Report No. 6430986

SEARCH UNIT DATA

Manufacturer: Aevotech

Serial No.: F18060

Mfr. Designation: Gamma HP

Nominal Angle: 0° (Check One)

☒ Long. ☐ Shear

Nominal Frequency: 5.0 MHz

Element Dimensions: .75" dia

Element Material: NA

Tuning: (Check One)

☐ Tuned ☒ Untuned

Intended Use: (Check One)

☒ Contact ☐ Immersion ☐ Other

Connector: BNC

Peak Distance:

NA in NA

(Check One)

Flat Y. NA Peak (for dual) NA

Focus NA Point Focus NA

Other: NA

TEST DATA

Test Block S/N: 86-3254

Block Material: Stainless steel

Block Dimension Used: 1"

Cable Type: RG-58A/U

Cable Length: 6'

Pulser/Receiver

Gain: 40 Energy: 2

Receiver Attenuation: 36 db

Receiver Damping: 500 Ohms

3 db Limits: Lower 5.03 MHz

Upper 6.03 MHz

Center Freq.: 5.53 MHz

6 db Limits: Lower 4.79 MHz

Upper 6.16 MHz

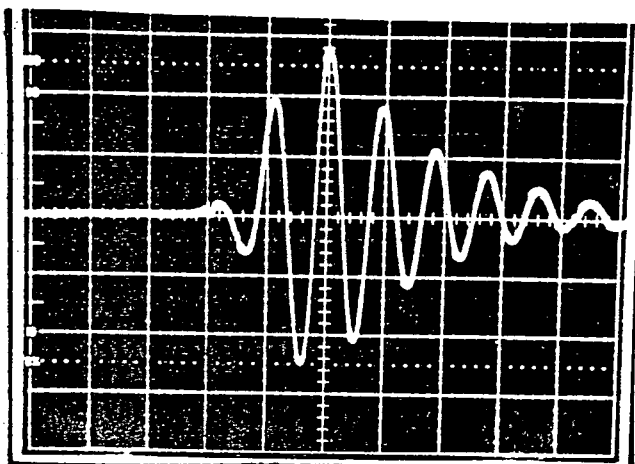
Measured Peak Freq.: 5.50 MHz

Bandwidth: 1.37 MHz

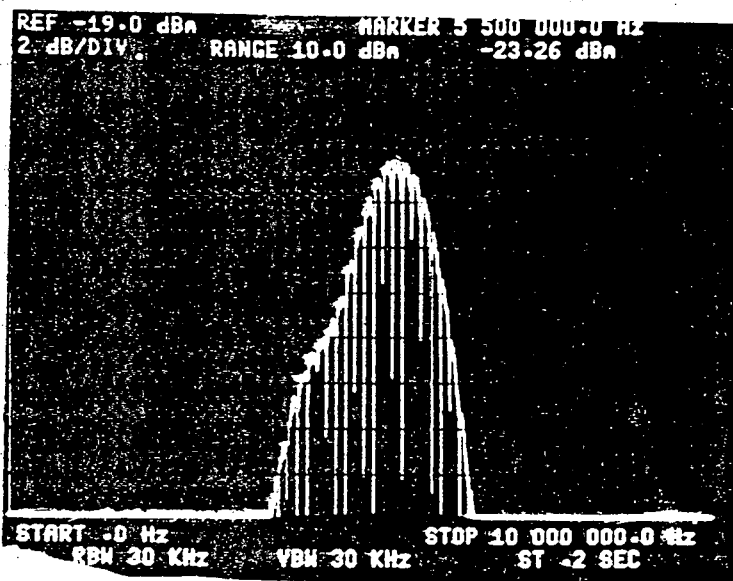
Measured Angle: 0° in Steel

REAL TIME WAVEFORM

2 μ S/Div. 5 Volts/Div.



SPECTRUM ANALYSIS



REMARKS

CERTIFICATION PERFORMED BY: [Signature]

DATE: 9-29-86 ACCEPTED REJECTED

BY: [Signature] 9/30/86 UT LEVEL III

RECERTIFY BEFORE: N/A

NES

NUCLEAR ENERGY SERVICES, INC.

TRANSDUCER CERTIFICATION

Transducer Description

Model GAMMA HP S/N J10523

Frequency 2.25 MHz Size 50

Style F Connector MD

☒ Contact ☐ Immersion ☐ Nonfocused

Water Path NA ☐ Spherical

Target 3" STEEL ☐ Cylindrical

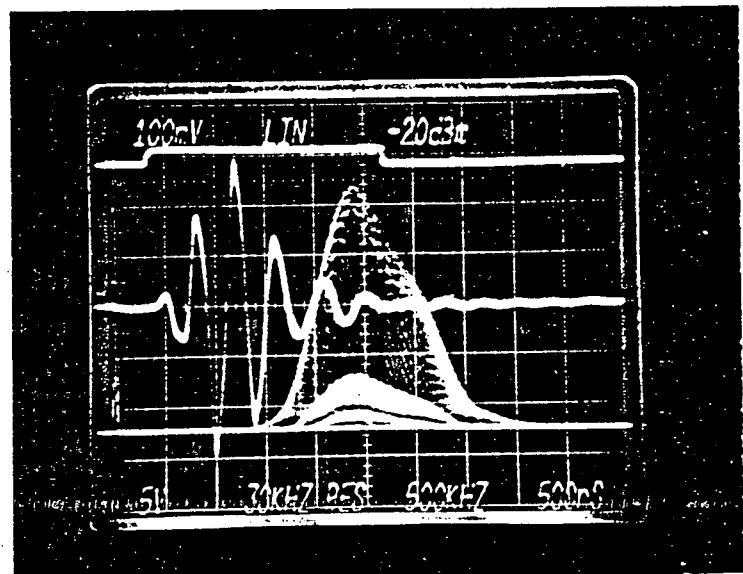
Relative Sensitivity 64 dB

Energy Setting 4 Impedance 250

☒ Peak or ☐ Center Frequency 2.4 MHz

Inspector SCD Date 12-20-85

Reviewed - N. MaNamara LTH
A B 1-8-86



Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Dual contact transducers are tested on a flat polymer block unless otherwise specified. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the delay line. Nonfocused immersion transducers are tested in water over a flat steel plate using a water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (± 1 dB) on the CRT. With the vertical calibration of Trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for Trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for Trace I is the same as that for Trace II. The portion of Trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for Trace III. Figures B and show the spectrum analyzer's attenuator and resolution settings respectively.

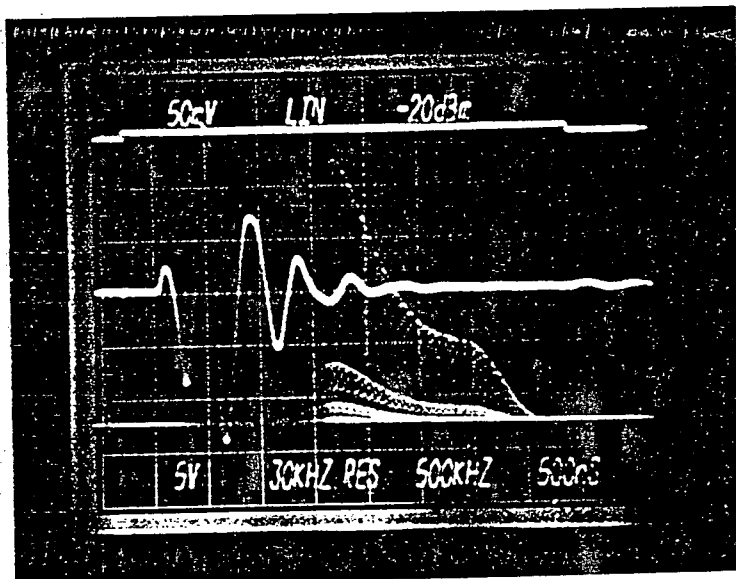
KRAUTKRAMER BRANSON
P. O. Box 350
Lewistown, PA 17044

1125

NUCLEAR
ENERGY
SERVICES, INC.

FREQUENCY SPECTRUM ANALYSIS

MANUFACTURER: K. B. AEROTECH S/N C29335
MARKED NOMINAL FREQUENCY: 2.25 SIZE .75"



RESULTS

HORIZONTAL SCALE 5 MHz (.5 MHz/DIVISION)

TRANSDUCER CENTRAL FREQUENCY 2.2 MHz

X ACCEPTABLE

 UNACCEPTABLE

INTERPRETATION BY *S. L. Foote* S. L. Foote, Level III

DATE 6/2/83

TRANSDUCER CERTIFICATION

Cut Run 2-11-86
REVIEWED LEVEL III

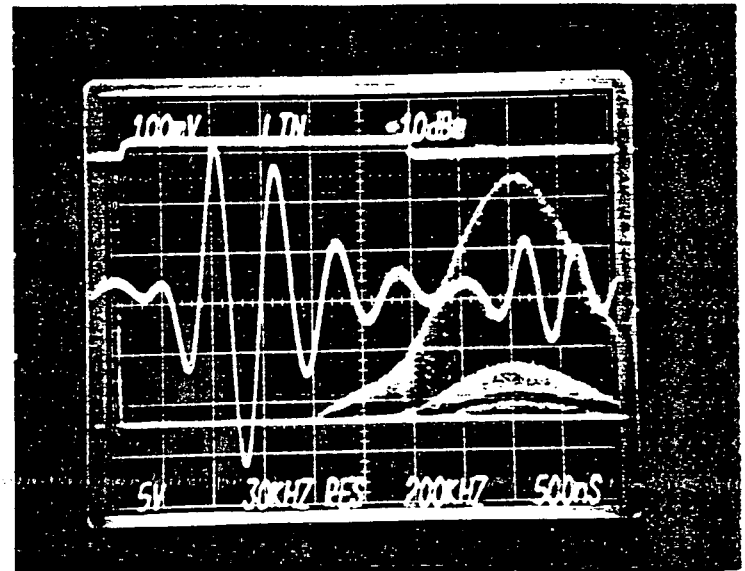
Transducer Description

Series GAMMA S/N A22667Frequency 1.5 MHz Size .25Style DUSP Connector BNC☒ Contact ☐ Immersion ☐ NonfocusedWater Path NA ☐ SphericalTarget 10" STEEL ☐ CylindricalRelative Sensitivity 10 dBEnergy Setting 4 Impedance 250☒ Peak or ☐ Center Frequency 16.2 MHzInspector SD Date 2-4-86

TRACE I

TRACE II

TRACE III



Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a flat steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Dual contact transducers are tested on a flat polymer block unless otherwise specified. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the delay line. Nonfocused immersion transducers are tested in water over a flat steel plate using a water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (± 1 dB) on the CRT. With the vertical calibration of Trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for Trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for Trace I is the same as that for Trace II. The portion of Trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for Trace III. Figures B and D show the spectrum analyzer's attenuator and resolution settings respectively.

KRAUTKRAMER BRANSON

P. O. Box 350

Lewistown, PA 17044

1125

NUCLEAR
ENERGY
SERVICES, INC.

FREQUENCY SPECTRUM ANALYSIS

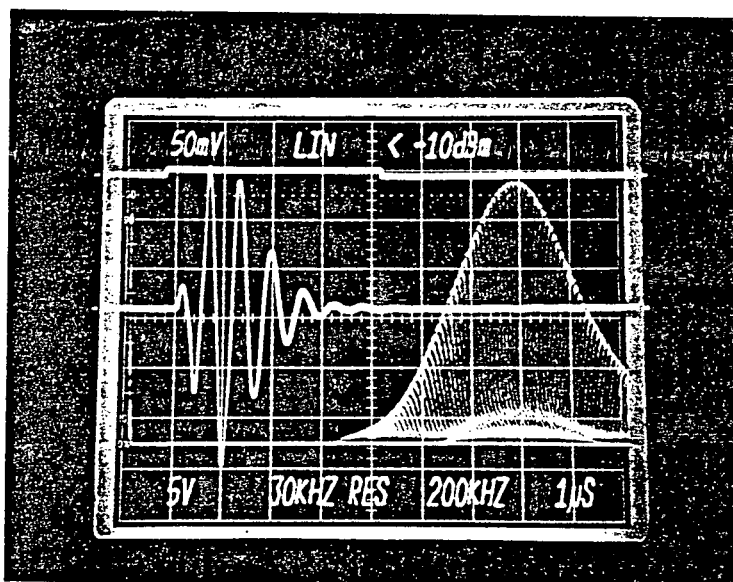
MANUFACTURER: Aerotech

S/N ML5114

MARKED FREQUENCY: 1.5

MHz

SIZE .50



RESULTS

Central Scale 1.0 MHz (.2 MHz/Division)

Transducer Central Frequency 1.56 MHz

X Acceptable

Unacceptable

Interpretation By

M. Stamm
M. Stamm

1/13/82
Date

NUCLEAR ENERGY SERVICES, INC.

CONAM INSPECTION DIVISION

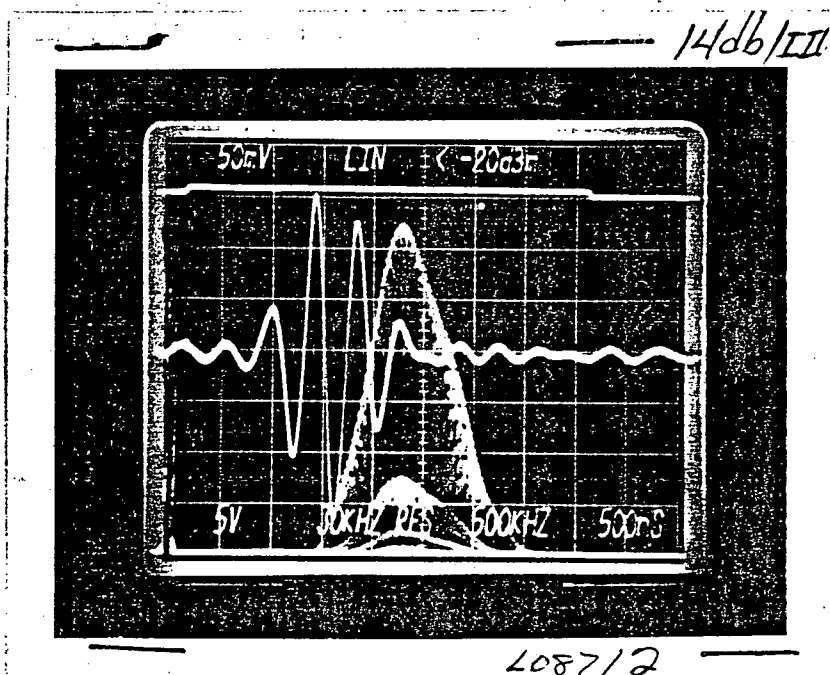
1385 WITHERSPOON ST./BOX 188
RAHWAY, NEW JERSEY 07065 U.S.A.
(201) 381-0050

FREQUENCY SPECTRUM ANALYSIS

MANUFACTURER: Aerotech S/N L08712

MARKED FREQUENCY: 2.25 MHz SIZE: .50"x.50"

DATA SUPPLIED BY: Aerotech



RESULTS

Central Scale Frequency 2.25 MHz (0.5 MHz/Division)

Transducer Central Frequency 2.35 MHz

☒ Acceptable

☐ Unacceptable

Interpretation By F. T. Carr

2.17/78

ULTRASONIC SEARCH UNIT QUALIFICATION

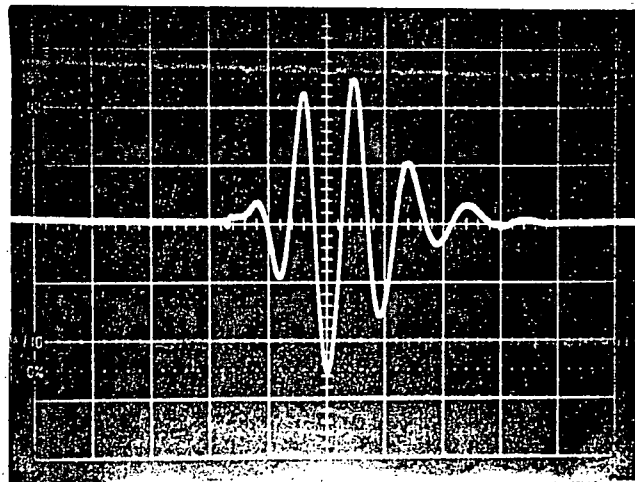
Report No. 8470588

SEARCH UNIT DATA

Manufacturer KB Acotech
 Serial No. F26118
 Mfgr. Designation Gamma
 Nominal Angle 0 ° (Check One)
 ☒ Long. ☐ Shear
 Nominal Frequency 2.25 MHz
 Element Dimensions 25" dia
 Tuning: (Check One)
 ☒ Tuned ☐ Untuned
 Intended Use: (Check One)
 ☒ Contact ☐ Immersion ☐ Other
 Connector microdot

REAL TIME WAVEFORM

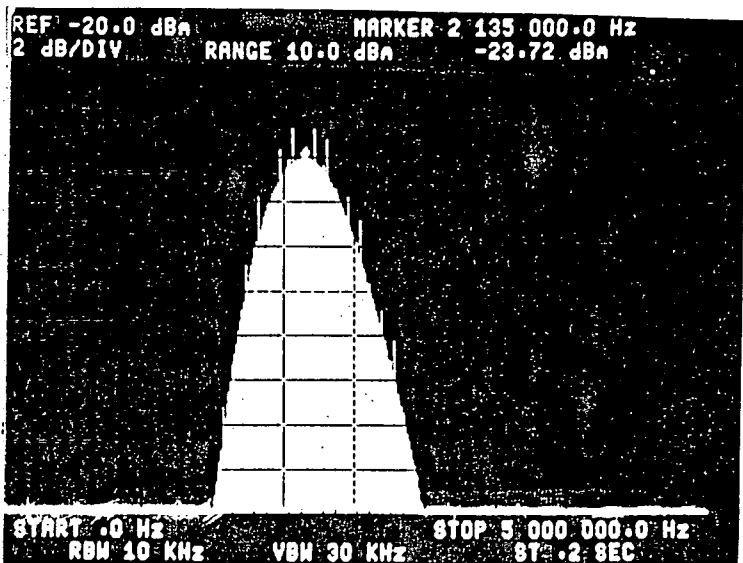
5 uS/Div. 5 Volts/Div.



TEST DATA

Test Block S/N NA
 Block Material UVA II
 Block Dimension Used 1"
 Cable Type RG-174 4/11 Length 6'
 Pulser/Receiver:
 Gain 40 Energy 3
 Receiver Attenuation 32 db
 Receiver Damping 100 Ohm
 3 db Limits: Lower 1.82 MHz
 Upper 2.45 MHz
 Center Freq. 2.13 MHz
 6 db Limits: Lower 1.69 MHz
 Upper 2.61 MHz
 Measured Peak Freq. 2.13 MHz
 Bandwidth .92 MHz
 Measured Angle 0L ° in UVA II

SPECTRUM ANALYSIS



REMARKS

Certification Performed By:

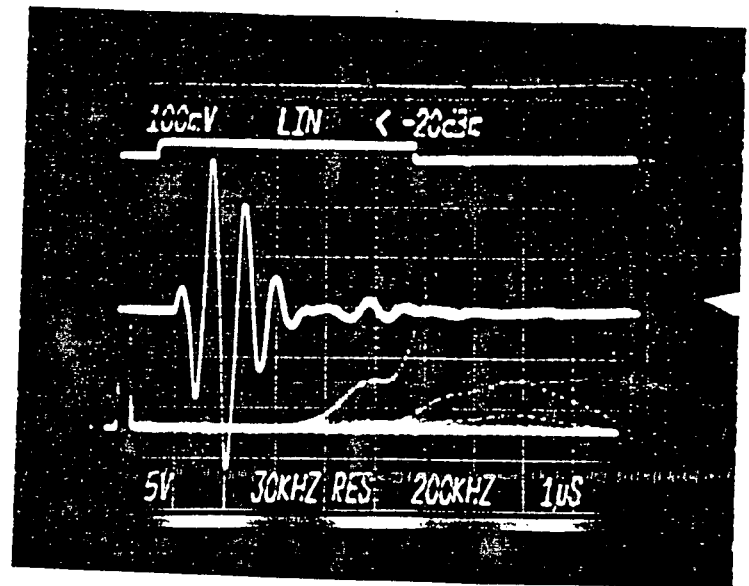
Date 5/5/88 Accepted ☒ Rejected ☐
 By [Signature] UT Level III

TRANSDUCER CERTIFICATION

[Signature] 2/17/89
REVIEWED BY 1 DATE

Transducer Description

Res. SP Gamma S/N A22540
Frequency 1.5 MHz Size .25
Style MSWS Connector M/D
☒ Contact ☐ Immersion ☐ Nonfocused TRACE I
Water Path WA ☐ Spherical
Target 1" Plex ☐ Cylindrical TRACE II
Relative Sensitivity 35 dB
Energy Setting 2 Impedance 250 TRACE III
☒ Peak or ☐ Center Frequency 156 MHz
Inspector S/D Date 1-25-85



Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Dual contact transducers are tested on a flat polymer block unless otherwise specified. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the delay line. Nonfocused immersion transducers are tested in water over a flat steel plate using a water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (± 1 dB) on the CRT. With the vertical calibration of Trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for Trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for Trace I is the same as that for Trace II. The portion of Trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for Trace III. Figures B and D show the spectrum analyzer's attenuator and resolution settings respectively.

1125

NUCLEAR
ENERGY
SERVICES, INC.

