



Pullman Power Products

Division of Pullman Incorporated

JS-IX-14

DOCUMENT NO.

PREPARED BY: D.R. Geske

APPROVED BY: H. Hinkley

HH

ISSUE DATE: 1/30/81

SEABROOK
PROJECT PROCEDURE

TO BE USED
ONLY ON JOB #

7035

PAGE
NO. 1 of 9

LATEST REV. DATE
1/30/81

DEFECT REMOVAL AND
REPAIR BY WELDING

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PULLMAN POWER PRODUCTS

DIVISION OF PULLMAN INCORPORATED


HEADQUARTERS AT

WILLIAMSPORT, PENNSYLVANIA

UE&C
CODE

06

REVISION	PREPARED BY	APPROVED BY	INITIALS	DESCRIPTION
00 7-31-78	D.F. Gehr	K.A. Swisher	KAS	Initial Issue
01 9-15-78	D.F. Gehr	K.A. Swisher	KAS	Revised para. 8.2; Added para. 3.2.1, 4.1.3, 4.2.2.1 & Forms 18, 19 & 22
02 6-9-79	H. Hinkley	K. Freed	KF	Revised para. 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 6.1, 8.1, 8.2, Forms 18, 19, 19A, 22, 32; changed para. 4.2.2.1 to A; Deleted para. 3.2.1, 5.4, 5.5, added index.
03 6-19-80	B. Willard	H. Hinkley	HH	Revised para. 3.1, 4.1.3, Added para. 3.1.1, 3.1.2, 3.1.3, Attach A page 2 of 2 Form 38
04 8-7-80	H. Hinkley	A. Eck	AE	Revised Form 18, 19, 19A 22 Added para. 4.1.4
05 1-13-81	D. Geske	H. Hinkley	HH	Extensively Revised
06 1-30-81	D. Geske	H. Hinkley	<i>HH</i>	Extensively Revised

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1.0 SCOPE

- 1.1 This procedure shall be employed to remove unacceptable indications from base materials or welds, and subsequent repair by welding to meet the requirements of the applicable Code.
- 1.2 Unacceptable defects, detected by examinations required by Code and/or Specification, shall be reported under this procedure. The acceptance/rejection criteria for conditions discovered by the required examinations are defined by the applicable Code and outlined in the approved Project Procedures.
- 1.3 In-Process conditions which are corrected upon discovery, by controls imposed on the Process Sheet for that operation and made acceptable to the Field QC/Welding Inspector, are not considered a repair reportable under this procedure.
- 1.4 In addition, this procedure does not include Receiving Inspection activities which are governed by Project Procedure X-5.

2.0 REPORTING REQUIREMENTS

- 2.1 Arc strikes shall be circled on the material with soapstone or an approved marker and reported by the Field QC/Welding Inspector through the NDE Supervisor to Engineering on an Arc Strike Surveillance Report, see Attachment A.
- 2.2 Unacceptable Field Weld conditions which cannot be corrected at the time of discovery and made acceptable to the Field QC/Welding Inspector, by controls imposed by the Process Sheet for that operation, shall be circled with soapstone or an approved marker and reported by the Field QC/Welding Inspector through the NDE Supervisor to Engineering on a Weld Repair Order, see attachment B.
- 2.3 Unacceptable Base Material conditions shall be circled on the material with soapstone or an approved marker and reported by the Field QC/Welding Inspector through the NDE Supervisor to Engineering on a Base Material Surveillance Report, see attachment C.
- 2.4 Unacceptable conditions identified through application of approved Non-destructive Examination methods shall be reported by the NDE Technician in accordance with the appropriate Project Procedure. In addition, the Technician shall plot the indication on the material with soapstone or an approved marker and report the condition through the NDE Supervisor to Engineering on a Weld Repair Order, see attachment B.



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2.0 REPORTING REQUIREMENTS - CONTINUED

2.5 If the conditions reported in 2.1 through 2.4 above exceed limits as indicated below, a Non-conformance Report in accordance with Project Procedure XV-2 is required.

2.5.1 Customer/Owner defined repairs as follows:

- A. Following final heat treatment.
- B. Following final hydrostatic test.
- C. Repair by welding of end preparations.
- D. Additional repair beyond the third cycle of repair.
- E. Repair of base material which exceed 1/3 actual thickness.
- F. Repair of cracks.

3.0 INDICATION REMOVAL

3.1 Upon discovery of unacceptable Field Weld conditions, the Field QC/ Welding Inspector shall point out the condition to the crafts assigned. The crafts may eliminate the condition using approved methods controlled by the Process Sheet sequence event which required the inspection or examination. If the condition is not eliminated or reduced to an acceptable size within acceptable weld deposit size, work shall be stopped and a report per paragraph 2.2 is required.

3.1.1 As an example, if during a visual inspection following a surface preparation for examination, an unacceptable condition is discovered, the crafts may repeat the "Prepare Surface for Examination" sequence event. Any work necessary may be performed other than depositing filler metal.

3.1.2 Weld deposit may be reduced to the minimum allowable during attempts to remove unacceptable conditions. If upon reduction of deposit size to minimum the condition is not reduced to an acceptable size, work shall be stopped and the appropriate report rendered.

3.1.3 If the condition is reduced to an acceptable size, the obvious and out of the ordinary weld profile condition shall be noted at the process sheet checklist entry for the examination documented.