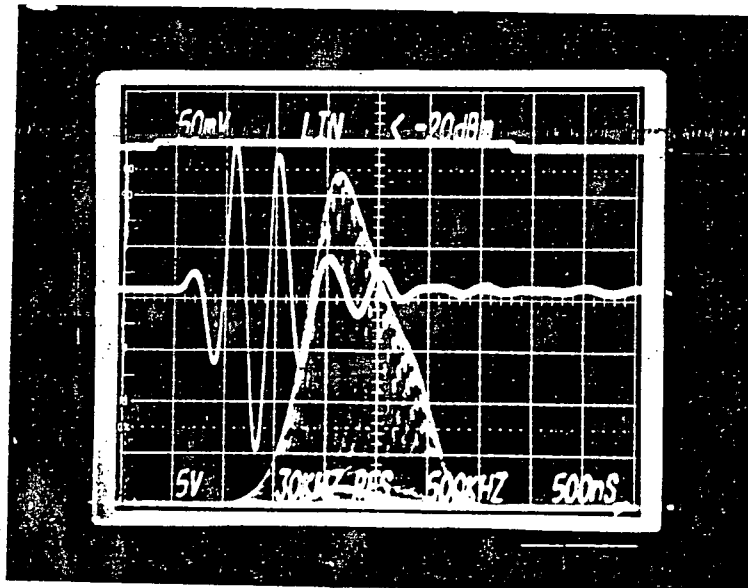
FREQUENCY SPECTRUM ANALYSIS

MANUFACTURER: KB AEROTECH

S/N B12107

MARKED FREQUENCY: 2.25 MHz

SIZE .5x.5



RESULTS

Central Scale 2.25 MHz (.5 MHz/Division)

Transducer Central Frequency 2.5 MHz

X Acceptable

Unacceptable

Interpretation By

M. Stamm

M. Stamm

4/3/81
Date

Transducer Description

Series GAMMA

Frequency 2.25 MHz Size .25"

Ser No. B27400

☒ Contact ☐ Immersion ☐ Nonfocused
☐ Water Path ☐ Spherical
☐ Cylindrical

Style MSWS Connector m.a

Relative Sensitivity 25 DB

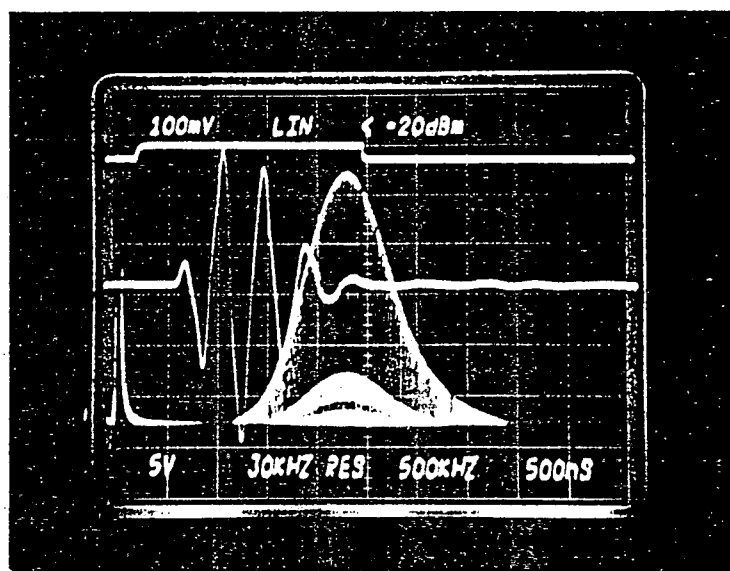
Energy Setting 2 Impedance 50R

Inspector JEF Date 3-29-84

TRACE
I

TRACE
II

TRACE
III



Testing Procedure

The real time waveform shown in the photo above is the first return echo from a reflector selected with respect to transducer type. All contact (wearplate) transducers are tested on a 1.0" flat steel (4340) plate while epoxy-faced shear wave transducers are tested on a flat polymer block. Delay fingertip removable (Style DFR) transducers are tested off of the tip of the delay line. Nonfocused immersion transducers are tested in water over a flat steel plate using a water path as specified above. Focused immersion transducers are tested the same as nonfocused transducers except that the water path used is equal to the actual focal length.

Using an AEROTECH Ultrasonic Transducer Analyzer, Model UTA-4, and a Tektronix 7L12 frequency spectrum analyzer in a 7704A Mainframe, the real time waveform, UTA-4 gate signal, and the frequency spectrum of the gated signal are simultaneously displayed and photographed. Using the linear attenuator in the UTA-4 receiver, the amplitude of the real time waveform is adjusted to a six centimeter amplitude (+ 1 db) on the CRT. With the vertical calibration of trace II fixed at 100 millivolts per division, the amount of attenuation used provides a relative sensitivity rating for all transducers certified by Krautkramer Branson.

Real Time Waveform - Trace II

Screen writing figures A and F provide the vertical and horizontal screen calibration respectively for trace II.

Gate Marker - Trace I

Screen writing figure C provides the vertical amplitude of the gate marker and is an inconsequential figure. The horizontal calibration for trace I, is the same as that for trace II. The portion of trace II that falls within the gate time period is the signal fed to the frequency spectrum analyzer.

Frequency Spectrum - Trace III

Screen writing figure E provides the horizontal calibration for trace III. Figures B and D show the spectrum analyzer's attenuator and resolution settings respectively.

KRAUTKRAMER BRANSON
P. O. Box 350
Lewistown, PA 17044

NUCLEAR ENERGY SERVICES
REVIEWED BY LTJUT
DATE 10/1/84

ULTRASONIC SEARCH UNIT QUALIFICATION

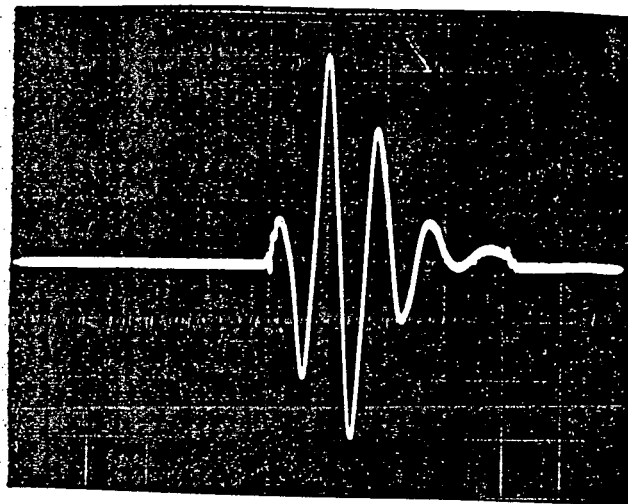
Report No. 9391090

SEARCH UNIT DATA

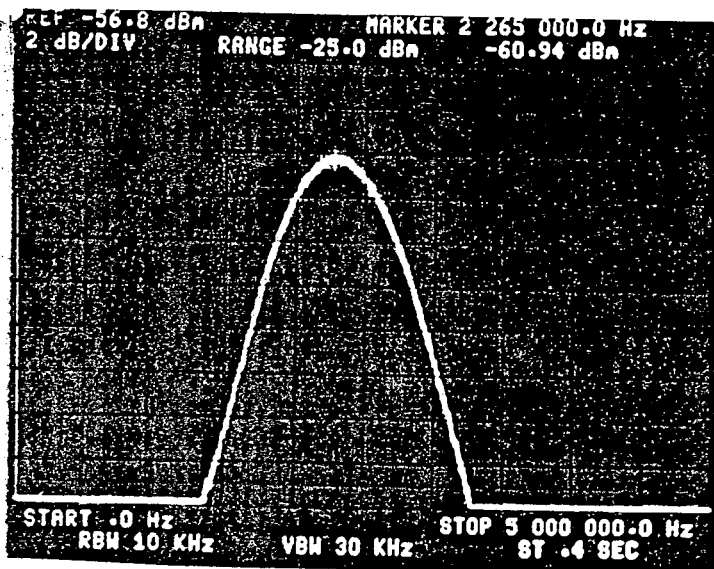
Manufacturer KB AEROTECH
 Serial No. C09318
 Mfr. Designation GAMMA MSWS
 Nominal Angle 0 ° (Check One)
☒ Long. N/A Shear
 Nominal Frequency 2.25 MHz
 Element Dimensions 125" DIA.
 Tuning: (Check One)
☒ Tuned N/A Untuned
 Intended Use: (Check One)
☒ Contact ☐ Immersion ☐ Other
 Connector MICRODOT

REAL TIME WAVEFORM

.5 uS/Div. .2 Volts/Div.



SPECTRUM ANALYSIS



REMARKS

TEST DATA

Test Block S/N N/A
 Block Material LUCITE UVA II
 Block Dimension Used 1.0"
 Cable Type RG174/u Length 6'
 Pulser/Receiver:
 Gain 40 Energy 1
 Receiver Attenuation 14 db
 Receiver Damping 50 Ohms
 3 db Limits: Lower 1.89 MHz
 Upper 2.675 MHz
 Center Freq. 2.28 MHz
 6 db Limits: Lower 1.735 MHz
 Upper 2.855 MHz
 Measured Peak Freq. 2.265 MHz
 Bandwidth 1.12 MHz
 Measured Angle 0 ° in UVA II

Certification Performed By:

Kenneth Buse

Date 10-3-90 Accepted ☒ Rejected N/A

By [Signature] UT Level III

1125

NUCLEAR
ENERGY
SERVICES, INC.

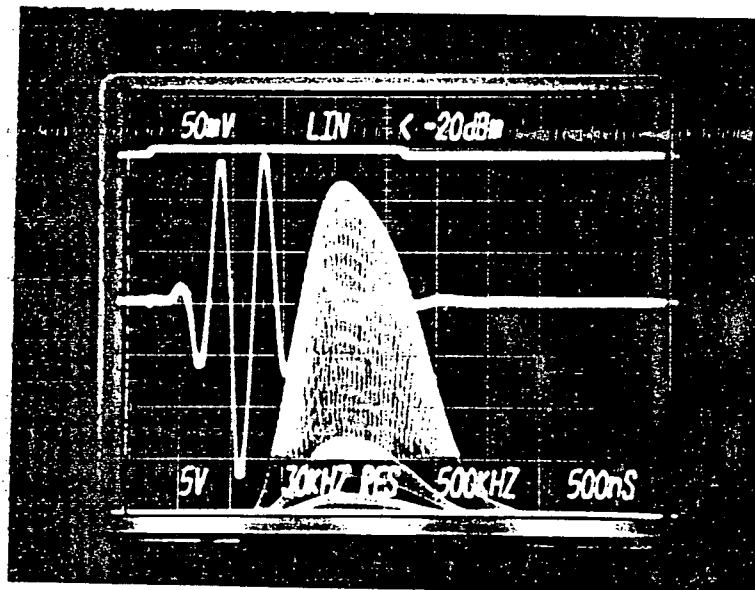
FREQUENCY SPECTRUM ANALYSIS

MANUFACTURER: K. B. AEROTECH

S/N C09114

MARKED FREQUENCY: 2.25 MHz

SIZE .5 x 1.0



RESULTS

Central Scale 2.5 MHz (.5 MHz/Division)

Transducer Central Frequency 2.1 MHz

X Acceptable

 Unacceptable

Interpretation By *J. Anderson*

4/29/81

Date

Facility H.B. Robinson Unit 2 RFO-14

File No.(s) _____

Document Title NES NDE Personnel Qualification / Certification DocumentationReview Type Level III

Document No. _____

Rev. _____

Date _____

Transmitted By NES Danbury, CTDate 4/1/92Date Rec. 4/1/92 (FAX)

Internal Routing

1. OSMAN CRE

3. _____

External Routing

1. _____

3. _____

2. _____

4. _____

2. _____

4. _____

☐ No open comments☐ All previous open comments resolved/closed☐ Intended corrective action is satisfactory, however, completion of action is needed to close out open comments no.(s) _____ on No. _____☐ Prior comment no.(s) _____ of No. _____ dated _____ is ☐ pending resolution ☐ resolved/closed.

• # Comments - asterisk (*) denotes a comment which must be resolved with Level III/Unit Manager concurrence.

Reviewed "FAX'd" documentation for following personnel:1. Moss, Clifford : Level II - UT, PT, MT, VT, vision testsDocumentation / Qualifications considered acceptable/approved.A "record quality" copy of records for Moss was received & reviewed on 4/6/92.C. R. Osmann 4/6/92

Technician/Engineer/Specialist/Supervisor

Carl R Osmann Level III 4/1/92
Principal NDE Specialist/Unit Manager

Summary of Experience for Clifford Moss

This summary is provided for details of work experience used for NES certification. For dates, refer to certification reports.

EDUCATION

Mont Pleasant High School, Schenectady, New York - Graduate
Schenectady County Community College, Schenectady, New York - AAS in Nondestructive Testing

EXPERIENCE

Combustion Engineering, Windsor, Connecticut

Engineering Specialist - Certified Ultrasonic Level II, Liquid Penetrant Level II, Eddy Current Level I and Magnetic Particle Level I. Performed PWR ISI/PSI, research and development and procedure writing.

Niagara Mohawk Power Corp., Lycoming, New York

Certified Ultrasonics, Liquid Penetrant, Level III and Visual 1-4 Level II. ANSI Level II: Mechanical, Electrical, Civil, Special Processes and Document Review. CWI # 85111151, 11/85 to 11/88. EPRI IGSCC Detection and Sizing 1984 and 88 (requalified for detection when samples changed).

Nuclear Energy Services, Inc., Danbury, Connecticut

Certified Level II Ultrasonics, Liquid Penetrant, Magnetic Particle and Visual 1-4.

Reviewed: C.R. Comm, Level III, 4/6/92

File: Clifford Moss

CERTIFICATE OF QUALIFICATION

Reissued to update information.
Date of certification (03-30-92)
remains the same.

ULTRASONIC EXAMINATION

LEVEL II

Clifford Moss is qualified as Level II in Ultrasonic Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 9, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services.

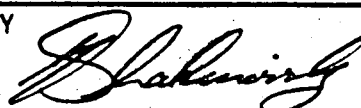
CERTIFICATION RESTRICTIONS			SEE ATTACHED VISION ACUITY REPORT		
None					
EDUCATION	High School Graduate	Date	COLLEGE OR TECHNICAL	Nondestructive Testing Schenectady Co. Comm. College Schenectady, New York	DEGREE: AAS Completed: 06-08-80
	Mont Pleasant High School Schenectady, New York	Completed: 06-01-71			

TRAINING					
Institution/Organization	Location	Type	Date Completed	Hours	
Schenectady College	Schenectady, New York	Level I and II	06-08-80	80.00	
EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	11-16-88	24.00	
				Total: 104.00	

NES EXPERIENCE					
ULTRASONIC EXAMINATION ASSIGNMENTS (List up to 12 UT assignments.)					
		EXPERIENCE AT EACH LEVEL OF UT CERTIFICATION			
		From	To	Level	Months
ISI: Nine Mile Point		02-28-83	08-22-83	II	5.80
ISI: H.B. Robinson				II	
				Total: 5.80	

PREVIOUS EXPERIENCE					
		EMPLOYMENT DATES		UT EXPERIENCE	
Employer	Location	From	To	Level	Months
Combustion Engineering	Windsor, Connecticut	06-30-80	02-18-83	II	8.00
Niagara Mohawk Power Corp	Lycoming, New York	11-01-83	03-01-90	II	25.00
* Noncontinuous employment				Total: 33.00	

TOTAL EXPERIENCE	38.80 months of experience in ultrasonic examination
------------------	--

CERTIFICATION EXAMINATIONS			INITIAL CERTIFICATION DATES	
General Examination	88.00 (.3)	Exams administered: 03-18-92 Exams completed: 03-20-92	Prior employment initial Level II certification:	N/A
Specific Examination	90.00 (.2)		Initial Level II certification issued by NES:	03-01-83
Practical Examination	100.00 (.5)		CERTIFIED BY  4-1-92	
Composite Score	94.40		LEVEL II EXAMINER	
DATE OF CERTIFICATION				
DATE OF EXPIRATION				

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C.R. Comm, Level III, 4/6/92

File: Clifford Moss

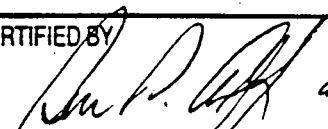
CERTIFICATE OF QUALIFICATION

Reissued to update information.
Date of certification (03-30-92)
remains the same.

VISUAL EXAMINATION

LEVEL II

Clifford Moss is qualified as Level II in Visual Examination in accordance with the requirements of Nuclear Energy Services' Procedure No. 80A9069, Revision 14: Certification of Visual Examination Personnel. This certification is valid only during employment with Nuclear Energy Services. This certification also meets the requirements of NES Procedure 83A4376, Revision 5.

CERTIFICATION RESTRICTIONS		None - VT-1,2,3,4		SEE ATTACHED VISION ACUITY REPORT		
EDUCATION	High School Graduate Mont Pleasant High School Schenectady, New York	Date Completed: 06-01-71	COLLEGE OR TECHNICAL	Nondestructive Testing Schenectady Co. Comm. College Schenectady, New York	DEGREE: AAS Completed: 06-08-80	
TRAINING						
Institution/Organization	Location	Type	Date Completed	Hours		
EPRI NDE Center	Charlotte, North Carolina	Level I	01-13-84	40.00		
EPRI NDE Center	Charlotte, North Carolina	Level II	02-03-84	40.00		
				Total:	80.00	
NES EXPERIENCE						
VISUAL EXAMINATION ASSIGNMENTS (List up to 12 VT assignments.)		EXPERIENCE AT EACH LEVEL OF VT CERTIFICATION				
		From	To	Level	Type Months	
ISI: H.B. Robinson				II	Nuclear	
					Total: N/A	
PREVIOUS EXPERIENCE						
Employer	Location	From	To	Level	VT EXPERIENCE Type Months	
Niagara Mohawk Power Corp	Lycoming, New York	11-01-83	03-01-90	II	Nuclear 25.00	
* Non-continuous employment					Total: 25.00	
TOTAL EXPERIENCE 25.00 months of visual examination/related inspection experience.						
CERTIFICATION EXAMINATIONS			INITIAL CERTIFICATION DATES			
General Examination	80.00 (.3)	Exams administered:	Prior employment initial Level II certification: N/A			
Specific Examination	83.00 (.2)	03-18-92	Initial Level II certification issued by NES: 03-30-92			
Practical Examination	80.00 (.5)	Exams completed:				
Composite Score	80.60	03-20-92				
DATE OF CERTIFICATION 03-30-92			CERTIFIED BY			
DATE OF EXPIRATION 03-18-95			 04-01-92 LEVEL III EXAMINER			

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C.R. Asman, Level III, 4/6/92

File: Clifford Moss

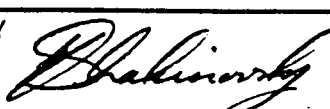
CERTIFICATE OF QUALIFICATION

Reissued to update information.
Date of certification (03-30-92)
remains the same.

MAGNETIC PARTICLE EXAMINATION

LEVEL II

Clifford Moss is qualified as Level II in Magnetic Particle Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 9, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services. This certification also meets the requirements of NES Procedure 83A4376, Revision 5.

CERTIFICATION RESTRICTIONS		Unrestricted		SEE ATTACHED VISION ACUITY REPORT			
EDUCATION	High School Graduate Mont Pleasant High School Schenectady, New York	Date Completed: 06-01-71	COLLEGE OR TECHNICAL	Nondestructive Testing Schenectady Co. Comm. College Schenectady, New York	DEGREE: AAS Completed: 06-08-80		
TRAINING							
Institution/Organization	Location	Type	Date Completed	Hours			
Schenectady College	Schenectady, New York	Level I and II	06-08-80	20.00			
				Total: 20.00			
NES EXPERIENCE							
MAGNETIC PARTICLE EXAMINATION ASSIGNMENTS (List up to 12 MT assignments.)		EXPERIENCE AT EACH LEVEL OF MT CERTIFICATION					
		From	To	Level	Type	Months	
ISI: H.B. Robinson				II	Nuclear		
				Total: N/A			
PREVIOUS EXPERIENCE							
Employer	Location	EMPLOYMENT DATES		Level	MT EXPERIENCE	Months	
		From	To	Type			
Combustion Engineering	Windsor, Connecticut	06-30-80	02-18-83	I	Nuclear	8.00	
				Total: 8.00			
* Non-continuous employment							
TOTAL EXPERIENCE 8.00 months of experience in magnetic particle examination							
CERTIFICATION EXAMINATIONS				INITIAL CERTIFICATION DATES			
General Examination	82.00 (.3)	Exams administered:		Prior employment initial Level II certification: N/A			
Specific Examination	85.70 (.2)	03-18-92		Initial Level II certification issued by NES: 03-30-92			
Practical Examination	88.00 (.5)	Exams completed:					
Composite Score	85.94	03-20-92					
DATE OF CERTIFICATION		03-30-92		CERTIFIED BY			
DATE OF EXPIRATION		03-18-95		 4-1-92 LEVEL III EXAMINER			

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C.R. Osmon, Level III, 4/6/92

File: Clifford Moss

CERTIFICATE OF QUALIFICATION

Reissued to update information.
Date of certification (03-30-92)
remains the same.

PENETRANT EXAMINATION

LEVEL II

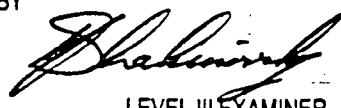
Clifford Moss is qualified as Level II in Penetrant Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 9, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services. This certification also meets the requirements of NES Procedure 83A4376, Revision 5.

CERTIFICATION RESTRICTIONS Unrestricted			SEE ATTACHED VISION ACUITY REPORT		
EDUCATION	High School Graduate Mont Pleasant High School Schenectady, New York	Date Completed: 06-01-71	COLLEGE OR TECHNICAL	Nondestructive Testing Schenectady Co. Comm. College Schenectady, New York	DEGREE: AAS Completed: 06-08-80
TRAINING Institution/Organization	Location	Type	Date Completed	Hours	
Schenectady College	Schenectady, New York	Level I and II	06-08-80	20.00	
Total:					20.00

NES EXPERIENCE					
PENETRANT EXAMINATION ASSIGNMENTS (List up to 12 PT assignments.)			EXPERIENCE AT EACH LEVEL OF PT CERTIFICATION		
	From	To	Level	Type	Months
ISI: Nine Mile Point	02-28-83	08-22-83	Trainee	Nuclear	5.80
ISI: H.B. Robinson			II	Nuclear	
Total:					5.80

PREVIOUS EXPERIENCE						
Employer	Location	EMPLOYMENT DATES		Level	PT EXPERIENCE	Months
		From	To		Type	
Combustion Engineering	Windsor, Connecticut	06-30-80	02-18-83	II	Nuclear	8.00
Niagara Mohawk Power Corp	Lycoming, New York	11-01-83	03-01-90	II	Nuclear	25.00
Total:						33.00
* Denotes noncontinuous employment.						

TOTAL EXPERIENCE	38.80 months of experience in penetrant examination
------------------	---

CERTIFICATION EXAMINATIONS			INITIAL CERTIFICATION DATES	
General Examination	87.50	(.3)	Exams administered:	Prior employment initial Level II certification: N/A
Specific Examination	85.00	(.2)	03-18-92	Initial Level II certification issued by NES: 03-30-92
Practical Examination	98.00	(.5)	Exams completed:	
Composite Score	92.25		03-20-92	
DATE OF CERTIFICATION			CERTIFIED BY	
DATE OF EXPIRATION			 LEVEL III EXAMINER	

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C.R. Damon, Level III, 4/6/92

QUALIFICATION RECORD

Nondestructive Examination

Page: 1 of 1

NAME: Clifford Moss

High School Graduate
Mont Pleasant High School
Schenectady, New York

Date
Completed:
06-01-71

Nondestructive Testing
Schenectady Co. Comm. College
Schenectady, New York

DEGREE: AAS
Completed:
06-08-80

DATE OF EYE EXAM: 03-20-92
CORRECTIVE LENSES REQUIRED:
Near: No Far: No
EYE EXAM DUE: 03-20-93

CLASSROOM TRAINING HOURS:

Magnetic Particle: 20.00
Penetrant: 20.00
Radiography: 0.00

Ultrasonics: 104.00
Visual: 80.00
IGSCC Detection: 24.00

IGSCC Sizing: 0.00
Weld Overlay: 0.00
Nozzle Inner Radius: 0.00

NES EXPERIENCE PREVIOUS EXPERIENCE TOTAL EXPERIENCE

Months

Months

Months

CERTIFICATION RESTRICTIONS

Magnetic Particle:

0.00

8.00

8.00

Unrestricted

Penetrant:

5.80

33.00

38.80

Unrestricted

Radiography:

0.00

0.00

0.00

None

Ultrasonics:

5.80

33.00

38.80

None - VT-1,2,3,4

Visual:

0.00

25.00

25.00

DATE OF CURRENT CERTIFICATION

DATE OF EXPIRATION

Trainee

I

II

III

Trainee

I

II

III

Magnetic Particle

03-30-92

03-18-95

Penetrant

03-30-92

03-18-95

Radiography

03-30-92

03-18-95

Ultrasonics

03-30-92

03-18-95

Visual

03-30-92

03-18-95

IGSCC Detection (Manual)

IGSCC Detection (UDRPS)

IGSCC Sizing (Manual)

IGSCC Sizing (UDRPS)

Weld Overlay (Manual)

Weld Overlay (UDRPS)

Nozzle Inner Radius Qualification

PREVIOUS EMPLOYMENT INITIAL CERTIFICATION

DATE OF INITIAL NES CERTIFICATION

Trainee

I

II

III

Trainee

I

II

III

Magnetic Particle

03-30-92

03-30-92

Penetrant

03-30-92

03-30-92

Radiography

03-01-83

03-30-92

Ultrasonics

03-30-92

03-30-92

Visual

03-30-92

03-30-92

IGSCC Detection

IGSCC Sizing

Weld Overlay

All certifications and supporting
documentation are contained in this
individual's certification file.

Mary-Ellen Alling
Technical Director's Designee

4-1-92
Date

Reviewed: C.R. Damon, Level III, 4/6/92

Nondestructive Examination

Page: 1 of 1

NAME: Clifford Moss

EDUCATION AND TRAINING RECORD

EDUCATION

High School Graduate
Mont Pleasant High School
Schenectady, New York

Date
Completed:
06-01-71

Nondestructive Testing
Schenectady Co. Comm. College
Schenectady, New York

DEGREE: AAS
Completed:
06-08-80

Education credited
toward NDE
certifications: 14 years

NDE CLASSROOM TRAINING

INSTITUTION/ORGANIZATION	LOCATION	TYPE	PROCEDURE NUMBER	DATE COMPLETED	HOURS
MT Schenectady College	Schenectady, New York	Level I and II	N/A	06-08-80	20.00

Total this page: 20.00

TOTAL: 20.00

PT Schenectady College	Schenectady, New York	Level I and II	N/A	06-08-80	20.00
------------------------	-----------------------	----------------	-----	----------	-------

Total this page: 20.00

TOTAL: 20.00

RT

TOTAL: 0.00

UT Schenectady College	Schenectady, New York	Level I and II	N/A	06-08-80	80.00
EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	N/A	11-16-88	24.00

Total this page: 104.00

TOTAL: 104.00

IGSCC Detection Hrs: 24.00 IGSCC Sizing Hrs: 0.00 Weld Overlay Hrs: 0.00 Nozzle Inner Radius Hrs: 0.00

VT EPRI NDE Center	Charlotte, North Carolina	Level I	N/A	01-13-84	40.00
EPRI NDE Center	Charlotte, North Carolina	Level II	N/A	02-03-84	40.00

Total this page: 80.00

TOTAL: 80.00

The education and training required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Mary-ellen Alling
Technical Director's Designee

3-30-92
Date

Reviewed: C. R. Brown, Level III, 4/6/92

NES EXPERIENCE RECORD

Nondestructive Examination

NAME: Clifford Moss

Page 1 of 1

NDE ASSIGNMENTS

List assignments in which the individual was working in the capacity for which he was certified.

EXPERIENCE AT EACH LEVEL OF CERTIFICATION

		FROM	TO	LEVEL	TYPE	MONTHS
MT	ISI: H.B. Robinson			II	Nuclear	
						TOTAL: 0.00
PT	ISI: Nine Mile Point ISI: H.B. Robinson	02-28-83	08-22-83	Trainee II	Nuclear Nuclear	5.80
						Total this page: 5.80
						TOTAL: 5.80
RT						
						TOTAL: 0.00
UT	ISI: Nine Mile Point ISI: H.B. Robinson	02-28-83	08-22-83	II II	Nuclear Nuclear	5.80
						Total this page: 5.80
						TOTAL: 5.80
VT	ISI: H.B. Robinson			II	Nuclear	
						TOTAL: 0.00

The NES experience required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Mary-Ellen Alling
Technical Director's Designee

4-1-92
Date

Reviewed: C.R. Osmon, Level III, 4/6/92

Nondestructive Examination

Page 1 of 1

TOTAL: 8.00

TOTAL: 33.00

TOTAL: 33.00

TOTAL: 25.00

3-30-92
Date

Reviewed: C.L. Cannon, Level III, 4/6/92

VISION ACUITY EXAMINATION REPORT

NAME: CLIFFORD T. MOSS

DATE: 3-20-92

EXAMINATION RESULTS:

NEAR VISION (Passing: J1)

Right Eye

UNCORRECTED
J1

CORRECTED
J N/A

Left Eye

J1
Pass/Fail

J N/A
Pass/Fail

DISTANCE VISION (Passing: 20/30)

Right Eye

UNCORRECTED
20/15

CORRECTED
20/ N/A

Left Eye

20/13
Pass/Fail

20/ N/A
Pass/Fail

COLOR VISION

Distinguishing pertinent colors has been verified by Ishihara's test plate numbers 1-14 for Color Blindness.

The above individual was given an eye test for near vision acuity using the Standard Jaeger Chart and the Snellen Chart for far vision acuity for NDE certification in accordance with NES Procedures 80A9068 and 80A9069.

Art Purnan
EXAMINED BY

LEVEL III
TITLE

3-20-92
DATE

The ability to distinguish contrasting colors has been demonstrated by a practical examination in the methods listed below.

MT
PT N/11
RT
UT
EXAMINED BY DATE

ET
LT N/A
VT
UT/T
EXAMINED BY DATE

Reviewed: C. R. Corron, Level III, 4/6/92

Facility H. B. Robinson, Unit RFO-14 File No.(s) _____

Document Title Nuclear Energy Services NDE Personnel Qualification / Certification
Documentation Review Type Level III

Document No. _____ Rev. _____ Date _____

Transmitted By NES Danbury, CT Date 3-8-92 Date Rec. 3-9-92

Internal Routing

Internal Routing
1. Asmon CRO 3. _____

2. _____ 4. _____ 2. _____ 4. _____

☐ No open comments ☐ All previous open comments resolved/closed

☐ Intended corrective action is satisfactory, however, completion of action is needed to close out open comments no.(s) _____ on No. _____

☐ Prior comment no.(s) _____ of No. _____ dated _____ is ☐ pending resolution ☐ resolved/closed.

•	#	Comments - asterisk (*) denotes a comment which must be resolved with Level III/Unit Manager concurrence.
---	---	---

		Reviewed documentation for the following personnel:
--	--	---

1	Donovan, Edmund R : Level II - PT, UT, VT
---	---

2	Forseth, S. Michael : Level II - PT, UT, MT, VT, Mechanical
---	---

3 Faust, Mark : Level II - MT, PT / Level I - UT

4	Pennanen, Arthur	: Level III - PT, UT, MT, VT, vision tests
---	------------------	--

Documentation/qualifications for Pennanen considered acceptable/approved.

* Documentation/qualifications for Donovan, Forseth and Faust considered acceptable/approved subject to presentation on-site of a current/valid vision test record.

Technician/Engineer/Specialist/Supervisor

Carl R. Brown NDE Level III 3/16/92
Principal NDE Specialist/Unit Manager

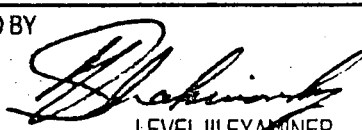
File: Edmund Donovan

CERTIFICATE OF QUALIFICATION

PENETRANT EXAMINATION

LEVEL II

Edmund Donovan is qualified as Level II in Penetrant Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 8, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services.

CERTIFICATION RESTRICTIONS		Color Contrast	SEE ATTACHED VISION ACUITY REPORT			
EDUCATION	Gen. Educational Development Glen Falls High School Glen Falls, New York	Date Completed: 12-31-74	COLLEGE OR TECHNICAL N/A			
TRAINING						
Institution/Organization	Location	Type	Date Completed	Hours		
Nuclear Energy Services	Danbury, Connecticut	Level I and II	01-16-81	24.00		
Nuclear Energy Services	Nine Mile Point Unit 1	Procedure Review	09-21-88	1.50		
Nuclear Energy Services	Nine Mile Point Unit 1	Interpretn. Criteria	11-30-88	0.25		
				Total: 25.75		
NES EXPERIENCE						
PENETRANT EXAMINATION ASSIGNMENTS (List up to 12 PT assignments.)		EXPERIENCE AT EACH LEVEL OF PT CERTIFICATION				
		From	To	Level	Type	Months
ISI: Nine Mile Point 1	PSI: Nine Mile Point 2	01-19-81	06-02-81	Trainee	Nuclear	4.45
ISI: V.C. Summer Nuclear	PSI: Shoreham Nuclear	06-02-81	07-17-81	I	Nuclear	1.45
PSI: Wolf Creek Nuclear	PSI: Susquehanna Unit 2	07-17-81	07-16-84	II	Nuclear	36.00
PSI: Nine Mile Point 1	ISI: Vermont Yankee	11-12-84	09-09-86	II	Nuclear	21.87
		09-09-86	10-02-87	II	Nuclear	0.40
		10-02-87	04-11-90	II	Nuclear	27.99
See NES EXPERIENCE RECORD for additional NES PT certification dates.					Total: 92.16	
PREVIOUS EXPERIENCE						
Employer	Location	EMPLOYMENT DATES From To		Level	PT EXPERIENCE Type	Months
						Total: N/A
TOTAL EXPERIENCE						
92.16 months of experience in penetrant examination						
CERTIFICATION EXAMINATIONS			INITIAL CERTIFICATION DATES			
General Examination	90.00 (.3)	Exams administered:	Prior employment initial Level II certification: N/A			
Specific Examination	80.00 (.2)	08-07-90	Initial Level II certification issued by NES: 07-17-81			
Practical Examination	99.00 (.5)	Exams completed:	CERTIFIED BY			
Composite Score	92.50	08-07-90	 8/13/90 LEVEL III EXAMINER			
DATE OF CERTIFICATION		08-13-90				
DATE OF EXPIRATION		08-07-93				

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C. Donnan 3/16/92




File: Edmund Donovan

CERTIFICATE OF QUALIFICATION

ULTRASONIC EXAMINATION

LEVEL II

Edmund Donovan is qualified as Level II in Ultrasonic Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 9, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services.

CERTIFICATION RESTRICTIONS		None	SEE ATTACHED VISION ACUITY REPORT																																																									
EDUCATION	High School Graduate Glen Falls High School Glen Falls, New York	Date Completed: 12-31-74	COLLEGE OR TECHNICAL	N/A																																																								
TRAINING <table border="1"> <thead> <tr> <th>Institution/Organization</th> <th>Location</th> <th>Type</th> <th>Date Completed</th> <th>Hours</th> </tr> </thead> <tbody> <tr> <td>Sperry Schools for NDT</td> <td>Columbus, Ohio</td> <td>Theory and Lab.</td> <td>03-06-81</td> <td>40.00</td> </tr> <tr> <td>Sperry Schools for NDT</td> <td>Columbus, Ohio</td> <td>Ultrasonic Weld</td> <td>04-02-82</td> <td>40.00</td> </tr> <tr> <td>EPRI NDE Center</td> <td>Charlotte, North Carolina</td> <td>IGSCC Detection</td> <td>10-21-83</td> <td>40.00</td> </tr> <tr> <td>EPRI NDE Center</td> <td>Charlotte, North Carolina</td> <td>IGSCC Detection</td> <td>02-28-86</td> <td>40.00</td> </tr> <tr> <td>EPRI NDE Center</td> <td>Charlotte, North Carolina</td> <td>Weld Overlay</td> <td>06-18-87</td> <td>32.00</td> </tr> <tr> <td>Nuclear Energy Services</td> <td>Nine Mile Point Unit 1</td> <td>IGSCC Detection</td> <td>06-18-82</td> <td>40.00</td> </tr> <tr> <td colspan="4"></td> <td>Total: 301.00</td> </tr> </tbody> </table> <p>See EDUCATION AND TRAINING RECORD for additional UT training entries.</p>					Institution/Organization	Location	Type	Date Completed	Hours	Sperry Schools for NDT	Columbus, Ohio	Theory and Lab.	03-06-81	40.00	Sperry Schools for NDT	Columbus, Ohio	Ultrasonic Weld	04-02-82	40.00	EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	10-21-83	40.00	EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	02-28-86	40.00	EPRI NDE Center	Charlotte, North Carolina	Weld Overlay	06-18-87	32.00	Nuclear Energy Services	Nine Mile Point Unit 1	IGSCC Detection	06-18-82	40.00					Total: 301.00																
Institution/Organization	Location	Type	Date Completed	Hours																																																								
Sperry Schools for NDT	Columbus, Ohio	Theory and Lab.	03-06-81	40.00																																																								
Sperry Schools for NDT	Columbus, Ohio	Ultrasonic Weld	04-02-82	40.00																																																								
EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	10-21-83	40.00																																																								
EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	02-28-86	40.00																																																								
EPRI NDE Center	Charlotte, North Carolina	Weld Overlay	06-18-87	32.00																																																								
Nuclear Energy Services	Nine Mile Point Unit 1	IGSCC Detection	06-18-82	40.00																																																								
				Total: 301.00																																																								
NES EXPERIENCE <table border="1"> <thead> <tr> <th colspan="2">ULTRASONIC EXAMINATION ASSIGNMENTS (List up to 12 UT assignments.)</th> <th colspan="5">EXPERIENCE AT EACH LEVEL OF UT CERTIFICATION</th> </tr> <tr> <th></th> <th></th> <th>From</th> <th>To</th> <th>Level</th> <th>Type</th> <th>Months</th> </tr> </thead> <tbody> <tr> <td>ISI: Three Mile Island</td> <td>ISI: Nine Mile Point 1</td> <td>03-09-81</td> <td>05-30-81</td> <td>Trainee</td> <td>Nuclear</td> <td>3.00</td> </tr> <tr> <td>PSI: Nine Mile Point 2</td> <td>ISI: V.C. Summer Nuclear</td> <td>05-30-81</td> <td>06-02-82</td> <td>I</td> <td>Nuclear</td> <td>12.06</td> </tr> <tr> <td>ISI: Vermont Yankee</td> <td>PSI: Nine Mile Point 1</td> <td>06-02-82</td> <td>06-02-85</td> <td>II</td> <td>Nuclear</td> <td>36.00</td> </tr> <tr> <td>PSI: Wolf Creek Nuclear</td> <td>PSI: Susquehanna Unit 2</td> <td>06-10-85</td> <td>06-07-88</td> <td>II</td> <td>Nuclear</td> <td>24.00</td> </tr> <tr> <td>PSI: Shoreham Nuclear</td> <td>ISI: Wolf Creek</td> <td>09-09-88</td> <td>04-11-90</td> <td>II</td> <td>Nuclear</td> <td>16.72</td> </tr> <tr> <td colspan="6"></td> <td>Total: 91.78</td> </tr> </tbody> </table>					ULTRASONIC EXAMINATION ASSIGNMENTS (List up to 12 UT assignments.)		EXPERIENCE AT EACH LEVEL OF UT CERTIFICATION							From	To	Level	Type	Months	ISI: Three Mile Island	ISI: Nine Mile Point 1	03-09-81	05-30-81	Trainee	Nuclear	3.00	PSI: Nine Mile Point 2	ISI: V.C. Summer Nuclear	05-30-81	06-02-82	I	Nuclear	12.06	ISI: Vermont Yankee	PSI: Nine Mile Point 1	06-02-82	06-02-85	II	Nuclear	36.00	PSI: Wolf Creek Nuclear	PSI: Susquehanna Unit 2	06-10-85	06-07-88	II	Nuclear	24.00	PSI: Shoreham Nuclear	ISI: Wolf Creek	09-09-88	04-11-90	II	Nuclear	16.72							Total: 91.78
ULTRASONIC EXAMINATION ASSIGNMENTS (List up to 12 UT assignments.)		EXPERIENCE AT EACH LEVEL OF UT CERTIFICATION																																																										
		From	To	Level	Type	Months																																																						
ISI: Three Mile Island	ISI: Nine Mile Point 1	03-09-81	05-30-81	Trainee	Nuclear	3.00																																																						
PSI: Nine Mile Point 2	ISI: V.C. Summer Nuclear	05-30-81	06-02-82	I	Nuclear	12.06																																																						
ISI: Vermont Yankee	PSI: Nine Mile Point 1	06-02-82	06-02-85	II	Nuclear	36.00																																																						
PSI: Wolf Creek Nuclear	PSI: Susquehanna Unit 2	06-10-85	06-07-88	II	Nuclear	24.00																																																						
PSI: Shoreham Nuclear	ISI: Wolf Creek	09-09-88	04-11-90	II	Nuclear	16.72																																																						
						Total: 91.78																																																						
PREVIOUS EXPERIENCE <table border="1"> <thead> <tr> <th rowspan="2">Employer</th> <th rowspan="2">Location</th> <th colspan="2">EMPLOYMENT DATES</th> <th rowspan="2">Level</th> <th rowspan="2">UT EXPERIENCE Type</th> <th rowspan="2">Months</th> </tr> <tr> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td colspan="6"></td> <td>Total: N/A</td> </tr> </tbody> </table>					Employer	Location	EMPLOYMENT DATES		Level	UT EXPERIENCE Type	Months	From	To							Total: N/A																																								
Employer	Location	EMPLOYMENT DATES		Level			UT EXPERIENCE Type	Months																																																				
		From	To																																																									
						Total: N/A																																																						
TOTAL EXPERIENCE 91.78 months of experience in ultrasonic examination																																																												
CERTIFICATION EXAMINATIONS <table border="1"> <tbody> <tr> <td>General Examination</td> <td>80.00</td> <td>(.3)</td> <td rowspan="2">Exams administered: 07-08-91</td> </tr> <tr> <td>Specific Examination</td> <td>75.00</td> <td>(.2)</td> </tr> <tr> <td>Practical Examination</td> <td>100.00</td> <td>(.5)</td> <td rowspan="2">Exams completed: 87-10-91</td> </tr> <tr> <td>Composite Score</td> <td>89.00</td> <td></td> </tr> </tbody> </table>			General Examination	80.00	(.3)	Exams administered: 07-08-91	Specific Examination	75.00	(.2)	Practical Examination	100.00	(.5)	Exams completed: 87-10-91	Composite Score	89.00		INITIAL CERTIFICATION DATES <table border="1"> <tbody> <tr> <td>Prior employment initial Level II certification:</td> <td>N/A</td> </tr> <tr> <td>Initial Level II certification issued by NES:</td> <td>06-02-82</td> </tr> </tbody> </table>		Prior employment initial Level II certification:	N/A	Initial Level II certification issued by NES:	06-02-82																																						
General Examination	80.00	(.3)	Exams administered: 07-08-91																																																									
Specific Examination	75.00	(.2)																																																										
Practical Examination	100.00	(.5)	Exams completed: 87-10-91																																																									
Composite Score	89.00																																																											
Prior employment initial Level II certification:	N/A																																																											
Initial Level II certification issued by NES:	06-02-82																																																											
DATE OF CERTIFICATION 07-10-91 DATE OF EXPIRATION 07-08-94			CERTIFIED BY  7/10/91 LEVEL III EXAMINER																																																									

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C. Donnan 3/16/92

Nondestructive Examination

QUALIFICATION RECORD

Page: 1 of 1

NAME: Edmund Donovan

High School Graduate
Glen Falls High School
Glen Falls, New York

Date
Completed:
12-31-74

DATE OF EYE EXAM: 02-15-91
CORRECTIVE LENSES REQUIRED:
Near: No Far: No
EYE EXAM DUE: 02-15-92

CLASSROOM TRAINING HOURS:

Magnetic Particle: 24.00	Ultrasonics: 301.00	IGSCC Sizing: 0.00
Penetrant: 25.75	Visual: 114.00	Weld Overlay: 32.00
Radiography: 0.00	IGSCC Detection: 128.00	Nozzle Inner Radius: 15.00

NES EXPERIENCE PREVIOUS EXPERIENCE TOTAL EXPERIENCE CERTIFICATION RESTRICTIONS

	Months	Months	Months	
Magnetic Particle:	0.00	0.00	0.00	
Penetrant:	92.16	0.00	92.16	Color Contrast
Radiography:	0.00	0.00	0.00	
Ultrasonics:	91.78	0.00	91.78	None
Visual:	82.27	0.00	82.27	None - VT-1,2,3,4

DATE OF CURRENT CERTIFICATION

DATE OF EXPIRATION

	Trainee	I	II	III	Trainee	I	II	III
Magnetic Particle	_____	_____	_____	_____	_____	_____	_____	_____
Penetrant	_____	_____	08-13-90	_____	_____	_____	08-07-93	_____
Radiography	_____	_____	_____	_____	_____	_____	_____	_____
Ultrasonics	_____	_____	07-10-91	_____	_____	_____	07-08-94	_____
Visual	_____	_____	04-25-90	_____	_____	_____	04-24-93	_____
IGSCC Detection (Manual)	_____	_____	08-15-91	_____	_____	_____	01-25-92	_____
IGSCC Detection (UDRPS)	_____	_____	_____	_____	_____	_____	_____	_____
IGSCC Sizing (Manual)	_____	_____	_____	_____	_____	_____	_____	_____
IGSCC Sizing (UDRPS)	_____	_____	_____	_____	_____	_____	_____	_____
Weld Overlay (Manual)	_____	_____	_____	_____	_____	_____	06-18-90	_____
Weld Overlay (UDRPS)	_____	_____	_____	_____	_____	_____	_____	_____
Nozzle Inner Radius Qualification	_____	_____	08-05-87	_____	_____	_____	_____	_____

PREVIOUS EMPLOYMENT INITIAL CERTIFICATION

DATE OF INITIAL NES CERTIFICATION

	Trainee	I	II	III	Trainee	I	II	III
Magnetic Particle	_____	_____	_____	_____	_____	_____	_____	_____
Penetrant	_____	_____	_____	_____	01-19-81	06-02-81	07-17-81	_____
Radiography	_____	_____	_____	_____	_____	_____	_____	_____
Ultrasonics	_____	_____	_____	_____	03-09-81	05-30-81	06-02-82	_____
Visual	_____	_____	_____	_____	03-28-81	06-02-81	03-15-84	_____
IGSCC Detection (Manual)	_____	_____	_____	_____	_____	_____	10-21-83	_____
IGSCC Detection (Auto.)	_____	_____	_____	_____	_____	_____	_____	_____
IGSCC Sizing (Manual)	_____	_____	_____	_____	_____	_____	_____	_____
IGSCC Sizing (Auto.)	_____	_____	_____	_____	_____	_____	_____	_____
Weld Overlay (Manual)	_____	_____	_____	_____	_____	_____	07-23-87	_____
Weld Overlay (Auto.)	_____	_____	_____	_____	_____	_____	_____	_____

All certifications and supporting documentation are contained in this individual's certification file.

Mary-Ellen Alling
Technical Director's Designee

9-30-91
Date

Reviewed: C. Lamm 3/16/92



EDUCATION AND TRAINING RECORD

Page: 1 of 3

EDUCATION

NAME: Edmund Donovan

Gen. Educational Development Date
Glen Falls High School Completed:
Glen Falls, New York 12-31-74

Education credited
toward NDE
certifications: 12 years

NDE CLASSROOM TRAINING

INSTITUTION/ORGANIZATION	LOCATION	TYPE	PROCEDURE NUMBER	DATE COMPLETED	HOURS
MT Nuclear Energy Services	Danbury, Connecticut	Level I and Level II	N/A	08-21-81	24.00

Total this page: 24.00

TOTAL: 24.00

PT Nuclear Energy Services	Danbury, Connecticut	Level I and II	N/A	01-16-81	24.00
Nuclear Energy Services	Nine Mile Point Unit 1	Procedure Review	NES 80A2819, Rev. 10	09-21-88	1.50
Nuclear Energy Services	Nine Mile Point Unit 1	Interpretn. Criteria	80A2819, R.10, FC 4	11-30-88	0.25

Total this page: 25.75

TOTAL: 25.75

TOTAL: 0.00

UT Sperry Schools for NDT	Columbus, Ohio	Theory and Lab.	N/A	03-06-81	40.00
Sperry Schools for NDT	Columbus, Ohio	Ultrasonic Weld	N/A	04-02-82	40.00
EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	N/A	10-21-83	40.00
EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	N/A	02-28-86	40.00
EPRI NDE Center	Charlotte, North Carolina	Weld Overlay	PDS #8859-061887	06-18-87	32.00
Nuclear Energy Services	Nine Mile Point Unit 1	IGSCC Detection	N/A	06-18-82	40.00

See next page for additional UT entries.

Total this page: 232.00

TOTAL: 301.00

IGSCC Detection Hrs: 128.00 IGSCC Sizing Hrs: 0.00 Weld Overlay Hrs: 32.00 Nozzle Inner Radius Hrs: 15.00

VT Nuclear Energy Services	Danbury, Connecticut	Basic	N/A	03-28-81	14.00
EPRI NDE Center	Charlotte, North Carolina	Level I	N/A	12-09-83	40.00
EPRI NDE Center	Charlotte, North Carolina	Level II	N/A	12-16-83	40.00
Nuclear Energy Services	Three Mile Island Nuclear	VT II Refresher	NES Outline VT-Ref-2	02-01-87	16.00
Nuclear Energy Services	Danbury, Connecticut	Level II General	N/A	04-24-90	1.50
Nuclear Energy Services	Danbury, Connecticut	Level II Specific	N/A	04-24-90	2.50

Total this page: 114.00

TOTAL: 114.00

The education and training required for
certification is documented in this
individual's certification file in accordance
with NES Document 80A9068 and/or 80A9069.

Mary-Ellen Allen
Technical Director's Designee

4-26-90
Date

Reviewed: C. Brown 3/16/92



EDUCATION AND TRAINING RECORD

Edmund Donovan

Page: 2 of 3

NDE CLASSROOM TRAINING

INSTITUTION/ORGANIZATION	LOCATION	TYPE	PROCEDURE NUMBER	DATE COMPLETED	HOURS
--------------------------	----------	------	------------------	----------------	-------

MT

PT

RT

UT	Nuclear Energy Services	Nine Mile Point Unit 1	IGSCC Detection	N/A	05-19-82	8.00
	Nuclear Energy Services	Danbury, Connecticut	Theory and Applic.	N/A	01-28-81	24.00
	Nuclear Energy Services	Danbury, Connecticut	IGSCC	N/A	02-21-81	10.00
	Nuclear Energy Services	Danbury, Connecticut	Proc. Indoctrination	NES 80A2308, 80A2818	03-29-84	2.50
	Nuclear Energy Services	Vermont Yankee Nuc. Plant	Nozzle Inner Radius	N/A	06-22-84	10.00
	Nuclear Energy Services	Vermont Yankee Nuc. Plant	Nozzle Inner Radius	N/A	08-05-87	5.00

See next page for additional UT entries.

Total this page: 59.50

IGSCC Detection Hrs: 8.00 IGSCC Sizing Hrs: 0.00 Weld Overlay Hrs: 0.00 Nozzle Inner Radius Hrs: 15.00

VT

The education and training required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Technical Director's Designee

Date

Mary-Ellen Alling

4-26-90

Reviewed: C. Asmm 3/16/92



EDUCATION AND TRAINING RECORD

NAME: Edmund Donovan

Page: 3 of 3

NDE CLASSROOM TRAINING

	INSTITUTION/ORGANIZATION	LOCATION	TYPE	PROCEDURE NUMBER	DATE COMPLETED	HOURS
MT						
PT						
UT	Nuclear Energy Services	Vermont Yankee Nuc. Plant	Bolting Examination	YA-UT-7, Rev. 3	08-26-87	3.00
	Nuclear Energy Services	Nine Mile Point Unit 1	Recording Criteria	2308-7455-2434-2826	08-22-88	4.00
	Nuclear Energy Services	Nine Mile Point Unit 1	Recording Criteria	NES 80A2433	08-24-88	0.50
	Nuclear Energy Services	Nine Mile Point Unit 1	Austenitic Procedure	NES 80A2818, Rev. 8	09-08-88	1.00
	Nuclear Energy Services	Nine Mile Point Unit 1	Ferritic Procedure	NES 80A4014, FC 1	09-08-88	1.00
					Total this page:	9.50

IGSCC Detection Hrs: 0.00 IGSCC Sizing Hrs: 0.00 Weld Overlay Hrs: 0.00 Nozzle Inner Radius Hrs: 0.00

VT

The education and training required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Mary-Ellen Alling
Technical Director's Designee

4-26-90
Date

Reviewed: C. Amm 3/16/92

NES EXPERIENCE RECORD

NAME: Edmund Donovan

Page 1 of 2

NDE ASSIGNMENTS

List assignments in which the individual was working in the capacity for which he was certified.

EXPERIENCE AT EACH LEVEL OF CERTIFICATION

			FROM	TO	LEVEL	TYPE	MONTHS
MT							
							TOTAL: 0.00
PT	ISI: Nine Mile Point 1	PSI: Nine Mile Point 2	01-19-81	06-02-81	Trainee	Nuclear	4.45
	ISI: V.C. Summer Nuclear	PSI: Shoreham Nuclear	06-02-81	07-17-81	I	Nuclear	1.45
	PSI: Wolf Creek Nuclear	PSI: Susquehanna Unit 2	07-17-81	07-16-84	II	Nuclear	36.00
	PSI: Nine Mile Point 1	ISI: Vermont Yankee	11-12-84	09-09-86	II	Nuclear	21.87
			09-09-86	10-02-87	II	Nuclear	0.40
			10-02-87	04-11-90	II	Nuclear	27.99

Total this page: 92.16

See next page for additional PT entries.

TOTAL: 92.16

UT	ISI: Three Mile Island	ISI: Nine Mile Point 1	03-09-81	05-30-81	Trainee	Nuclear	3.00
	PSI: Nine Mile Point 2	ISI: V.C. Summer Nuclear	05-30-81	06-02-82	I	Nuclear	12.06
	ISI: Vermont Yankee	PSI: Nine Mile Point 1	06-02-82	06-02-85	II	Nuclear	36.00
	PSI: Wolf Creek Nuclear	PSI: Susquehanna Unit 2	06-10-85	06-07-88	II	Nuclear	24.00
	PSI: Shoreham Nuclear	ISI: Wolf Creek	09-09-88	04-11-90	II	Nuclear	16.72

Total this page: 91.78

TOTAL: 91.78

VT	ISI: Three Mile Island	ISI: Nine Mile Point 1	03-28-81	06-02-81	Trainee	Nuclear	2.12
	PSI: Nine Mile Point 2	ISI: V.C. Summer Nuclear	06-02-81	03-15-84	I	Nuclear	33.40
	PSI: Shoreham Nuclear	ISI: Wolf Creek	03-15-84	12-16-86	II	Nuclear	26.25
	ISI: Vermont Yankee		02-26-87	04-24-90	II	Nuclear	20.50
			04-25-90	present	II	Nuclear	

Total this page: 82.27

TOTAL: 82.27

The NES experience required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Mary-ellen Alling
Technical Director's Designee

8-13-90
Date

Reviewed: C. Brown 3/16/92

NES EXPERIENCE RECORD

NAME: Edmund Donovan

Page 2 of 2

NDE ASSIGNMENTS

List assignments in which the individual was working in the capacity for which he was certified.

EXPERIENCE AT EACH LEVEL OF CERTIFICATION

	FROM	TO	LEVEL	TYPE	MONTHS
MT					

PT	08-08-90	present	II	Nuclear	
----	----------	---------	----	---------	--

RT

UT

VT

The NES experience required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Mary-Ellen Alling
Technical Director's Designee

8-13-90
Date

Reviewed: C. Connor 3/16/92

**Resume for
Edmund R. Donovan**

EXPERIENCE SUMMARY

Supervision and coordination of work tasks and NDT technicians during refueling outages at various nuclear power plants. More than six and one-half years nuclear experience in piping weld inspection, piping hangers/restraints inspection, reactor vessel remote internal inspection, pump/valve internal/external visual inspection, steam erosion inspection on large and small bore piping, visual inspection on hydrostatic testing of reactor vessel and associated piping systems.

EXPERIENCE

01/12/81 to 04/29/89 **NUCLEAR ENERGY SERVICES, INC.**
07/09/89 to Present Danbury, Connecticut

Assignments:

04/25/90 to 05/01/90 Oyster Creek, Lacey Township, New Jersey
Inservice Inspection. Assigned to site as a Level II PT, UT and VT examiner.

03/12/90 to 04/10/90 Wolf Creek Nuclear Station, Burlington, Kansas
Inservice Inspection. Assigned to site as Lead Level II examiner.

02/02/90 to 02/23/90 Three Mile Island, Harrisburg, Pennsylvania
Inservice Inspection. Assigned to site as Site Supervisor. Supervised NDE examiners.

07/09/89 to 12/06/89 Seabrook Unit 1, Seabrook, New Hampshire
Preservice Inspection. Assigned to Seabrook as site supervisor.

01/10/88 to 04/29/89 Nine Mile Point Unit 1, Oswego, New York
Inservice Inspection. Assigned to site as a Level II PT, UT and VT examiner.

09/30/89 to 11/05/87 Wolf Creek Nuclear Station, Burlington, Kansas
Inservice Inspection. Supervised Level II NDE examiners.

06/15/87 to 06/21/87 Vermont Yankee Nuclear Station, Vernon, Vermont
08/02/87 to 09/20/87 Inservice Inspection. Performed Level II UT, PT and VT examinations of balance-of-plant piping and components.

03/23/87 to 05/10/87 Maine Yankee Nuclear Station, Wiscasset, Maine
Inservice Inspection. Performed Level II UT and VT examinations of balance-of-plant piping and components.

01/30/87 to 02/02/87 Danbury Office, Danbury, Connecticut
VT Training

09/22/86 to 12/17/86 Three Mile Island, Harrisburg, Pennsylvania
Inservice Inspection. Performed VT and UT Level II examinations of balance-of-plant piping. Performed erosion/corrosion examinations of steam piping.

Reviewed: C. Asmen 3/16/92

Edmund R. Donovan
Page 2 of 3

EXPERIENCE (Continued)

03/04/86 to 07/03/86

Nine Mile Point Unit 1, Oswego, New York

Level II UT, PT and VT inservice examinations of the Reactor Pressure Vessel and balance-of-plant piping, components and supports. Manual IGSCC detection examinations on reactor recirculation piping, core spray piping, emergency condenser piping and shutdown cooling piping. Visual inspection of all types piping support, remote vessel internal inspection valve and pump internal and external inspection and new piping welds. Also, visual inspection of hydrostatic testing of reactor vessel and associated piping system, including hydrostatic testing of Main Steam relief valves and associated piping with reactor in hot standby mode before power generation. Coordination and supervision of two to fifteen NDT Technicians performing visual examination of over six hundred Class 1, 2 and 3 hangers, restraints, snubbers and anchors. Scheduled to be done during the tenth year outage. Coordination and supervision of four NDT Technicians performing UT examination for detection of steam erosion on Main Steam drain lines.

11/26/84 to 03/03/86

Nine Mile Point Unit 2, Oswego, New York

Level II UT, PT and VT preservice examinations of the reactor pressure vessel and balance-of-plant piping, components and supports. Manual IGSCC detection examinations on reactor recirculation piping. Walkdown of piping systems checking weld crown prep for UT and PT. VT-3 visual inspection pre-startup on hangers, snubbers, restraints and anchors on large and small bore piping systems.

9/17/84 to 11/12/84

V.C. Summer Nuclear Station, Jenkinsville, South Carolina

Level II UT, PT and VT inservice examinations of the reactor pressure vessel and balance-of-plant piping, components and supports. Manual IGSCC detection examinations on reactor recirculation piping, steam generator nozzle outlet bimetallic welds and associated piping systems. VT-3 visual inspection on hangers, snubbers, restraints and anchors on large and small bore piping systems in plant. Also, assisted Level II with MT examinations.

06/15/84 to 06/22/84

Vermont Yankee Nuclear Station, Brattleboro, Vermont

Level II UT Nozzle Inner Radius on Feedwater Nozzles.

03/17/84 to 05/25/84

Nine Mile Point Unit 1, Oswego, New York

Level II UT, PT and VT inservice examinations of the reactor pressure vessel and balance-of-plant piping, components and supports. Manual IGSCC detection examinations on reactor recirculation piping, core spray piping, emergency condenser piping and shutdown cooling piping. Visual inspection of all types piping supports, remote vessel internal inspection and valve and pump internal and external inspection. UT examination on Main Steam drain lines, moisture separator drain lines and feedwater drain lines for the detection of erosion and steam erosion.

02/02/84 to 03/15/84

Shoreham Nuclear Station, Wading River, New York

Level II PT examinations on different components of stand by Diesel Generators.

10/30/83 to 11/19/83

Wolf Creek Nuclear Station, Burlington, Kansas

01/15/84 to 02/01/84

Level II UT and PT preservice examinations of the reactor pressure vessel and balance-of-plant piping, components and supports.

4/24/83 to 09/29/83

Susquehanna Nuclear Station Unit 2, Berwick, Pennsylvania

Level II UT and PT preservice examinations of the reactor pressure vessel and balance-of-plant piping, components and supports. Level II UT on Core Spray system and R.H.R. systems pump housing.

Reviewed: C. Brown 3/14/92

Edmund R. Donovan
Page 3 of 3

EXPERIENCE (Continued)

05/02/82 to 04/04/83 Nine Mile Point Unit 1, Oswego, New York
Level II UT and PT inservice examinations of the Reactor Pressure Vessel and balance-of-plant piping, components and supports. UT and PT on reactor recirculation piping locating IGSCC cracking. Performed UT and PT on new reactor recirculation piping as baseline during Recirc. Replacement Outage. Performed UT examination on Main Steam drain lines, moisture separator drain lines and feedwater drain lines for the detection of erosion and steam erosion. Also performed UT on Condenser water boxes and torus piping for the detection of erosion.

10/18/81 to 05/01/82 Shoreham Nuclear Station, Wading River, New York
Level I UT, PT and VT preservice examinations of the reactor pressure vessel and balance-of-plant piping, components and supports.

02/18/81 to 07/17/81 Nine Mile Point Unit 1, Oswego, New York
Level I UT, PT and VT preservice examinations of the reactor pressure vessel and balance-of-plant piping, components and supports. Level I UT on Main Steam drain lines, Main Steam large bore piping in condenser bay, feedwater heat exchanger and associated piping, condenser water boxes and condenser housing for the detection of erosion and steam erosion.

09/07/81 to 10/16/81 **NUCLEAR FUEL SERVICES, INC.**
Fuel Recycling Plant, West Valley, New York

NDE Examiner

Level I VT on components of fuel recycling plant pumps, valves, piping, mechanical arms and tanks.

CERTIFICATIONS

Ultrasonics	Level II	Visual Examination (EPRI)	Level II
Liquid Penetrant	Level II	IGSCC Detection (EPRI)	Level II
Mechanical	Level II	Piping/Welding	Level II

NDE TRAINING

40 hours	IGSCC Detection (Requalification)	EPRI NDE Center	Charlotte, North Carolina
10 hours	Nozzle Inner Radius	Nuclear Energy Services	Danbury, Connecticut
40 hours	Visual Level II	EPRI NDE Center	Charlotte, North Carolina
40 hours	IGSCC Detection	EPRI NDE Center	Charlotte, North Carolina
40 hours	IGSCC Training	Nuclear Energy Services	Danbury, Connecticut
24 hours	Magnetic Particle Level I and II	Nuclear Energy Services	Danbury, Connecticut
40 hours	Ultrasonic Training	Sperry NDE School	Columbus, Ohio
40 hours	Ultrasonic Training	Sperry NDE School	Columbus, Ohio
25 hours	Ultrasonic Training	Nuclear Energy Services	Danbury, Connecticut
14 hours	Visual Training	Nuclear Energy Services	Danbury, Connecticut
10 hours	Nozzle Inner Radius	Nuclear Energy Services	Danbury, Connecticut
10 hours	UT IGSCC Training	Nuclear Energy Services	Danbury, Connecticut
24 hours	Basic UT Training	Nuclear Energy Services	Danbury, Connecticut
32 hours	Liquid Penetrant	Nuclear Energy Services	Danbury, Connecticut

EDUCATION

1974 General Educational Development, Glens Falls Senior High, Glens Falls, New York

Reviewed: C. O'Brien 3/16/92

VISION ACUITY EXAMINATION REPORT

 NAME: Ed Donovan DATE: 2/12/92
EXAMINATION RESULTS:
NEAR VISION

(Passing: J1)

	UNCORRECTED	CORRECTED
Right Eye	<u>J 1</u>	<u>J 1</u>
Left Eye	<u>J 1</u> Pass/Fail	<u>J</u> Pass/Fail

DISTANCE VISION

(Passing: 20/30)

	UNCORRECTED	CORRECTED
Right Eye	<u>20/20</u>	<u>20/</u>
Left Eye	<u>20/20</u> Pass/Fail	<u>20/</u> Pass/Fail

COLOR VISION

Distinguishing pertinent colors has been verified by As right screens ~~Ishihara's test plate numbers~~ for Color Blindness.

The above individual was given an eye test for near vision acuity using the Standard Jaeger Chart and the Snellen Chart for far vision acuity for NDE certification in accordance with NES Procedures 80A9068 and 80A9069.

<u>Ed Donovan</u>	<u>RN</u>	<u>2/12/92</u>
EXAMINED BY	TITLE	DATE

The ability to distinguish contrasting colors has been demonstrated by a practical examination in the methods listed below.

MT	_____	ET	_____
PT	_____	LT	_____
RT	_____	VT	_____
UT	_____	UT/T	_____
EXAMINED BY	DATE	EXAMINED BY	DATE

Sight Screener II Record Form (Standard Targets)

For use with Catalog
No. 23800 Sight Screener II

Name Ed Donovan Dept. NES I.D. No. 088-48889 Date 2/12/92

Job Title or Description QC Inspector

Glasses: Yes ☐ No ☒ Always ☐ Sometimes ☐ Distance Only ☐ Reading ☐ Bifocals ☐

- Have you ever been examined by a vision specialist? ☐ No ☐ Yes How long since last exam? _____
- If glasses are worn, how long have you used present pair? _____
- If examination date and age of glasses differ, give reason _____
- Do you have any difficulty with your eyes? ☐ No ☐ Yes (If yes) What kind of difficulties? _____

FAR VISION TESTS — Switch to "FAR" on control

TEST DESCRIPTION AND KEY (Corresponds to Remote Control Key)	UNACCEPTABLE	ACCEPTABLE. See Standards Guide ⁽¹⁾
RIGHT EYE: ACUITY A B C 1. 20 = 547638 25 = 428576 30 = 943852 2. 40 = 795823 50 = 357248 60 = 7236 3. 70 = 9574 100 = 92 200 = 5	20/70 = 9574 20/200 = 5 20/60 = 7236 20/100 = 92 20/50 = 357248	(One Miss Allowed Per Line) 20/40 = 795823 20/30 = 943852 20/25 = 428576 20/20 = 547638
LEFT EYE: ACUITY A B C 1. 20 = 745932 25 = 578236 30 = 346752 2. 40 = 534268 50 = 752386 60 = 4254 3. 70 = 8453 100 = 85 200 = 3	20/70 = 8453 20/200 = 3 20/60 = 6254 20/100 = 85 20/50 = 752386	(One Miss Allowed Per Line) 20/40 = 534268 20/30 = 346752 20/25 = 578236 20/20 = 745932
BOTH EYES: ACUITY A B C 1. 20 = 857432 25 = 674235 30 = 382457 2. 40 = 563472 50 = 859423 60 = 8927 3. 70 = 2978 100 = 43 200 = 9	20/70 = 2978 20/200 = 9 20/60 = 8927 20/100 = 43 20/50 = 859423	(One Miss Allowed Per Line) 20/40 = 563472 20/30 = 382457 20/25 = 674235 20/20 = 857432

26" VISION TEST — Insert special lens plunger⁽²⁾

TEST DESCRIPTION AND KEY	UNACCEPTABLE	ACCEPTABLE. See Standards Guide ⁽¹⁾
BOTH EYES: ACUITY A B C 1. 20 = 857432 25 = 674235 30 = 382457 2. 40 = 563472 50 = 859423 60 = 8927 3. 70 = 2978 100 = 43 200 = 9	20/70 = 2978 20/200 = 9 20/60 = 8927 20/100 = 43 20/50 = 859423	(One Miss Allowed Per Line) 20/40 = 563472 20/30 = 382457 20/25 = 674235 20/20 = 857432

FAR VISION TESTS Continued — Release special lens plunger

F-1	PHORIA Red - Lateral	ESO 0 1 2 3 4 5 6 7 8 9 EXO		
	Green - Vertical	RIGHT H. 0 1 2 3 4 5 6 7 8 9 LEFT H.	ORTHO	
F-5	FUSION (3)	Four Balls	Four then Three	Three Balls
F-6	STEREOPSIS	Box (Heavily Crossed)	Star	Cross
F-7	COLOR Severe (Red/Green) 79 23	None Correct	One Correct	Two Correct
F-8	COLOR Mild (Blue/Violet) 92 56	None Correct	One Correct	Two Correct
HORIZONTAL FIELD TESTS ⁽⁴⁾		LEFT SIDE: 85° <input checked="" type="checkbox"/> 70° <input checked="" type="checkbox"/> 55° <input checked="" type="checkbox"/> NASAL <input checked="" type="checkbox"/> RIGHT SIDE: NASAL <input checked="" type="checkbox"/> 55° <input checked="" type="checkbox"/> 70° <input checked="" type="checkbox"/> 85° <input checked="" type="checkbox"/>		

Use reverse side for Near Vision Tests

NEAR VISION TESTS — Switch to "NEAR" on control

TEST DESCRIPTION AND KEY (Corresponds to Remote Control Key)		UNACCEPTABLE	ACCEPTABLE. See Standards Guide (1)
N-1	RIGHT EYE: ACUITY A: 1. 20 = 547638 B: 25 = 428576 C: 30 = 943852 2. 40 = 795823 50 = 357248 60 = 7236 3. 70 = 9574 100 = 92 200 = 5	20/70 = 6574 20/200 = 5 20/60 = 7236 20/100 = 52 20/50 = 35748	(One Miss Allowed Per Line) 20/40 = 795823 20/30 = 943852 20/25 = 428576 20/20 = 547638
N-2	LEFT EYE: ACUITY A: 1. 20 = 745932 B: 25 = 578236 C: 30 = 346752 2. 40 = 534268 50 = 752386 60 = 6254 3. 70 = 3453 100 = 85 200 = 3	20/70 = 8453 20/200 = 3 20/60 = 6254 20/100 = 85 20/50 = 752386	(One Miss Allowed Per Line) 20/40 = 534268 20/30 = 346752 20/25 = 578236 20/20 = 745932
N-3	BOTH EYES: ACUITY A: 1. 20 = 857432 B: 25 = 674235 C: 30 = 382457 2. 40 = 563477 50 = 859423 60 = 8927 3. 70 = 2973 100 = 43 200 = 9	20/70 = 2978 20/200 = 9 20/60 = 8927 20/100 = 43 20/50 = 859423	(One Miss Allowed Per Line) 20/40 = 563477 20/30 = 382457 20/25 = 674235 20/20 = 857432
N-4	PHORIA Red - Lateral Green - Vertical	ESO 0 1 2 3 4 5 6 7 8 9 EXO RIGHT H. 0 1 2 3 4 5 6 7 8 9 LEFT H. ORTHO	
N-5	FUSION (3)	Four Balls	Four then Three
N-6	STEREOPSIS	Box Hear Cross	Star Cross

- (1) See visual standards guide for recommended minimum visual standards for general job categories. Page 12 in Instruction Manual.
- (2) 26" distance test is useful when evaluating operators of visual display terminals (computers, word processors, etc.). Use visual standards recommended for Group 1, Page 12 in Instruction Manual.
- (3) A Fusion Test indicates a potential imbalance in eye positioning muscles. If both the lateral phoria test and fusion test are failed, a professional eye examination is recommended.
- (4) Horizontal field: If the subject cannot recognize the L.E.D. target at 70° on both sides, refer for professional consultation if job safety requires good peripheral vision.

Referred Yes ☐ No ☐ By Echel Leno Notified ☐ Examined ☐ Rechecked ☐



Safety Products

SOUTHBRIDGE, MA 01550



File: Pennanen Art

CERTIFICATE OF QUALIFICATION

PENETRANT EXAMINATION

LEVEL III

Art Pennanen is qualified as Level III in Penetrant Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 6, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services.

CERTIFICATION RESTRICTIONS			SEE ATTACHED VISION ACUITY REPORT		
Unrestricted					
EDUCATION	High School Graduate Silver Lake Regional H.S. Kingston, Massachusetts	Date Completed: 06-07-59	COLLEGE OR TECHNICAL	Civil Eng. (3 semesters) Lincoln Institute Boston, Massachusetts	Date Completed: 01-21-63
TRAINING					
Institution/Organization	Location	Type	Date Completed	Hours	
Nuclear Energy Services	Danbury, Connecticut	Lev. I, II, advanced	01-14-81	24.00	
				Total:	24.00

NES EXPERIENCE

PENETRANT EXAMINATION ASSIGNMENTS (List up to 12 PT assignments.)

		EXPERIENCE AT EACH LEVEL OF PT CERTIFICATION				
		From	To	Level	Type	Months
ISI: Three Mile Island	ISI: Yankee Rowe	01-17-81	01-12-84	II *	Nuclear	35.80
PSI: Nine Mile Point 2	PSI: Shoreham	01-12-84	12-07-84	II	Nuclear	10.80
PSI: Limerick Units 1 & 2	PSI: Seabrook Unit 1	12-07-84	11-10-86	III	Nuclear	23.09
PSI: Susquehanna Unit 2	PSI: Combustion Eng Plant	11-10-86	03-13-90	III	Nuclear	40.05
ISI: Nine Mile Point 1		03-13-90	present	III	Nuclear	

* Experience equivalent to Level II

Total: 109.74

PREVIOUS EXPERIENCE

		EMPLOYMENT DATES		PT EXPERIENCE		
Employer	Location	From	To	Level	Type	Months
Peabody/Magnaflux	Chicago, Illinois	01-01-69	07-01-75	II *	Nuclear	65.00
Consolidated X-Ray Servcs	Dallas, Texas	01-14-76	10-01-79	II	Non-nuclear	0.20


* Experience equivalent to Level II

Total: 65.20

TOTAL EXPERIENCE

PT LEVEL II OR III EXPERIENCE: 14.58 years

PT LEVEL II OR III NUCLEAR EXPERIENCE: 14.56 years

CERTIFICATION EXAMINATIONS			INITIAL CERTIFICATION DATES				
Basic Examination	89.00	(.25)	Exams administered: 03-05-90	Prior employment initial Level III certification:	N/A		
General Examination	88.30	(.25)		Initial Level III certification issued by NES:	12-07-84		
Specific Examination	97.50	(.25)	Exams completed: 03-08-90	CERTIFIED BY  LEVEL III EXAMINER			
Critical Examination	100.00	(.25)					
Composite Score	93.70						
DATE OF CERTIFICATION			03-13-90				
DATE OF EXPIRATION			03-05-95				

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C. Dorman 3/16/92



File: Pennanen Art

CERTIFICATE OF QUALIFICATION

ULTRASONIC EXAMINATION

LEVEL III

Art Pennanen is qualified as Level III in Ultrasonic Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 6, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services.

CERTIFICATION RESTRICTIONS Unrestricted			SEE ATTACHED VISION ACUITY REPORT			
EDUCATION	High School Graduate Silver Lake Regional H.S. Kingston, Massachusetts	Date Completed: 06-07-59	COLLEGE OR TECHNICAL	Civil Eng. (3 semesters) Lincoln Institute Boston, Massachusetts	Date Completed: 01-21-63	
TRAINING						
Institution/Organization	Location	Type	Date Completed	Hours		
Magnaflux Corporation	Chicago, Illinois	Basic UT	02-20-70	40.00		
Magnaflux Corporation	Chicago, Illinois	Weld Insp. ASME XI	10-11-74	40.00		
EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	09-02-83	40.00		
EPRI NDE Center	Charlotte, North Carolina	IGSCC Sizing	01-13-84	40.00		
Nuclear Energy Services	Danbury, Connecticut	R. C. Pump Flywheel	03-10-86	3.00		
EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	10-01-86	64.00		
				Total: 242.00		
See EDUCATION AND TRAINING RECORD for additional UT training entries.						
NES EXPERIENCE						
ULTRASONIC EXAMINATION ASSIGNMENTS (List up to 12 UT assignments.)		EXPERIENCE AT EACH LEVEL OF UT CERTIFICATION				
		From	To	Level	Type	Months
ISI: Three Mile Island 1	ISI: Callaway Unit 1	02-08-80	02-08-83	II	Nuclear	36.00
PSI: Nine Mile Point 2	PSI: Shoreham Unit 1	02-15-83	11-14-83	II	Nuclear	8.85
PSI: Limerick Units 1, 2	PSI: Seabrook Unit 1	11-14-83	11-10-86	III	Nuclear	35.87
PSI: Susquehanna Unit 2	PSI: Callaway Unit 1	11-10-86	03-13-90	III	Nuclear	40.05
PSI: Shearon Harris 1	ISI: Yankee Rowe	03-13-90	present	III	Nuclear	
PSI: Palo Verde 1, 2, 3	PSI: William H. Zimmer					
				Total: 120.77		
PREVIOUS EXPERIENCE						
Employer	Location	EMPLOYMENT DATES		UT EXPERIENCE		
		From	To	Level	Type Months	
Peabody/Magnaflux	Chicago, Illinois	01-01-69	07-01-75	II	Nuclear 65.00	
Consolidated X-Ray Servcs	Dallas, Texas	01-14-76	10-01-79	II	Non-nuclear 6.00	
Peabody/Magnaflux	Plymouth, Massachusetts	01-01-80	02-01-80	II	Nuclear 1.00	
				Total: 72.00		
TOTAL EXPERIENCE						
UT LEVEL II OR III EXPERIENCE: 16.06 years			UT LEVEL II OR III NUCLEAR EXPERIENCE: 15.56 years			
CERTIFICATION EXAMINATIONS			INITIAL CERTIFICATION DATES			
Basic Examination	89.00 (.25)	Exams administered:	Prior employment initial Level III certification: N/A			
General Examination	84.60 (.25)	03-05-90	Initial Level III certification issued by NES: 11-14-83			
Specific Examination	95.00 (.25)	Exams completed:				
Practical Examination	97.73 (.25)	03-05-90				
Composite Score	91.58					
DATE OF CERTIFICATION		03-13-90	LEVEL III EXAMINER			
DATE OF EXPIRATION		03-05-95				

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C. Asman 3/16/92



File: Art Pennanen

CERTIFICATE OF QUALIFICATION

MAGNETIC PARTICLE EXAMINATION

LEVEL III

Art Pennanen is qualified as Level III in Magnetic Particle Examination in accordance with the requirements of Nuclear Energy Services' Procedure for Certifying Nondestructive Examination Personnel, No. 80A9068, Revision 8, which incorporates the requirements of SNT-TC-1A, 1984 Edition. This certification is valid only during employment with Nuclear Energy Services.

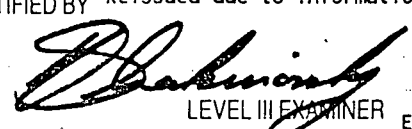
CERTIFICATION RESTRICTIONS			SEE ATTACHED VISION ACUITY REPORT		
EDUCATION	High School Graduate Silver Lake Regional H.S. Kingston, Massachusetts	Date Completed: 06-07-59	COLLEGE OR TECHNICAL	Civil Eng. (3 semesters) Lincoln Institute Boston, Massachusetts	Date Completed: 01-21-63

TRAINING					
Institution/Organization	Location	Type	Date Completed	Hours	
Home Study/Gen. Dynamics	Quincy, Massachusetts	Level I	04-30-65	20.00	
Home Study/Magnaflux Corp.	Little Ferry, New Jersey	Level II	05-31-69	20.00	
				Total:	40.00

NES EXPERIENCE						
MAGNETIC PARTICLE EXAMINATION ASSIGNMENTS (up to 12 MT assignments.)			EXPERIENCE AT EACH LEVEL OF MT CERTIFICATION			
			From	To	Level	Type
ISI: Three Mile Island	ISI: Callaway Unit 1	12-10-82	12-07-84	II	Nuclear	23.91
ISI: Nine Mile Point 1	PSI: Shoreham	12-07-84	11-10-86	III	Nuclear	23.09
PSI: Limerick Units 1 & 2	PSI: Susquehanna Unit 2	11-10-86	03-13-90	III	Nuclear	40.05
PSI: Shearon Harris 1	PSI: Seabrook Unit 1	03-13-90	present	III	Nuclear	
ISI: Yankee Rowe						
						Total: 87.05

PREVIOUS EXPERIENCE						
Employer	Location	EMPLOYMENT DATES		Level	MT EXPERIENCE	
		From	To		Type	Months
Peabody/Magnaflux	Chicago, Illinois	01-01-69	07-01-75	II	Nuclear	65.00
Consolidated X-Ray Servcs	Dallas, Texas	01-14-76	10-01-79	II	Non-nuclear	14.00
						Total: 79.00

TOTAL EXPERIENCE	MT LEVEL II OR III EXPERIENCE: 13.84 years	MT LEVEL II OR III NUCLEAR EXPERIENCE: 12.67 years
------------------	--	--

CERTIFICATION EXAMINATIONS			INITIAL CERTIFICATION DATES	
Basic Examination	89.00 (.25)	Exams administered: 03-05-90	Prior employment initial Level III certification:	N/A
General Examination	81.54 (.25)		Initial Level III certification issued by NES:	12-07-84
Specific Examination	97.50 (.25)	Exams completed: 03-08-90	CERTIFIED BY Reissued due to informational update.	
Practical Examination	100.00 (.25)		 11/13/90	
Composite Score	92.01		LEVEL III EXAMINER	
DATE OF CERTIFICATION	03-13-90		Eff. Date: 03-13-90	
DATE OF EXPIRATION	03-05-95			

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C. Osmon 3/16/92



File: Pennanen Art

CERTIFICATE OF QUALIFICATION

VISUAL EXAMINATION

LEVEL II

Art Pennanen is qualified as Level II in Visual Examination in accordance with the requirements of Nuclear Energy Services' Procedure No. 80A9069, Revision 12: Certification of Visual Examination Personnel. This certification is valid only during employment with Nuclear Energy Services.

CERTIFICATION RESTRICTIONS None - VT-1, 2, 3, & 4			SEE ATTACHED VISION ACUITY REPORT		
EDUCATION	High School Graduate Silver Lake Regional H.S. Kingston, Massachusetts	Date Completed: 06-07-59	COLLEGE OR TECHNICAL	Civil Eng. (3 semesters) Lincoln Institute Boston, Massachusetts	Date Completed: 01-21-63
TRAINING					
Institution/Organization	Location	Type	Date Completed	Hours	
Nuclear Energy Services	Danbury, Connecticut	Level I and II	02-25-81	14.00	
EPRI NDE Center	Charlotte, North Carolina	Level I	06-08-84	40.00	
EPRI NDE Center	Charlotte, North Carolina	Level II	07-06-84	40.00	
EPRI NDE Center	Charlotte, North Carolina	Level III	08-09-85	40.00	
Nuclear Energy Services	Danbury, Connecticut	Level II	03-09-90	2.00	
Total:				136.00	
NES EXPERIENCE					
VISUAL EXAMINATION ASSIGNMENTS (List up to 12 VT assignments.)		EXPERIENCE AT EACH LEVEL OF VT CERTIFICATION			
		From	To	Level	Type Months
PSI: Limerick Units 1 & 2	PSI: Shoreham	02-25-81	02-25-84	II	Nuclear 36.00
PSI: Susquehanna	PSI: Callaway	07-06-84	10-02-85	II	Nuclear 14.87
PSI: Nine Mile Point 2	ISI: Nine Mile Point 2	10-02-85	11-10-86	III	Nuclear 13.19
ISI: Three Mile Island	ISI: Brunswick	11-10-86	03-13-90	III	Nuclear 40.05
ISI: Maine Yankee	ISI: Callaway	03-13-90	present	II	Nuclear
Total:				104.11	
PREVIOUS EXPERIENCE					
Employer	Location	EMPLOYMENT DATES From To		Level	VT EXPERIENCE Type Months
Peabody/Magnaflux	Chicago, Illinois	01-01-69 07-01-75		II	Nuclear 12.00
* Non-continuous employment					Total: 12.00
TOTAL EXPERIENCE					
116.11 months of visual examination/related inspection experience.					
CERTIFICATION EXAMINATIONS			INITIAL CERTIFICATION DATES		
General Examination	80.00 (.3)	Exams administered:	Prior employment initial Level II certification: 03-01-71		
Specific Examination	81.25 (.2)	03-09-90	Initial Level II certification issued by NES: 02-25-81		
Practical Examination	81.60 (.5)	Exams completed:	03-09-90		
Composite Score	81.05	CERTIFIED BY <div style="text-align: center; margin-top: 10px;"> </div>			
DATE OF CERTIFICATION		LEVEL III EXAMINER			
03-13-90		03-09-93			

Certification documentation is maintained by Nuclear Energy Services in Danbury, Connecticut.

Reviewed: C. Asman 3/16/92



QUALIFICATION RECORD

Page: 1 of 1

NAME: Art Pennanen

High School Graduate
Silver Lake Regional H.S.
Kingston, Massachusetts

Date
Completed:
06-07-59

Civil Eng. (3 semesters)
Lincoln Institute
Boston, Massachusetts

Date
Completed:
01-21-63

DATE OF EYE EXAM: 11-03-90
CORRECTIVE LENSES REQUIRED:
Near: Yes Far: Yes
EYE EXAM DUE: 11-03-91

CLASSROOM TRAINING HOURS:

Magnetic Particle: 40.00	Ultrasonics: 242.00	IGSCC Sizing: 40.00
Penetrant: 24.00	Visual: 136.00	Weld Overlay: 0.00
Radiography: 104.00	IGSCC Detection: 104.00	Nozzle Inner Radius: 13.00

	NES EXPERIENCE	PREVIOUS EXPERIENCE	TOTAL EXPERIENCE	CERTIFICATION RESTRICTIONS
	Months	Months	Months	
Magnetic Particle:	87.05	79.00	166.05	Unrestricted
Penetrant:	109.74	65.20	174.94	Unrestricted
Radiography:	0.00	167.50	167.50	
Ultrasonics:	120.77	72.00	192.77	Unrestricted
Visual:	104.11	12.00	116.11	None - VT-1, 2, 3, & 4

DATE OF CURRENT CERTIFICATION

DATE OF EXPIRATION

	Trainee	I	II	III		Trainee	I	II	III
Magnetic Particle	_____	_____	_____	03-13-90	_____	_____	_____	_____	03-05-95
Penetrant	_____	_____	_____	03-13-90	_____	_____	_____	_____	03-05-95
Radiography	_____	_____	_____	_____	_____	_____	_____	_____	_____
Ultrasonics	_____	_____	_____	03-13-90	_____	_____	_____	_____	03-05-95
Visual	_____	_____	03-13-90	_____	_____	_____	03-09-93	_____	_____
IGSCC Detection (Manual)	_____	_____	_____	_____	_____	_____	_____	_____	09-29-89
IGSCC Detection (UDRPS)	_____	_____	_____	_____	_____	_____	_____	_____	_____
IGSCC Sizing (Manual)	_____	_____	_____	_____	_____	_____	_____	_____	07-23-90
IGSCC Sizing (UDRPS)	_____	_____	_____	_____	_____	_____	_____	_____	_____
Weld Overlay (Manual)	_____	_____	_____	_____	_____	_____	_____	_____	_____
Weld Overlay (UDRPS)	_____	_____	_____	_____	_____	_____	_____	_____	_____
Nozzle Inner Radius Qualification	_____	_____	_____	_____	_____	_____	_____	_____	_____

PREVIOUS EMPLOYMENT INITIAL CERTIFICATION

DATE OF INITIAL NES CERTIFICATION

	Trainee	I	II	III		Trainee	I	II	III
Magnetic Particle	_____	_____	05-30-69	_____	_____	_____	_____	12-10-82	12-07-84
Penetrant	_____	_____	05-30-69	_____	_____	_____	_____	01-17-81	12-07-84
Radiography	_____	_____	05-01-65	_____	_____	_____	_____	_____	_____
Ultrasonics	_____	_____	02-20-70	_____	_____	_____	_____	02-08-80	11-14-83
Visual	_____	_____	03-01-71	_____	_____	_____	_____	02-25-81	10-02-85
IGSCC Detection (Manual)	_____	_____	_____	_____	_____	_____	_____	_____	09-02-83
IGSCC Detection (Auto.)	_____	_____	_____	_____	_____	_____	_____	_____	_____
IGSCC Sizing (Manual)	_____	_____	_____	_____	_____	_____	_____	_____	08-16-84
IGSCC Sizing (Auto.)	_____	_____	_____	_____	_____	_____	_____	_____	_____
Weld Overlay (Manual)	_____	_____	_____	_____	_____	_____	_____	_____	_____
Weld Overlay (Auto.)	_____	_____	_____	_____	_____	_____	_____	_____	_____

All certifications and supporting documentation are contained in this individual's certification file.

Mary-Ellen Alling
Technical Director's Designee

11-5-90
Date

Reviewed: C. Asmm 3/16/92

EDUCATION AND TRAINING RECORD

Page: 1 of 2

EDUCATION

NAME: Art Pennanen

High School Graduate
Silver Lake Regional H.S.
Kingston, Massachusetts

Date
Completed: 06-07-59

Civil Eng. (3 semesters)
Lincoln Institute
Boston, Massachusetts

Date
Completed: 01-21-63

Education credited
toward NDE
certifications: 12 years

NDE CLASSROOM TRAINING

	INSTITUTION/ORGANIZATION	LOCATION	TYPE	PROCEDURE NUMBER	DATE COMPLETED	HOURS
MT	Home Study/Gen. Dynamics	Quincy, Massachusetts	Level I	N/A	04-30-65	20.00
	Home Study/Magnaflux Corp	Little Ferry, New Jersey	Level II	N/A	05-31-69	20.00

Total this page: 40.00

TOTAL: 40.00

PT	Nuclear Energy Services	Danbury, Connecticut	Lev. I, II, advanced	N/A	01-14-81	24.00
----	-------------------------	----------------------	----------------------	-----	----------	-------

Total this page: 24.00

TOTAL: 24.00

	General Dynamics	Quincy, Massachusetts	Level I	N/A	09-24-64	40.00
	General Dynamics	Quincy, Massachusetts	Level II	N/A	05-16-66	40.00
	Magnaflux Corporation	Chicago, Illinois	Radiation Safety	N/A	09-30-73	24.00

Total this page: 104.00

TOTAL: 104.00

UT	Magnaflux Corporation	Chicago, Illinois	Basic UT	N/A	02-20-70	40.00
	Magnaflux Corporation	Chicago, Illinois	Weld Insp. ASME XI	N/A	10-11-74	40.00
	EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	EPRI Mod. 17 Rev. 0	09-02-83	40.00
	EPRI NDE Center	Charlotte, North Carolina	IGSCC Sizing	N/A	01-13-84	40.00
	Nuclear Energy Services	Danbury, Connecticut	R. C. Pump Flywheel	NES 83A1015 Rev. 1	03-10-86	3.00
	EPRI NDE Center	Charlotte, North Carolina	IGSCC Detection	N/A	10-01-86	64.00

Total this page: 227.00

TOTAL: 242.00

IGSCC Detection Hrs: 104.00 IGSCC Sizing Hrs: 40.00 Weld Overlay Hrs: 0.00 Nozzle Inner Radius Hrs: 13.00

VT	Nuclear Energy Services	Danbury, Connecticut	Level I and II	N/A	02-25-81	14.00
	EPRI NDE Center	Charlotte, North Carolina	Level I	N/A	06-08-84	40.00
	EPRI NDE Center	Charlotte, North Carolina	Level II	N/A	07-06-84	40.00
	EPRI NDE Center	Charlotte, North Carolina	Level III	N/A	08-09-85	40.00
	Nuclear Energy Services	Danbury, Connecticut	Level II	N/A	03-09-90	2.00

Total this page: 136.00

TOTAL: 136.00

The education and training required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Mary-Ellen Alling
Technical Director's Designee

3-13-90
Date

Reviewed: C. Dorman 3/16/92



EDUCATION AND TRAINING RECORD

NAME: Art Pennanen

Page: 2 of 2

NDE CLASSROOM TRAINING

INSTITUTION/ORGANIZATION	LOCATION	TYPE	PROCEDURE NUMBER	DATE COMPLETED	HOURS
--------------------------	----------	------	------------------	----------------	-------

MT

PT

UT	Nuclear Energy Services	Oswego, New York	Nozzle Inner Radius	N/A	02-28-81	10.00
	Nuclear Energy Services	Danbury, Connecticut	Nozzle Inner Radius	NES 83A1013, Rev. 5	09-03-87	3.00
	Nuclear Energy Services	Danbury, Connecticut	Studs/Bore Probe	NES 83A1020, Rev. 2	09-03-87	2.00

Total this page: 15.00

IGSCC Detection Hrs: 0.00 IGSCC Sizing Hrs: 0.00 Weld Overlay Hrs: 0.00 Nozzle Inner Radius Hrs: 13.00

VT

The education and training required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Mary Ellen Alling
Technical Director's Designee

3-13-90
Date

Reviewed: C. Asman 3/16/92

NES EXPERIENCE RECORD

NAME: Art Pennanen

Page 1 of 1

NDE ASSIGNMENTS

List assignments in which the individual was working in the capacity for which he was certified.

EXPERIENCE AT EACH LEVEL OF CERTIFICATION

			FROM	TO	LEVEL	TYPE	MONTHS
MT	ISI: Three Mile Island	ISI: Callaway Unit 1	12-10-82	12-07-84	II	Nuclear	23.91
	ISI: Nine Mile Point 1	PSI: Shoreham	12-07-84	11-10-86	III	Nuclear	23.09
	PSI: Limerick Units 1 & 2	PSI: Susquehanna Unit 2	11-10-86	03-13-90	III	Nuclear	40.05
	PSI: Shearon Harris 1	PSI: Seabrook Unit 1	03-13-90	present	III	Nuclear	
	ISI: Yankee Rowe						
							Total this page: 87.05
							TOTAL: 87.05
PT	ISI: Three Mile Island	ISI: Yankee Rowe	01-17-81	01-12-84	II	Nuclear	35.80
	PSI: Nine Mile Point 2	PSI: Shoreham	01-12-84	12-07-84	II	Nuclear	10.80
	PSI: Limerick Units 1 & 2	PSI: Seabrook Unit 1	12-07-84	11-10-86	III	Nuclear	23.09
	PSI: Susquehanna Unit 2	PSI: Combustion Eng Plant	11-10-86	03-13-90	III	Nuclear	40.05
	ISI: Nine Mile Point 1		03-13-90	present	III	Nuclear	
							Total this page: 109.74
							TOTAL: 109.74
							TOTAL: 0.00
UT	ISI: Three Mile Island 1	ISI: Callaway Unit 1	02-08-80	02-08-83	II	Nuclear	36.00
	PSI: Nine Mile Point 2	PSI: Shoreham Unit 1	02-15-83	11-14-83	II	Nuclear	8.85
	PSI: Limerick Units 1, 2	PSI: Seabrook Unit 1	11-14-83	11-10-86	III	Nuclear	35.87
	PSI: Susquehanna Unit 2	PSI: Callaway Unit 1	11-10-86	03-13-90	III	Nuclear	40.05
	PSI: Shearon Harris 1	ISI: Yankee Rowe	03-13-90	present	III	Nuclear	
	PSI: Palo Verde 1, 2, 3	PSI: William H. Zimmer					
							Total this page: 120.77
							TOTAL: 120.77
VT	PSI: Limerick Units 1 & 2	PSI: Shoreham	02-25-81	02-25-84	II	Nuclear	36.00
	PSI: Susquehanna	PSI: Callaway	07-06-84	10-02-85	II	Nuclear	14.87
	PSI: Nine Mile Point 2	ISI: Nine Mile Point 2	10-02-85	11-10-86	III	Nuclear	13.19
	ISI: Three Mile Island	ISI: Brunswick	11-10-86	03-13-90	III	Nuclear	40.05
	ISI: Maine Yankee	ISI: Callaway	03-13-90	present	II	Nuclear	
							Total this page: 104.11
							TOTAL: 104.11

The NES experience required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.

Mary-Ellen Alling
Technical Director's Designee

3-13-90
Date

Reviewed: C. Asman 3/4/92

PREVIOUS EXPERIENCE RECORD

NAME: Art Pennanen

Page 1 of 1

	EMPLOYER	LOCATION	NUCLEAR/ NON-NUCLEAR	FROM	TO	MONTHS	LEVEL
MT	Peabody/Magnaflux	Chicago, Illinois	Nuclear	01-01-69	07-01-75	65.00	II
	Consolidated X-Ray Servcs	Dallas, Texas	Non-nuclear	01-14-76	10-01-79	14.00	II

Total this page: 79.00

TOTAL: 79.00

PT	Peabody/Magnaflux	Chicago, Illinois	Nuclear	01-01-69	07-01-75	65.00	II
	Consolidated X-Ray Servcs	Dallas, Texas	Non-nuclear	01-14-76	10-01-79	0.20	II

Total this page: 65.20

TOTAL: 65.20

RT	General Dynamics	Quincy, Massachusetts	Nuclear	05-01-64	12-01-68	42.00	II
	Peabody/Magnaflux	Chicago, Illinois	Nuclear	01-01-69	07-01-75	78.00	II
	Peabody/Miller X-Ray	Tulsa, Oklahoma	Non-nuclear	07-01-75	10-01-75	3.00	II
	Consolidated X-Ray Servcs	Dallas, Texas	Non-nuclear	01-14-76	10-01-79	44.50	II

Total this page: 167.50

TOTAL: 167.50

UT	Peabody/Magnaflux	Chicago, Illinois	Nuclear	01-01-69	65.00	65.00	II
	Consolidated X-Ray Servcs	Dallas, Texas	Non-nuclear	01-14-76	10-01-79	6.00	II
	Peabody/Magnaflux	Plymouth, Massachusetts	Nuclear	01-01-80	02-01-80	1.00	II

Total this page: 72.00

TOTAL: 72.00

VT	Peabody/Magnaflux	Chicago, Illinois	Nuclear	01-01-69	07-01-75	12.00	II
----	-------------------	-------------------	---------	----------	----------	-------	----

Total this page: 12.00

TOTAL: 12.00

The previous experience required for certification is documented in this individual's certification file in accordance with NES Document 80A9068 and/or 80A9069.


 Technical Director's Designee

Date 4/21/89

Reviewed: C. Lamm 3/16/92

RESUME ART PENNANEN

EXPERIENCE

02/25/80 to Present

NUCLEAR ENERGY SERVICES, INC.
Danbury, Connecticut

Assignments

11/91 to Present

Millstone Nuclear Power Station, Connecticut
Inservice Inspection.

09/25/91 to 11/21/91

South Texas Project Unit 2, Wadsworth, Texas
Inservice Inspection, reviewed and approved NDE Procedures and ISI examination data. Performed classroom training and surveillances of ISI activities by contractor personnel. Prepared work packages for the next two outages on this unit.

08/05/91 to 08/31/91

Seabrook Nuclear Station, Seabrook, New Hampshire
Inservice Inspection. Performed UT weld examination of carbon and stainless steel piping systems. Performed VT-2 examinations during hydro tests. Performed VT-3 examinations of component supports.

05/13/91 to 05/16/91

Westinghouse Electric, Cheswick, Pennsylvania
Inservice Inspection. Performed MT surface examination of external surface of a reactor coolant pump flywheel, after determining paint thickness on a two inch grid. This was a 10 year examination for the Wolf Creek Nuclear Plant.

03/18/91 to 04/26/91

Shearon Harris Nuclear Power Plant, New Hill, North Carolina
Inservice Inspection. Reviewed and approved ISI data. Performed VT inner radius examinations on Steam Generator Outlet Nozzles. Performed MT examinations of RPV closure head bolting.

01/24/91 to 03/08/91

South Texas Project Unit 1, Wadsworth, Texas
Inservice Inspection. Reviewed and approved NDE procedures and ISI examination data. Performed classroom training and surveillances of ISI activities of contractor personnel. Prepared work packages for fall outage.

03/13/90 to 06/01/90

South Texas Project Unit 1, Wadsworth, Texas
Inservice Inspection. Reviewed and approved NDE procedures, wrote RWP requests, established examination packages and performed classroom training. Supervised ISI crew and reviewed their data. Performed preplanning tasks for the Fall outage of Unit 2.

01/02/90 to 02/23/90

Three Mile Island Unit 1, Middletown, Pennsylvania
Inservice Inspection. Performed ultrasonic examinations of steam generator and balance-of-plant piping. Assisted with video examination of the top and bottom heads of the Reactor Pressure Vessel, performed visual examinations of piping and component supports.

10/16/89 to 12/16/89

Shearon Harris, New Hill, North Carolina
Inservice inspection. Performed certification of examination personnel. Reviewed examination data for technical accuracy. Evaluated nongeometric indications of surface and volumetric examinations.

Art Pennanen
 Page 2 of 6

EXPERIENCE (Continued)

09/18/89 to 10/14/89	<u>Brunswick Steam Electric Plant Unit 2, South Port, North Carolina</u> Performed "Surry" erosion/corrosion thickness measurements on selected piping systems. Assisted with fluorescent MT examination of an LP turbine rotor.
09/11/89 to 09/15/89	<u>Weatherspoon Steam Station, Lumberton, North Carolina</u> Performed UT thickness measurement of boiler tubing to determine remaining life.
01/10/88 to 05/24/89	<u>Nine Mile Point Unit 1, Oswego, New York</u> Inservice Inspection. Performed training and certification of examination personnel. Reviewed examination data for technical content. Evaluated nongeometric indications of surface, volumetric and visual examinations. Reviewed video tapes of invessel examinations to evaluate indications. Performed PT, MT, UT and VT examination overchecks.
09/08/87 to 11/01/87	<u>Callaway Unit 1, Fulton, Missouri</u> Inservice Inspection. Site supervisor with Level III UT, PT and MT responsibilities. Performed and evaluated UT examinations of balance-of-plant piping and components.
03/27/87 to 05/01/87	<u>Callaway Unit 1, Fulton, Missouri</u> Inservice Inspection. Site supervisor with Level III UT, PT and MT responsibilities. Performed and evaluated UT examinations of balance-of-plant piping and components.
04/86 to 03/87	<u>Three Mile Island Unit 1, Middletown, Pennsylvania</u> Level III Examiner. Determined and designed ultrasonic calibration blocks for reactor pressure vessel and balance-of-plant inservice examinations. Wrote procedures to perform inservice ultrasonic examinations. Tested and certified Level II Examiners. Assembled a QC matrix for inservice activities during a scheduled outage.
02/86 to 04/86	<u>Callaway Unit 1, Fulton, Missouri</u> Supervisor/Level III. Responsible for the performance of inservice examinations on steam generators and balance-of-plant piping utilizing a staff of eight examiners. Evaluated flaws located during these examinations. Interfaced with utility personnel.
03/85 to 02/86	<u>Nine Mile Point Unit 2, Scriba, New York</u> Level III Examiner. Provided Level III support for preservice examination activities. Trained, examined and certified Level I and Level II examiners. Reviewed and revised examination procedures as required. Evaluated indications to ASME Section III and XI requirements. Assisted in revising program plans for the preservice examinations. Reviewed and approved examination data prior to customer acceptance.
10/84 to 03/85	<u>Shoreham Nuclear Plant, Wading River, New York</u> Level III Examiner. Performed Level II and III PT, MT and UT examinations in support of recertification of 3 emergency diesel generators. Provided QC surveillance during reassembly and installation of three additional diesel generators.

Reviewed
C. O'Brien 3/16/92

Art Pennanen
Page 3 of 6

EXPERIENCE (Continued)

04/84 to 10/84	<u>Limerick Nuclear Station Units 1 & 2, Pottstown, Pennsylvania</u> Level III Examiner. Reviewed Preservice examination data. Performed evaluations of indications found during examinations to ASME Section III & XI. Revised examination procedures as required to meet specific site conditions.
06/08/84 to 06/13/84	<u>Pilgrim Nuclear Station Unit 1, Plymouth, Massachusetts</u> Level III Examiner. Assisted in determining by practical demonstration that cracking in inconel buttering of a nozzle safe-end was detectable using computer enhanced ultrasonic techniques.
11/83 to 04/84	<u>Seabrook Station Unit 1, Seabrook, New Hampshire</u> Supervisor/Level III. Supervised preservice examinations by a staff of four examiners. Review and revision of UT, PT and MT procedures performed as required. Responsible for review of completed examination data.
08/83 to 11/83	<u>Shoreham Nuclear Plant, Wading River, New York</u> Level III Examiner. Performed fluorescent penetrant and ultrasonics, NDE methods on crank shafts of two emergency diesel generators to evaluate their integrity. Performed liquid penetrant and magnetic particle tests on other critical engine parts as they were disassembled.
05/83 to 08/83	<u>Limerick Nuclear Plants 1 & 2, Pottstown, Pennsylvania</u> Lead NDE Examiner. Responsible for interfacing with customer representatives in preservice examination activities. Overall responsibility of implementing preservice examinations at the field level utilizing a staff of six examiners.
04/83 to 05/83	<u>Susquehanna Unit 2, Berwick, Pennsylvania</u> Supervisor. Supervised preservice examinations by a staff of eight examiners during regular supervisor leave of absence. Scheduled work assignments, reviewed final data and progress reports to customer.
03/83 to 04/83	<u>Callaway Unit 1, Fulton, Missouri</u> Level II Examiner. Ultrasonic and liquid penetrant preservice examinations on balance-of-plant piping welds.
02/83 to 03/83	<u>Shearon Harris, New Hill, North Carolina</u> Level II Examiner. Reviewed and revised examination procedures prior to commencement of preservice inspection. Performed fluorescent MT examinations on reactor vessel closure head stud and nuts.
06/81 to 02/83	<u>Shoreham Nuclear Plant, Wading River, New York</u> Supervisor. Responsible for coordinating and implementing preservice examinations by a staff of six to fifteen examiners. Reviewed examination data for technical content. Interfaced with utility and construction personnel to report progress and schedule work.
05/21/81 to 06/05/81	<u>Yankee Rowe Nuclear Plant, Rowe, Massachusetts</u> Supervisor. Responsible for supervising inservice examinations of vessel and balance-of-plant welds by six examiners.

Reviewed: C. Osmon 3/16/92

Art Pennanen
Page 4 of 6

EXPERIENCE (Continued)

04/81 to 05/81 Combustion Engineering, Chattanooga, Tennessee
Lead Level II Examiner. Performed UT and PT preservice examinations on two steam generators and one pressurizer.

03/81 to 04/81 Palo Verde Nuclear Plants 1, 2, 3, Wintersburg, Arizona
Level II Examiner. Performed ultrasonic and liquid penetrant preservice examinations on balance-of-plant piping welds.

02/23/81 to 03/21/81 Nine Mile Unit 1, Scriba, New York
Level II Examiner. Performed ultrasonic and liquid penetrant inservice examinations on balance-of-plant piping welds.

01/81 to 02/81 Combustion Engineering, Chattanooga, Tennessee
Level II Examiner. Performed UT preservice examinations on two steam generators, one pressurizer and reactor coolant piping.

09/80 to 12/80 Shoreham Nuclear Plant, Wading River, New York
Level II Examiner. UT preservice examinations on balance-of-plant piping welds.

09/15/80 to 09/28/80 Quad Cities Unit 1, Cordova, Illinois
Performed UT inservice examinations on balance-of-plant piping welds.

08/80 to 09/80 Palo Verde Unit 1, 2, 3, Wintersburg, Arizona
Level II Examiner. UT preservice examinations on balance-of-plant piping welds.

06/80 to 08/80 Susquehanna Unit 1, Berwick, Pennsylvania
Level II Examiner. UT preservice examination on balance-of-plant piping welds.

04/80 to 05/80 Zimmer Nuclear Plant, Moscow, Ohio
Level II Examiner. Responsible for establishing ultrasonic examination capabilities during construction activities. Duties involved procuring equipment and procedures; review of procedures and recommendations for revisions.

03/80 to 04/80 Palo Verde Unit 1, 2, 3, Wintersburg, Arizona
Level II Examiner. UT preservice examinations on balance-of-plant piping welds.

08/04/80 to 08/07/80 Combustion Engineering, Chattanooga, Tennessee
Level II Examiner. Assisted in completion of UT preservice examinations of steam generator welds.

02/25/80 to 02/28/80 Waterford Unit 3, Taft, Louisiana
Level II Examiner. Joined NES at conclusion of UT examinations of component support welds on assemblies which had not received a surface examination of the root pass.

01/80 to 02/80 **PEABODY/MAGNAFLUX**
Pilgrim Station, Plymouth, Massachusetts

Level II Examiner. Performed UT inservice examinations on balance-of-plant piping welds.

Reviewed: C. Osmon 3/16/92

Art Pennanen
Page 5 of 6

EXPERIENCE (Continued)

01/76 to 10/79

CONSOLIDATED X-RAY SERVICES CORP. **Dallas, Texas**

Level II Examiner. On assignment at Prudhoe Bay, Alaska. Performed Gamma Radiography on petroleum piping systems ranging from one inch to 30 inches in diameter and thickness to 2 and one-half inches. Responsible for interpreting and reporting results in accordance with ANSI and API acceptance criteria. Performed MT examinations of vertical support members for pipe lines. Performed UT examinations of sections of pipe wall to isolate cracks located by acoustic emissions during hydro tests. Certified as Level II UT, RT, PT and MT.

07/75 to 10/75

PEABODY/MILLER X-RAY **Tulsa, Oklahoma**

Level II Examiner. On assignment at Prudhoe Bay, Alaska. Performed X-ray and gamma radiography of piping systems at Pump Station 1 of the Trans-Alaska pipeline. Responsible for interpreting and reporting results in accordance with various acceptance criteria.

03/71 to 07/75

PEABODY/MAGNAFLUX **D.C. Cook Nuclear Plant Units 1 & 2** **Bridgeman, Michigan**

Level II Examiner. Visual examinations of welds on structural steel for the turbine buildings in accordance with AWS Building Code. Performed PT and MT examinations on various structural and piping components. Responsible for ultrasonic thickness examinations, profiling, and subsequent monitoring of build-up for under sized valve bodies. Performed gamma radiography on various piping systems in accordance with ANSI B31.7. Interpreted radiography and reported results to utility representatives. Performed calibration of pressure gages used for hydro tests.

11/74 to 12/74

PEABODY/MAGNAFLUX **Quad Cities Unit 2**

Level II Examiner. Performed radiography of replacement bypass piping on the recirculation system. This piping was replaced due to leaks caused by IGSCC.

06/74 to 07/74

PEABODY/MAGNAFLUX **Kewaunee Nuclear Plant**

Level II Examiner. Performed UT examination of component support welds which had not received a surface examination of the root pass.

05/74 to 06/74

PEABODY/MAGNAFLUX **Canal Zone, Panama**

Level II Examiner. UT inservice examinations of balance-of-plant pipe welds. This power barge was a 10 megawatt unit supplying power to the east canal locks and adjacent canal zone, and operated by the Corp of Army Engineers.

Reviewed: C. Osmon 3/16/92

Art Pennanen
Page 6 of 6

EXPERIENCE (Continued)

01/69 to 03/71

PEABODY/MAGNAFLUX
Little Ferry, New Jersey

NDE Examiner. Performed UT, RT, PT and MT examinations of components in the following areas: Automotive, aerospace, marine, sports, communications, art, highway building, medical, petro chemical, and nuclear power. Responsible for RT examination of closure welds for four steam generators at Indian Point Unit 2 during construction phase. Certified as Level II Radiographer for 1 year with subsequent training and certification as Level II UT, PT and MT.

05/64 to 12/68

GENERAL DYNAMICS
Quincy, Massachusetts

Radiographer. Performed radiography to military specifications utilizing x-ray and gamma ray techniques on nuclear and non-nuclear piping and structural welds. Examined components were located on board submarine and surface vessels. Experience included one year as assistant radiographer and three and one-half years as radiographer.

CERTIFICATIONS

Level III Liquid Penetrant
Level III Magnetic Particle
Level III Ultrasonics

Level III Visual Examination (EPRI)
Level II UT - IGSCC Detection (EPRI)
Level II UT - IGSCC Sizing (EPRI)

NDE TRAINING

104 hours Ultrasonics - IGSCC
10 hours Ultrasonics - Nozzle Inner Radius
40 hours Ultrasonics
40 hours Ultrasonics
120 hours Visual Examination I, II & III
14 hours Visual Examination
24 hours Penetrant Examination
20 hours Magnetic Particle
20 hours Magnetic Particle
40 hours Radiography
3 hours Ultrasonics - Nozzle Inner Radius
2 hours Ultrasonics - Bore Probe Stud Exams

EPRI NDE Center
Nuclear Energy Services
Magnaflux
Magnaflux
EPRI NDE Center
Nuclear Energy Services
Nuclear Energy Services
Home Study/Magnaflux
Home Study/General Dynamics
General Dynamics
Nuclear Energy Services
Nuclear Energy Services

Charlotte, North Carolina
Danbury, Connecticut
Chicago, Illinois
Chicago, Illinois
Charlotte, North Carolina
Danbury, Connecticut
Danbury, Connecticut
Little Ferry, New Jersey
Quincy, Massachusetts
Quincy, Massachusetts
Danbury, Connecticut
Danbury, Connecticut

EDUCATION

1959 High School Graduate, Silver Lake Regional High School, Kingston, Massachusetts
1962 Engineering - 2 years, Lincoln College, Boston, Massachusetts

All information supplied by me to compile this resume is true and correct to the best of my knowledge.

The information required for Level III Certification has been verified.

Art Pennanen

Arthur Pennanen

12-3-91

Date

Mary-Ellen Alling

Authorized by President's Designee

12-3-91

Date

Reviewed: C. Ammon 3/6/92

HOUSTON LIGHTING & POWER CO.
NUCLEAR PLANT OPERATIONS DEPARTMENT
REPORT OF VISUAL EXAMINATION.

NAME PENNANEN, ARTHUR SS# 031-32-4208 EMP# AP 4208
TITLE NES Eng. DIVISION _____

A. NEAR VISION ACUITY

1. XX JAEGER SCALE LT. J-1
2. _____ UNCORRECTED RT. J-1
3. ✓ PASSED

OTHER (SPECIFY) _____
✓ CORRECTED *

FAILED **

ACCEPTANCE CRITERIA: SHALL READ JAEGER 1 OR THE EQUIVALENT WITH AT LEAST ONE EYE.
* PLEASE SPECIFY WHETHER GLASSES OR CONTACTS WERE USED.

B. DISTANCE VISION ACUITY

1. XX SNELLEN CHART L. 20/20
2. _____ UNCORRECTED R. 20/20
3. ✓ PASSED

OTHER (SPECIFY) _____
✓ CORRECTED *

FAILED **

ACCEPTANCE CRITERIA: SHALL HAVE MINIMUM OF 20/30 IN ONE EYE AND 20/50 IN THE OTHER.
* PLEASE SPECIFY WHETHER GLASSES OR CONTACTS WERE USED.

C. COLOR VISION

1. XX ISHIHARA CONCISE EDITION (TOTAL OF 14 PLATES)
2. XX NUMBER OF PLATES TESTED 14
3. 1 PASSED (READ 10 OF FIRST 11 PLATES)

OTHER (SPECIFY) _____
NUMBER OF PLATES READ CORRECTLY 1
✓ FAILED **

ACCEPTANCE CRITERIA: SHALL BE CAPABLE OF DISTINGUISHING 10 OF THE FIRST 11 PLATES OF ISHIHARA OR EQUIVALENT TEST.

**PLEASE EXPLAIN: Lantern Test 100% Correct

NAME & TITLE OF EXAMINER:

✓ CHARLOTTE SAVARESE, R.N.

CYNTHIA BETTS, R.N.

LUCY LOZANO, L.V.N.

SIGNATURE OF EXAMINER

C. Savarese

DATE OF EXAMINATION 09-19-91

LOCATION OF EXAMINATION SOUTH TEXAS PROJECT MEDICAL FACILITY

Reviewed: C. Dorman 3/16/92

CP&L

Carolina Power & Light Company

CERTIFICATE OF NDE PERSONNEL QUALIFICATIONISI VISUAL EXAMINER METHOD-LEVEL II

1. ADMINISTRATIVE/EDUCATIONAL INFORMATION					
NAME Lininger, George W., II			SSN 375-72-1992		
COMPANY CP&L	DEPARTMENT Corporate OA	UNIT MOS-NDE	DATE EMPLOYED 6/28/82	DATE ASSIGNED 5/86	
HIGH SCHOOL Springport High School		LOCATION Springport, Michigan		DATE GRADUATED 6/75	
COLLEGE N/A		COURSE N/A		DEGREE N/A	YEAR N/A

2. ORGANIZED TRAINING/INSTRUCTION	
Training Completed <u>148</u> (Hours)	Under Direction of <u>EPRI</u>
	<u>CP&L</u>
<input checked="" type="checkbox"/> Training Requirements Per NDEP-10/20 Satisfied	
Remarks: _____	

3. WORK TIME EXPERIENCE	
<u>4</u> Years <u>6</u> Months	Under Direction of <u>CP&L</u>
Remarks: _____	

4. QUALIFICATION EXAMINATIONS					
	EXAM NO.	DATE COMPLETED	RAW SCORE	WEIGHT	WEIGHTED GRADE
GENERAL	ISI-VT-II-G-4, R.O	7 - 7 - 89	87.50	.3	26.25
SPECIFIC	See Remarks	7 - 7 - 89	93.07	.3	27.92
PRACTICAL	ISI-VT-II-P-3, R.O	7 - 7 - 89	99.80	.4	39.92
COMPOSITE GRADE:					94.09
Completed Examinations:					
<input checked="" type="checkbox"/> Retained/Maintained by <u>Nuclear Training Section, New Hill, NC</u>					
<input type="checkbox"/> Sent To _____ for retention.					
Remarks: <u>Specific exams ISI-VT1-S-1, R.4, ISI-VT-2-S-1, R.4, ISI-VT3-S-1, R.4, ISI-VT4-S-1, R.4 averaged</u>					

5. CERTIFICATION	
This	<input type="checkbox"/> Initial Certification <input checked="" type="checkbox"/> Recertification meets the requirements of: <input type="checkbox"/> NDEP-10 "Training, Qualification and Certification of Nondestructive Examination Personnel" <input checked="" type="checkbox"/> NDEP-20 "Training, Qualification and Certification of Visual Examination Personnel for Inservice Inspection"
Level <u>II</u>	Qualifications Certified by: <u>John J. St...</u> , Level III
	Principal NDE Specialist
	Materials Quality Section
	New Hill, NC
Certifications Reviewed/Accepted by: _____	
(When Applicable)	
DATE OF CERTIFICATION	<u>7 / 15 / 89</u>
DATE CERTIFICATION EXPIRES	<u>7 / 14 / 92</u>

CP&L VISION TESTING REPORT FOR NON-DESTRUCTIVE AND/OR VISUAL EXAMINERS

FORM NO. 31138
11/88

INITIAL TEST

Date

Name

Soc. Sec. No.

Date

Retest

NEAR VISION:

INITIAL TEST

INITIAL TEST

(Circle One)

RETEST

RETEST

(Circle One)

Rt. Eye (uncorrected) 14/140

Lt. Eye (uncorrected) 14/70

PASS

FAIL

14/

14/

PASS

FAIL

Rt. Eye (corrected) 14/14

Lt. Eye (corrected) 14/14

PASS

FAIL

14/

14/

PASS

FAIL

The subject passes when 14/14 or better is attained in at least one eye.

ND/VE Coordinator schedules retest when employee fails initial test.

ND/VE Coordinator refers to eye care provided when 14/14 cannot be attained on retest.

DISTANT VISION: INITIAL TEST

INITIAL TEST

(Circle One)

RETEST

RETEST

(Circle One)

BOTH EYES (Uncorrected) 20/200

(Corrected) 20/18

PASS

FAIL

20/

20/

PASS

FAIL

The subject passes when 20/30 or better is attained in both eyes together.

ND/VE Coordinator schedules retest when employee fails initial test.

ND/VE Coordinator refers to eye care provider when 20/30 cannot be attained on retest.

OR:

8

(number identified
correctly)

PASS

INITIAL TEST

(Circle One)

REQUIRES
FURTHER
EVALUATION
(RFE)

RETEST

Supplemental color perception
demonstrates subject's ability
to discern colors and contrast
between colors applicable
for job assignment
except

The subject "passes" when 8 numerals are identified correctly.

ND/VE Coordinator schedules and performs practical color vision test when 8 numerals are not correctly identified.

Scheduled for Retest
(Check One)

Not Applicable



Date

Time

This individual has been screened for near and distant visual acuity and color vision in accordance with ANSI/ASME BPV-XI, IWA-2300, 1983.

MY EVALUATION IS:

INITIAL TEST

NEAR

DISTANT

COLOR VISION

ACUITY

ACUITY

(Circle One)

Uncorrected

FAIL

FAIL

Corrected

PASS

PASS

PASS

RFE

NEAR

RETEST

DISTANT

COLOR VISION

ACUITY

ACUITY

(Circle One)

PASS

PASS

PASS

RFE

TECHNICIAN NAME (Print Clearly)

RETEST TECHNICIAN NAME (Print Clearly)

TECHNICIAN SIGNATURE

RETEST TECHNICIAN SIGNATURE

Form No. 80384
QA PQ-6
Revision 2
3/87



CERTIFICATE OF NDE PERSONNEL QUALIFICATION

ISI VISUAL EXAMINER METHOD-LEVEL II

1. ADMINISTRATIVE/EDUCATIONAL INFORMATION					
NAME Kremer, Joachim W.			SSN 241-68-9642		
COMPANY CP&L	DEPARTMENT Corporate QA	UNIT MOS (NDE)	DATE EMPLOYED 5/7/79	DATE ASSIGNED 7/23/84	
HIGH SCHOOL Needham B. Broughton		LOCATION Raleigh, NC		DATE GRADUATED 1962	
COLLEGE N/A		COURSE N/A	DEGREE N/A		YEAR N/A

2. ORGANIZED TRAINING/INSTRUCTION	
Training Completed <u>180+</u> (Hours)	Under Direction of <u>EPRI</u>
	<u>CP&L</u>
<input checked="" type="checkbox"/> Training Requirements Per NDEP-10/20 Satisfied <u>[Signature]</u>	
Remarks: _____	

3. WORK TIME EXPERIENCE	
<u>3+</u> Years - Months	Under Direction of <u>CP&L</u>
Remarks: _____	

4. QUALIFICATION EXAMINATIONS					
	EXAM NO.	DATE COMPLETED	RAW SCORE	WEIGHT	WEIGHTED GRADE
GENERAL	<u>EPRI</u>	<u>5 - 11 - 87</u>	<u>80.00</u>	<u>.3</u>	<u>24.00</u>
SPECIFIC	<u>*EPRI & ISIVTII-S-1.R.0</u>	<u>6 - 8 - 89</u>	<u>98.00</u>	<u>.3</u>	<u>29.40</u>
PRACTICAL	<u>EPRI</u>	<u>6 - 3 - 87</u>	<u>84.00</u>	<u>.4</u>	<u>33.60</u>
COMPOSITE GRADE:					<u>87.00</u>
Completed Examinations:					
<input checked="" type="checkbox"/> Retained/Maintained by <u>Nuclear Training Section, New Hill, NC</u>					
<input type="checkbox"/> Sent To _____ for retention.					
Remarks: <u>*EPRI & CP&L Specifies added & averaged</u>					

5. CERTIFICATION	
This	<input checked="" type="checkbox"/> Initial Certification <input type="checkbox"/> Recertification meets the requirements of:
	<input type="checkbox"/> NDEP-10 "Training, Qualification and Certification of Nondestructive Examination Personnel"
	<input checked="" type="checkbox"/> NDEP-20 "Training, Qualification and Certification of Visual Examination Personnel for Inservice Inspection"
Level <u>II</u>	Qualifications Certified by: <u>[Signature]</u> , Level III
<u>UP GRADED FROM LIMITED CERTIFICATION</u>	
<u>TO VISUAL EXAMINER ON 8-4-89</u>	
<u>8/4/89</u>	
Certifications Reviewed/Accepted by: _____	
(When Applicable)	
DATE OF CERTIFICATION <u>8/ 4/89</u>	DATE CERTIFICATION EXPIRES <u>6 / 7 / 92</u>

INITIAL TEST Date 7-19-91 Name Kremer, Joachim Date _____
Soc. Sec. No. 241 - 68 - 9642 Retest _____

R VISION:		INITIAL TEST	(Circle One)	RETEST	(Circle One)
Rt. Eye	(uncorrected)	14/ <u>70</u>	PASS	14/ _____	PASS
Lt. Eye	(uncorrected)	14/ <u>70</u>		14/ _____	
Rt. Eye	(corrected)	14/ <u>28</u>	PASS	14/ _____	PASS
Lt. Eye	(corrected)	14/ <u>14</u>		14/ _____	

The subject passes when 14/14 or better is attained in at least one eye.
ND/VE Coordinator schedules retest when employee fails initial test.
ND/VE Coordinator refers to eye care provided when 14/14 cannot be attained on retest.

DISTANT VISION:		INITIAL TEST	(Circle One)	RETEST	(Circle One)
BOTH EYES	(Uncorrected)	20/ <u>20</u>	PASS	20/ _____	PASS
	(Corrected)	20/ _____	PASS	20/ _____	PASS

The subject passes when 20/30 or better is attained in both eyes together.
ND/VE Coordinator schedules retest when employee fails initial test.
ND/VE Coordinator refers to eye care provider when 20/30 cannot be attained on retest.

COLOR VISION:		INITIAL TEST	(Circle One)	RETEST
Number identified correctly	<u>8</u>	PASS	REQUIRES FURTHER EVALUATION (RFE)	Supplemental color perception demonstrates subject's ability to discern colors and contrast between colors applicable for job assignment except _____

The subject "passes" when 8 numerals are identified correctly.
ND/VE Coordinator schedules and performs practical color vision test when 8 numerals are not correctly identified.

Scheduled for Retest (Check One)	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> _____ Date _____ Time _____
-------------------------------------	--	--

This individual has been screened for near and distant visual acuity and color vision in accordance with ANSI/ASME BPV-XI, IWA-2300, 1983.

MY EVALUATION IS:

INITIAL TEST			RETEST		
NEAR ACUITY	DISTANT ACUITY	COLOR VISION (Circle One)	NEAR ACUITY	DISTANT ACUITY	COLOR VISION (Circle One)
Uncorrected	<u>FAIL</u>	<u>PASS</u>	_____	_____	_____
Corrected	<u>PASS</u>	<u>PASS</u>	_____	_____	PASS

TECHNICIAN NAME (Print Clearly) Allen Turner, LV
TECHNICIAN SIGNATURE Allen Turner, LV

RETEST TECHNICIAN NAME (Print Clearly) _____
RETEST TECHNICIAN SIGNATURE _____

CERTIFICATE OF NDE PERSONNEL QUALIFICATION

Ultrasonic METHOD-LEVEL II

1. ADMINISTRATIVE/EDUCATIONAL INFORMATION					
NAME Black, Edwin M.			SSN 251-02-0505		
COMPANY CP&L	DEPARTMENT Technical Services	UNIT NDE Services	DATE EMPLOYED 03/14/83	DATE ASSIGNED 03/14/83	
HIGH SCHOOL Eau Claire High School		LOCATION Columbia, SC		DATE GRADUATED 06/72	
COLLEGE N/A		COURSE N/A	DEGREE N/A	YEAR N/A	

2. ORGANIZED TRAINING/INSTRUCTION	
Training Completed <u>546</u> (Hours)	Under Direction of <u>US Navy</u>
	<u>CP&L</u>
<input checked="" type="checkbox"/> Training Requirements Per NDEP-10/20 Satisfied <u>C.R. Clemm</u> <u>EPRI</u>	
Remarks: _____	

3. WORK TIME EXPERIENCE	
<u>6</u> Years <u>1 1/2</u> Months	Under Direction of <u>US Navy</u>
	<u>CP&L</u>
Remarks: _____	

4. QUALIFICATION EXAMINATIONS					
	EXAM NO.	DATE COMPLETED	RAW SCORE	WEIGHT	WEIGHTED GRADE
GENERAL	<u>UT-II-G-1, R.1</u>	<u>07/26/90</u>	<u>90.0</u>	<u>0.3</u>	<u>27.00</u>
SPECIFIC	<u>UT-II-S-6, R.0</u>	<u>07/26/90</u>	<u>95.5</u>	<u>0.3</u>	<u>28.65</u>
PRACTICAL	<u>UT-II-P-5, R.0</u>	<u>08/10/90</u>	<u>100.0</u>	<u>0.4</u>	<u>40.00</u>
COMPOSITE GRADE:					<u>95.65</u>
Completed Examinations:					
<input checked="" type="checkbox"/> Retained/Maintained by <u>Nuclear Training Section, New Hill, NC</u>					
<input type="checkbox"/> Sent To _____ for retention.					
Remarks: _____					

5. CERTIFICATION	
This	<input type="checkbox"/> Initial Certification <input checked="" type="checkbox"/> Recertification meets the requirements of:
	<input checked="" type="checkbox"/> NDEP-10 "Training, Qualification and Certification of Nondestructive Examination Personnel"
	<input type="checkbox"/> NDEP-20 "Training, Qualification and Certification of Visual Examination Personnel for Inservice Inspection"
Level <u>II</u>	Qualifications Certified by: <u>Carl R. Clemm</u> , Level III
	<u>Principal NDE Specialist</u>
	<u>Metallurgical Services Section</u>
	<u>New Hill, NC</u>
Certifications Reviewed/Accepted by: _____	
(When Applicable)	
DATE OF CERTIFICATION <u>08/17/90</u> DATE CERTIFICATION EXPIRES <u>08/16/93</u>	

CP&L VISION TESTING REPORT FOR NON-DESTRUCTIVE AND/OR VISUAL EXAMINERS

FORM NO. 31138

11/88

INITIAL TEST Date 5-28-92 Name Black, Edwin Soc. Sec. No. 251 - 02 - 0505 Retest Date _____

VISION:		INITIAL TEST	(Circle One)	RETEST	(Circle One)
Rt. Eye	(uncorrected)	14/ <u>14</u>	<u>PASS</u> FAIL	14/ _____	PASS FAIL
Lt. Eye	(uncorrected)	14/ <u>14</u>		14/ _____	
Rt. Eye	(corrected)	14/ _____	PASS FAIL	14/ _____	PASS FAIL
Lt. Eye	(corrected)	14/ _____		14/ _____	

The subject passes when 14/14 or better is attained in at least one eye.

ND/VE Coordinator schedules retest when employee fails initial test.

ND/VE Coordinator refers to eye care provided when 14/14 cannot be attained on retest.

DISTANT VISION:		INITIAL TEST	(Circle One)	RETEST	(Circle One)
BOTH EYES	(Uncorrected)	20/ <u>17</u>	<u>PASS</u> FAIL	20/ _____	PASS FAIL
	(Corrected)	20/ _____		20/ _____	

The subject passes when 20/30 or better is attained in both eyes together.

ND/VE Coordinator schedules retest when employee fails initial test.

ND/VE Coordinator refers to eye care provider when 20/30 cannot be attained on retest.

		INITIAL TEST	(Circle One)	RETEST
Color Vision	<u>8</u>	<u>PASS</u>	REQUIRES FURTHER EVALUATION (RFE)	Supplemental color perception demonstrates subject's ability to discern colors and contrast between colors applicable for job assignment except _____

(number identified correctly)

REQUIRES FURTHER EVALUATION (RFE)

Supplemental color perception demonstrates subject's ability to discern colors and contrast between colors applicable for job assignment except _____

The subject "passes" when 8 numerals are identified correctly.

ND/VE Coordinator schedules and performs practical color vision test when 8 numerals are not correctly identified.

Scheduled for Retest
(Check One)

☒ Not Applicable



Date _____

Time _____

This individual has been screened for near and distant visual acuity and color vision in accordance with ANSI/ASME BPV-XI, IWA-2300, 1983.

MY EVALUATION IS:

INITIAL TEST			RETEST		
NEAR ACUITY	DISTANT ACUITY	COLOR VISION (Circle One)	NEAR ACUITY	DISTANT ACUITY	COLOR VISION (Circle One)
Uncorrected	<u>PASS</u>	<u>PASS</u>	_____	_____	_____
Corrected	_____	<u>PASS</u>	_____	_____	PASS RFE

TECHNICIAN NAME (Print Clearly)

RETEST TECHNICIAN NAME (Print Clearly)

TECHNICIAN SIGNATURE

RETEST TECHNICIAN SIGNATURE



Carolina Power & Light Company

QA PQ-6
Revision 2
3/87

CERTIFICATE OF NDE PERSONNEL QUALIFICATION

ISI VT-1, 3 & 4 Examiner METHOD - LEVEL II (Limited)*
ADMINISTRATIVE/EDUCATIONAL INFORMATION

NAME Crabtree, John H.			SSN 405-48-7234	
COMPANY CP&L	DEPARTMENT Technical Services	UNIT NDE	DATE EMPLOYED 06/28/82	DATE ASSIGNED 10/27/84
HIGH SCHOOL Technical High School		LOCATION Owensboro, Kentucky		DATE GRADUATED 1957
COLLEGE University of Tennessee, Knoxville		COURSE Bus. Admin.	DEGREE N/A	YEAR 69 - 72

2. ORGANIZED TRAINING/INSTRUCTION

Training Completed 100 (Hours) Under Direction of CP&L
EPRI
☒ Training Requirements Per NDEP-10/20 Satisfied [Signature]
 Remarks: _____

3. WORK TIME EXPERIENCE

8 Years 10 Months Under Direction of CP&L
TVA
 Remarks: _____

4. QUALIFICATION EXAMINATIONS

	EXAM NO.	DATE COMPLETED	RAW SCORE	WEIGHT	WEIGHTED GRADE
GENERAL	ISI-VT-II-G-5, Rev 0	12/04/91	80.00	.3	24.00
SPECIFIC	ISI-VT-II-S-5, Rev 0	12/16/91	83.75	.3	25.13
PRACTICAL	*See below	12/09/91	95.56	.4	38.22
COMPOSITE GRADE:					87.35

Completed Examinations:
☒ Retained/Maintained by Nuclear Training Section, New Hill, NC
☐ Sent To _____ for retention.
 Remarks: *ISI-VT-II-P-2, Rev. 0 & ISI-VT-II-P-3, Rev. 0 added and averaged

5. CERTIFICATION

This ☐ Initial Certification ☒ Recertification meets the requirements of:
☐ NDEP-10 "Training, Qualification and Certification of Nondestructive Examination Personnel"
☒ NDEP-20 "Training, Qualification and Certification of Visual Examination Personnel for Inservice Inspection"

Level II Qualifications Certified by: _____, Level III
 *Limited to VT-1, VT-3 and VT-4
 Limited to Nonremote Activities
 Certifications Reviewed/Accepted by: _____
 (When Applicable)

Principal NDE Specialist [Signature]
 NDE Services Unit, New Hill, NC

DATE OF CERTIFICATION 12/16/91 DATE CERTIFICATION EXPIRES 12/15/94

CP&L VISION TESTING REPORT FOR NON-DESTRUCTIVE AND/OR VISUAL EXAMINERS

FORM NO. 31138
11/88

INITIAL TEST Date 5/26/92 Name Crabtree John Soc. Sec. No. 405 - 48 - 7234 Retest _____ Date _____

VISION:		INITIAL TEST	(Circle One)	RETEST	(Circle One)
Rt. Eye	(uncorrected)	14/ <u>28</u>	<u>PASS</u> FAIL	14/ _____	PASS FAIL
Lt. Eye	(uncorrected)	14/ <u>14</u>		14/ _____	
Rt. Eye	(corrected)	14/ <u>11</u>	<u>PASS</u> FAIL	14/ _____	PASS FAIL
Lt. Eye	(corrected)	14/ <u>11</u>		14/ _____	

The subject passes when 14/14 or better is attained in at least one eye.

ND/VE Coordinator schedules retest when employee fails initial test.

ND/VE Coordinator refers to eye care provided when 14/14 cannot be attained on retest.

DISTANT VISION:		INITIAL TEST	(Circle One)	RETEST	(Circle One)
BOTH EYES	(Uncorrected)	20/ <u>40</u>	<u>PASS</u> <u>FAIL</u>	20/ _____	PASS FAIL
	(Corrected)	20/ <u>17</u>		20/ _____	

The subject passes when 20/30 or better is attained in both eyes together.

ND/VE Coordinator schedules retest when employee fails initial test.

ND/VE Coordinator refers to eye care provider when 20/30 cannot be attained on retest.

INITIAL TEST	(Circle One)	RETEST	(Circle One)
8	<u>PASS</u>	Supplemental color perception demonstrates subject's ability to discern colors and contrast between colors applicable for job assignment except _____	
(number identified correctly)	REQUIRES FURTHER EVALUATION (RFE)		

The subject "passes" when 8 numerals are identified correctly.

ND/VE Coordinator schedules and performs practical color vision test when 8 numerals are not correctly identified.

Scheduled for Retest
(Check One)

☒ Not Applicable



Date _____

Time _____

This individual has been screened for near and distant visual acuity and color vision in accordance with ANSI/ASME BPV-XI, IWA-2300, 1983.

MY EVALUATION IS:

INITIAL TEST			RETEST		
NEAR ACUITY	DISTANT ACUITY	COLOR VISION (Circle One)	NEAR ACUITY	DISTANT ACUITY	COLOR VISION (Circle One)
Uncorrected	<u>PASS</u>	<u>FAIL</u>	_____	_____	_____
Corrected	<u>PASS</u>	<u>PASS</u>	_____	_____	PASS RFE

KAREN TURNER RN
TECHNICIAN NAME (Print Clearly)

RETEST TECHNICIAN NAME (Print Clearly)

Karen Turner RN
TECHNICIAN SIGNATURE

RETEST TECHNICIAN SIGNATURE



NUCLEAR ENERGY SERVICES

44 SHELTER ROCK ROAD
DANBURY, CT. 06810
(203) 796-5000

Contract No.: ZM70080000
Work Authorization No.: ZS70080008

CALIBRATION STANDARD INSPECTION LOG

PROJECT NAME AND NO. H.B. ROBINSON/CP&L 2454-400
CALIBRATION STANDARD NO. CPL-61A NES DWG. NO. 83D4033
DIM. SPEC. NO. N/A PROJECT MGR. [Signature] DATE 4-16-92

	ATTACHED (✓)	INITIALS	DATE	COMMENTS
MATERIAL CERT.	✓	KGB	3-27-92	HT. 31067
POOL/BLANK UT EXAM	✓	KGB	3-27-92	
SPOOL/BLANK DIM. CHECK	✓	KGB	3-27-92	
CERT. OF COMPLIANCE	✓	KGB	4-15-92	
CAL. BLOCK DIM. CHECK	✓	KGB	4-15-92	VENDOR INSP. NCR# 1321
UT CALIBRATION CERT.	NOT	REQUIRED	N/A	

DIRECTOR - ISI [Signature]

DATE 4-16-92

QA APPROVAL [Signature]

DATE 04-16-92

A LOG IS TO BE PREPARED AND MAINTAINED FOR EACH CALIBRATION BLOCK DURING ALL PROCUREMENT AND FABRICATION PHASES. THE CALIBRATION BLOCK SHALL NOT BE DELIVERED TO THE CUSTOMER UNTIL ALL ENTRIES IN THE LOG HAVE BEEN SATISFACTORILY COMPLETED.



SLATER STEELS CORPORATION

FORT WAYNE SPECIALTY ALLOYS DIVISION

F.O.B. FORT WAYNE, INDIANA

58908	ORDER DATE 10 28 90	QUANTITY P	WEIGHT 37194	SHIP TO CARLTON ENT	INVOICE NO. 02 0581	C 13470
SLATER F.W. NO.	SHIP DATE 02 11 91	SHIP TO 1	PACKAGING COMP	PRICE EQUALIZED WITH FTWAYNE	INVOICE DATE 02 11 91	CUSTOMER'S ORDER NO.

SOLD TO

EARLE M. JORGENSEN COMPANY
P.O. BOX 1900

SCHAUMBURG, ILL.

60194

SHIP TO

EARLE M. JORGENSEN COMPANY
1900 MITCHELL BLVD

SCHAUMBURG, ILL.

60194

Q.C.
EMJ-HT
18

CUSTOMER NO. 10808	PRIORITY
SALESMAN 70100	AMT 160
STATE 13	TAX 04

HEAT 31067	TYPE 410	LOS. OVL. 4,000	LOS. SHIP 4,167
SIZE 2.500		SHAPE-FINISH -RD -RT-	

MECHANICAL AND CHEMICAL TEST REPORT
 HARDNESS TENSILE PSI. YIELD PSI XELONG IN 2 IN. ZR/A. HARDENABILITY
 BHN 167 90100 64200 28.20 73.60 43

CHEMICAL ANALYSIS

C 13 MN 48 P 011 S 003 SI 33 CR 12.07 NI 35 MO 15 CU 01 N 04

*Pratt & Whitney LCS applies - Material has been controlled to P & WA 300 and LCS to MEL manual section F-17 - P & WA Heat Code: ZSAJJ

Revised at Slater by K. Stinnett 6/21/91

Metallurgist: *James Stinnett*

CUSTOMER PRODUCT CODE: MQH 4411

JOR 410-f

AMS 5612 E

QQS 763 E COND A

ASTMA 276 B9 A

ASTMA 479 B9

ASMESA 479 B9 ED

AMS 5613 N

AMS 2303 B

DECARB OK

ANNEALED

WE CERTIFY THAT THE CONTENTS OF THIS REPORT ARE CORRECT AND ALL OPERATIONS PERFORMED BY OUR COMPANY OR SUBCONTRACTORS ARE IN COMPLIANCE WITH THE MATERIAL SPECIFICATIONS AND THE ASME BOILER AND PRESSURE CODE, SECTION III, SUBSECTION NCA-3800, 1986 EDITION THROUGH 1987 ADDENDA. NO WELD OR WELD REPAIR PERFORMED ON MATERIAL

HEAT TREAT CAPABILITIES

HARDNESS TENSILE PSI. YIELD PSI XELONG IN 2 IN. ZR.A. TYPE
 RC 43 204200 178800 15.70 63.00 LONG 5612

--MACRO ETCH OK

--GRAIN SIZE = 6

--FERRITE 0 % MAX

--FREE OF MERCURY AND LOW MELTING ALLOY CONTAMINATION CERTIFIED TO P & WA - L.C.S.

--FREQUENCY/SEVERITY .290 .200

BY EARLE M. JORGENSEN CO

6/21/91 *Colleen K...*
 DATE SIGNATURE

THIS MATERIAL WAS PRODUCED IN ACCORDANCE WITH THE QUALITY ASSURANCE PROGRAM, QUALITY SYSTEM MANUAL, REV. III, 8/1/84, AUDITED AND APPROVED BY EARLE M. JORGENSEN SEPTEMBER 25, 1989.

THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.

I HEREBY CERTIFY THAT THE REPORTED FIGURES ARE CORRECT, AS CONTAINED IN THE RECORDS OF THE CORPORATION.

J. WYATT

CERTIFICATION CLERK

NOTARY PUBLIC

MATERIAL HAZARD INFORMATION

This product, in its present state, does not present any physical or health hazards. Processing of this product that produces fumes, dust, or solvent may cause respiratory disease, particularly those alloys containing chromium, nickel, and copper. Please consult the appropriate Material Safety Data Sheet (MSDS) previously submitted concerning hazard information for manufacturing processes on this product.

SERVICES

REVIEWED BY 1 DATE

James Stinnett 3-27-92

CERTIFICATE OF INSPECTION

SITE H. B. ROBINSON
 PROJECT/TASK 2454 - 400
 CAL. BLOCK ID. NO. CPL-61A
 MATERIAL SA 479 GR. B 410
 STOCK NO. 5539
 HEAT NO. 31067
 THICKNESS 2.5" Dia. Rod x 42" LG.

INSTR. LINEARITY CAL.					
AMPLITUDE					
	HIGH	LOW		HIGH	LOW
1	100	50	5	50	25
2	80	40	6	40	20
3	70	35	7	30	15
4	60	30	8	20	10

SCOPE: MODEL KRAITKRAMER USK7 S/N 27276-784
 TRANSDUCER: S/N 1) K25304 2) B02380
 BRAND 1) Aerotech 2) Aerotech FREQ. 1) 7MHz 2) 5MHz
 SIZE 1) 1.0" Dia. 2) .50" Dia. STYLE 1) GAMMA 2) GAMMA
 CABLE: 6' BNC-MICRODOT
 COUPLANT (NAME & BATCH #): ULTRAGEL II #8764

AMPL. CONT. LINEARITY		
INITIAL	db	RESULT
80	-6	40
80	-12	20
40	+6	80
20	+12	80

CALIBRATION DATA: AXIAL SCAN FROM QNDS USING LONGITUDINAL Technique. Scan Sensitivity = 100% BR + 20dB; TRANSVERSE SCAN FROM O.D. using long. Technique - 2 scans 90° apart
Scan Sens. = 100% BR + 16dB; 45° Shear scan from O.D. - Scanned 90° apart in 2. Direction.
 EXAMINATION RESULTS: Scanned entire volume of round bar stock using 0° longitudinal and 45° shear wave. No apparent indications.
Can receive opposite side "roll" response at 10% amplitude during 45° scans.
Material acceptable for calibration block use.

EXAMINER: [Signature] LEVEL: III DATE: 3-27-92
 REVIEWER: N/A LEVEL: _____ DATE: _____

[illegible]

Nutmeg Tool & Die Corp.

Tools, Dies, Fixtures, Model Parts

28 Harvard St. • New Britain, CT 06051
Telephone 224-1564

CERTIFICATE OF COMPLIANCE

NUCLEAR ENERGY SERVICES
Shelter Rock Road
Danbury, Ct. 06810-7095

DATE: 4/15/92
P.O. NO. N 18988
PART NO. N/A
DWG. NO. 23D4033
SHOP ORDER NO. 92078

These items were produced in conformance with all applicable specifications and drawings as referenced in the above purchase order, and were fabricated from material supplied by Nuclear Energy Services.

All unused material has been labeled and returned to Nuclear Energy Services.


C. DISCENZA

DIMENSIONAL INSPECTION REPORT

Number 3-101

Project and Number H. B. ROBINSON 2454-400 Page 1 of 1

Item Description	Page
B.I.T. STUD UT CALIBRATION BLOCK	CPL-61A

Drawing Number: 83D 4033

Rev.: C

Specification Number: N/A

Rev.: N/A

Purchase Order N18788 Lot Size 1 Qty. Inspected 1 Acc.: X Rej.: N/A

Inspector: Kenneth B. [Signature] Level: II Date: 4-15-77

Reviewed by: QA: [Signature] Date: 04-16-92 PM: [Signature] Date: 4.16.92

() Receipt () Source (X) Final Instruments Used: 46, 51

[illegible]

Nutmeg Tool & Die Corp.

Tools, Dies, Fixtures, Model Parts

28 Harvard St. • New Britain, CT 06051
Telephone 224-1564

April 15, 1992

NUCLEAR ENERGY SERVICES
Shelter Rock Road
Danbury, Ct. 06810-7095

This is to certify that both Slot's .0135 wide x .103
to .104 Deep x .243 Long.

Yours Truly

C. Discenza
C. DISCENZA

CERTIFICATION



"Quality Foremost"

Metallurgical Processing, Inc.

68 ARTHUR STREET • P.O. BOX 2320 • NEW BRITAIN, CONN. 06050

Aerospace - Commercial
Heat Treating, Brazing,
N.D.T. and Laboratory Facilities

TELEPHONE: (203) 224-2648
CT WATS 1-800-525-HEAT
WATS 1-800-243-5316
(OUT OF STATE)

NUTMEG TOOL CO.
28 HARVARD ST.

NEW BRITAIN, CT 06051

DATE	SHOP ORD. NO.	DATE REC'D
14 APR 92	17093	08 APR
YOUR P.O. NO.	5887	
PACKING SLIP NO.		

QUANTITY	PART NUMBER	PART NAME/DESCRIPTION
3	83D4033 (CPL-61A)	STUD CALIBRATION BLACK

MATERIAL: 410SS

TREATMENT:

HARDENED & TEMPERED PER P.O. REQUEST
HARDENED AT 1850F FOR 1 HR. IN VACUUM FORCE COOLED ✓
TEMPERED AT 1120F FOR 3 HRS. AIR COOLED ✓

RESULTS: R/C 20-22 (2 TEST PCS.) ✓

IT IS HEREBY CERTIFIED THAT ALL ARTICLES IN THE QUANTITIES AS CALLED FOR IN
YOUR PURCHASE ORDER WERE PROCESSED IN CONFORMANCE WITH REQUIREMENTS,
SPECIFICATIONS AND DRAWINGS LISTED ON THAT ORDER.

INSPECTOR

H. J. Gurnea

IMPORTANT: SEE REVERSE SIDE FOR MTI STATEMENT OF LIMITED LIABILITY

INSPECTION SUMMARY

Purchase Order

1212

NUCLEAR ENERGY
Vendor

[illegible]

Last Standardization

[illegible]



NUCLEAR ENERGY SERVICES

44 SHELTER ROCK ROAD
DANBURY, CT 06810
(203) 796-5000

April 16, 1992
Refer to: INS-077

TO: Nutmeg Tool & Die
28 Harvard Street
New Britain, CT 06051
Attention: Chris Discenza

From: Ken Birsen *K. Birsen*
Nuclear Energy Services
44 Shelter Rock Road
Danbury, CT 06810

Subject: Nuclear Energy Services Nonconformance Report No. 1321

As indicated within the attached report, material/services provided by you on P.O. No. N18988, Item No. CPL-B.I.T. Stud UT Calibration Block CPL-61A were nonconforming.

Please indicate receipt and concurrence with this report by signature of a cognizant representative of your company.

Failure to return this document within 10 working days to the NES representative indicated above may result in your being removed from the NES approved vendor list.

VENDOR REMARKS/COMMENTS: _____

VENDOR REP. SIGNATURE: _____

DATE: _____

cc: M. Shakinovsky, w/att.
B. Ashby

RAY - CHECK MANUFACTURING INC.

RCM / Omni Tool

Telephone (209) 299-6834

P.O. Box 8

Clovis, CA 93613

Ultrasonic Reference Blocks

Precision Products



CERTIFICATE OF COMPLIANCE ULTRASONIC TEST BLOCK

CUSTOMER J.M. DEVINE CO.

DATE 4/1/83

73 NORMANDY DR

PURCHASE ORDER NO. BOB FEOLE

CRANSTON, R.I. 02020

ITEM	TEST BLOCK	SER. NO.	MATERIAL	SPEC.
	ANGLE BEAM	6043-83	STEEL	
	" "	6044-83	"	
	" "	6045-83	"	
	" "	6046-83	"	
	" "	6047-83	"	
	" "	6048-83	"	
	" "	6049-83	"	
	" "	6050-83	"	
	" "	6051-83	"	
	" "	6042-83	"	

These blocks have been manufactured in accordance with applicable specs. & inspected in accordance with MIL-I-45208A, with instruments calibrated in accordance with MIL-C-45662 and traceable to the National Bureau of Standards.

These blocks were found to be within dimensional tolerances specified.

Handwritten signature

RAY - CHECK MANUFACTURING INC.

RCM / Omni Tool

Telephone (209) 299-6834
P.O. Box 8
Clovis, CA 93613

Ultrasonic Reference Blocks

Precision Products



CERTIFICATE OF COMPLIANCE ULTRASONIC TEST BLOCK

CUSTOMER J. M. DEVINE CO.

DATE 8/16/83

73 NORMANDY DR.

PURCHASE ORDER NO. 3738

CRANSTON, RHODE ISLAND

ITEM	TEST BLOCK	SER. NO.	MATERIAL	SPEC.
1	ANGLE BEAM	6081-83	A 36 Steel	
	" "	6082-83	A 36 Steel	
	" "	6083-83	A 36 Steel	
	" "	6084-83	A 36 Steel	
	" "	6085-83	A 36 Steel	
	" "	6086-83	A 36 Steel	
	" "	6087-83	A 36 Steel	
	" "	6088-83	A 36 Steel	
	" "	6089-83	A 36 Steel	
	" "	6090-83	A 36 Steel	
2	ANGLE BEAM	6091-83	304 Stainless St.	
	" "	6092-83	304 Stainless St.	
	" "	6093-83	304 Stainless St.	
	" "	6094-83	304 Stainless St.	
	" "	6095-83	304 Stainless St.	
	" "	6096-83	304 Stainless St.	
	" "	6097-83	304 Stainless St.	
	" "	6098-83	304 Stainless St.	
	" "	6099-83	304 Stainless St.	
	" "	6100-83	304 Stainless St.	

These blocks have been manufactured in accordance with applicable specs., inspected in accordance with MIL-I-45208A, with instruments calibrated in accordance with MIL-C-45662 and traceable to the National Bureau of Standards.

These blocks were found to be within dimensional tolerances specified.

Fred Hoffman

RAY - CHECK MANUFACTURING INC.

Telephone (209) 299-6834
P.O. BOX 8
Clovis, CA 93613

RCM TEST STANDARDS
ULTRASONIC REF. BLKS.
EDDY CURRENT, MAG. PARTICLE
RADIOGRAPHIC
EDM CAPABILITIES

P.O. # N103



CERTIFICATE OF COMPLIANCE

CUSTOMER J. M. Devine Co.
49 Libera St.
Cranston, R.I. 02920

DATE 2/19/86
PURCHASE ORDER NO. N-103

TEST BLOCK	SER. NO.	MATERIAL	SPECIFICATION
Angle Beam	86-3259	1018 Steel	Bureau of Public Roads
	86-3260	"	"
	86-3261	"	"
	86-3262	"	"
	86-3263	"	"
	86-3264	"	"
	86-3265	304 Stainless Steel	"
	86-3266	"	"
	86-3267	"	"
	86-3268	"	"
	86-3269	"	"
	86-3270	"	"

These blocks have been manufactured in accordance with applicable specs. are inspected in accordance with MIL-I-45208A. with instruments calibrated in accordance with MIL-STD-45662 and traceable to the National Bureau of Standards.

These block were found to be within dimensional tolerances specified. N.B.S. Certificate No. 79577-A; 74974-A

Fred Hoffman

RAY - CHECK MANUFACTURING INC.



Tele. (209) 299-6834
P.O. BOX 8
Clovis, CA 93613

RCM TEST STANDARDS
ULTRASONIC REF. BLKS.
EDDY CURRENT, MAG. PARTICLE
RADIOGRAPHIC
EDM CAPABILITIES

P.O. # N103

CERTIFICATE OF COMPLIANCE

CUSTOMER J. M. Devine Co.
49 Libera St.
Cranston, R.I. 02920

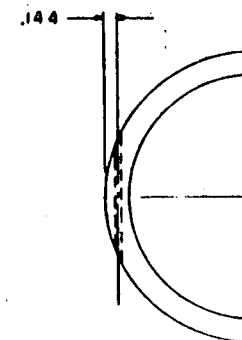
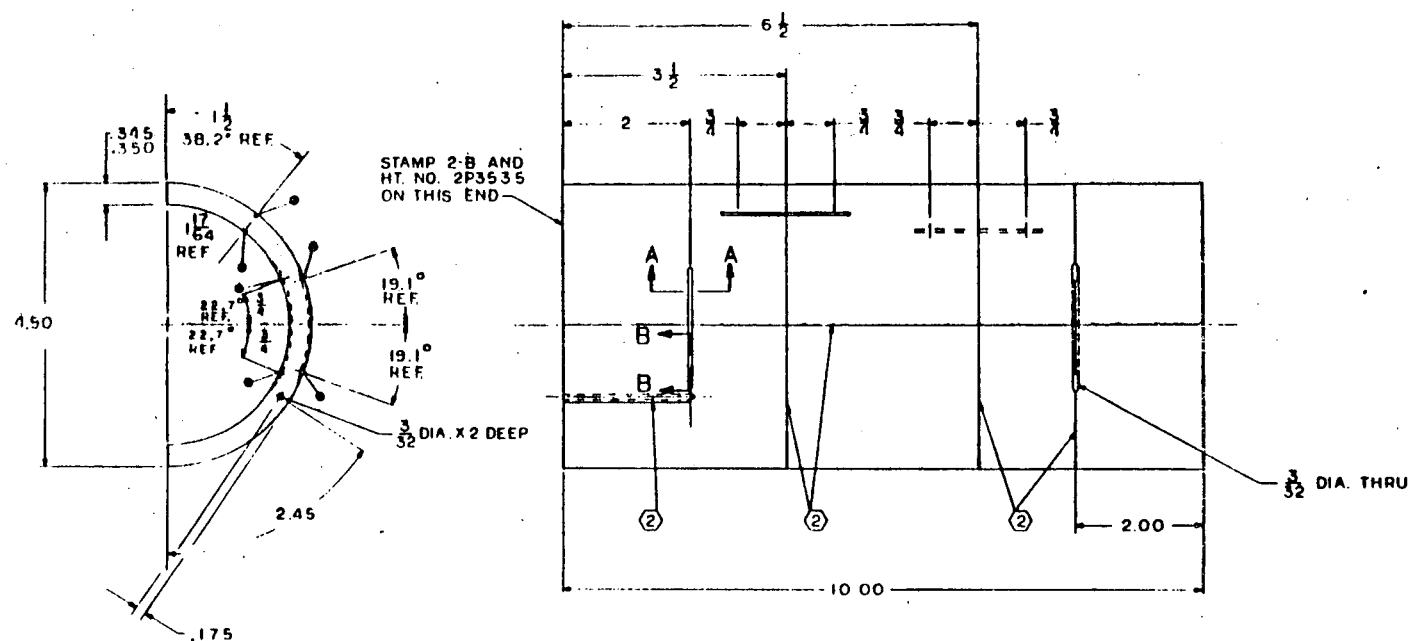
DATE 2/19/86
PURCHASE ORDER NO. N-103

TEST BLOCK	SER. NO.	MATERIAL	SPECIFICATION
Angle Beam	86-3259	1018 Steel	Bureau of Public Roads
	86-3260	"	"
	86-3261	"	"
	86-3262	"	"
	86-3263	"	"
	86-3264	"	"
	86-3265	304 Stainless Steel	"
	86-3266	"	"
	86-3267	"	"
	86-3268	"	"
	86-3269	"	"
	86-3270	"	"

These blocks have been manufactured in accordance with applicable specs. are inspected in accordance with MIL-I-45208A. with instruments calibrated in accordance with MIL-STD-45662 and traceable to the National Bureau of Standards.

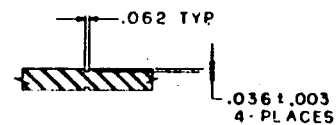
These block were found to be within dimensional tolerances specified. N.B.S. Certificate No. 79577-A; 74974-A

Frederick Hoffman



NOTES:

1. PIPE SIZE 4" DIA. SCHEDULE 80, STAINLESS STEEL.
2. SCRIBE CENTERLINE .003 TO .005 WIDE AND DEEP WHERE NOTED. STEEL STAMP OR MILL CUT AN INDEX MARK AT ENDS OF EACH CENTERLINE AS SHOWN 1/32 X 1/32 X 1/4 LONG.
3. DIMENSIONS ARE AS-BUILT.
4. THIS DWG. SUPERSEDES SWRI DWG. D-2371-094 REV. C.



SECTION A-A
SCALE: 1/1

2-B

DESIGNED BY 11/1/84	CHECKED BY 11/1/84	DATE 11/1/84	4" PIPE STANDARD
DRUNSWICK	10-2371-8		