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3.0 INDICATION REMOVAL - CONTINUED

3.2 Upon receipt of an Arc Strike Surveillance Report, Weld Repair Order, or Base Material Surveillance Report, the NDE Supervisor shall assign a control number and enter the document into the Repair Control Log, see attachment D, and proceed as follows:

3.2.1 Contact Quality Engineering-Records and determine the final heat treatment, hydrostatic test and repair cycle status.

3.2.2 Record the status on the document, file a copy for record and forward the original to Engineering for issue to a Defect Removal Process Sheet, see attachment E.

3.3 Upon receipt of the document from the NDE Supervisor, the Engineering Department shall issue a standardized "Defect Removal Process Sheet", see attachment E, with the Arc Strike Surveillance Report, Weld Repair Order or Base Material Surveillance Report, attached.

3.3.1 Process sheets shall be identified by unique numbers as follows:

A. Field Weld Repair work shall be identified by the identification number assigned on the current revision drawing.


B. Base material work, including arc strikes, shall be identified by the assigned control number and indication number entered on the appropriate report, see paragraph 3.2 and attachments A, B and C.

3.3.2 All unacceptable indications, including Arc Strikes, shall be removed by grinding, chipping, machining, arc gouging, or flame gouging.

A. For Low Alloy materials, i.e., P-4 and P-5, adequate preheat (same as for welding) shall be established prior to any thermal cutting or gouging.

B. Upon completion of any thermal cutting operation, all cutting residue shall be removed and the cut surface shall be ground back to bright metal, removing a minimum of 1/16".

C. When working Stainless Steel products, only Stainless Steel wire brushes and approved grinding wheels shall be used.

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3.0 INDICATION REMOVAL - CONTINUED

3.3 Continued

- 3.3.3 Upon removal of all visible evidence of the indication(s), the defect removal area(s) shall be examined by the Liquid Penetrant or Magnetic Particle method to assure complete removal of the indication(s) or reduction to an acceptable size.
- 3.3.4 Following removal of the indication(s) and acceptable non-destructive examination, the NDE Technician shall measure and report the cavity size.
- A. Mechanically measure the length, width and depth of the cavity at it's longest, widest and deepest points. If the cavity penetrates the wall, the cavity depth shall be recorded as "THRU-WALL". *(MEASURED & RECORD ROOT OPENING DIMENSIONS) J.M.*
 - B. Ultrasonically measure the actual wall thickness of the base material in the area of the repair cavity. Record the actual wall thickness with the cavity dimensions.

4.0 CAVITY EVALUATION

- 4.1 Upon receipt of a Defect Removal Process Sheet for evaluation, the Quality Assurance Supervisor or his designated representative shall notify the appropriate Quality Engineer-Process personnel of the receipt. The Quality Engineer-Process personnel shall post their log to reflect the current location status of the Process Sheet(s).
- 4.2 The Quality Assurance Supervisor or his designated representative shall be responsible for the evaluation of indication removal sites through review of the defect removal documentation to determine requirements for further action. The evaluation process may be conducted by the Welding Engineer or a designated Engineering representative who has been specifically trained in the application of this procedure.
- 4.2.1 Non-conformance Report Required
- A. Only those conditions indicated in paragraph 2.5 above shall require initiation of NCR.
 - B. Document the appropriate steps on the Defect Removal Process Sheet to indicate: NCR required - "YES"; Process Sheet required - "NO"; Weld Repair P.S. issued - "NA". Initial and date all three hold points.



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4.0 CAVITY EVALUATION - CONTINUED

4.2 Continued

- 4.2.1 C. When a non-conformance is determined, the items involved shall be segregated when possible by the Field QC/Welding Inspector and/or a Hold Tag shall be affixed adjacent to the condition requiring the NCR. Should multiple cavities be non-conforming, one Hold Tag shall be sufficient for hardware control.
- D. Affixed Hold Tags shall remain in place pending disposition of the NCR at which time a Repair Tag shall be affixed per Project Procedure XV-2.
- E. Completion of weld repair shall then be consistent with the sequence of events shown in Project Procedure XV-2, Non-Conformance Procedure.

4.2.2 No Further Repair Action Required

- A. Surface indication in weldments and base material may be removed without subsequent repair welding provided:

- (1) The remaining section thickness, verified as indicated in paragraph 3.3.3 above, is not reduced below acceptable weld deposit size for welds and 87.5% of nominal wall for base material.
- (2) The depression, after indication removal, is blended uniformly (3:1 taper) into the surrounding surface.
- (3) The area is examined by the Liquid Penetrant or Magnetic Particle method, as appropriate, to assure the indication has been removed or reduced to an acceptable limit.

NOTE: In addition to Liquid Penetrant or Magnetic Particle examination those surface indications discovered through Radiographic or Ultrasonic examination methods shall be verified as removed or reduced to an acceptable limit by the same method.

- (4) The accepted cavity is identified as evaluated by permanently marking the adjacent base material with the assigned identification, see paragraph 3.3.1 above.

A/b 3.3.4



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4.0 CAVITY EVALUATION - CONTINUED

4.2 Continued

4.2.2 B. Document the appropriate steps of the Defect Removal Process Sheet to indicate: NCR required-"NO"; Process Sheet required - "NO"; Weld Repair P.S. issued - "NA". Initial and date all three hold points.

4.2.3 Repair By Welding Required

- A. All other cavities shall be corrected in process in accordance with this procedure by issue of a standardized Weld Repair Process or Base Material Repair Process Sheet, see attachment F, three parts.
- B. Document the appropriate steps of the Defect Removal Process Sheet to indicate: NCR required-"NO"; Process Sheet required-"YES". Initial and date both hold points.
- C. Forward the original Defect Removal Process Sheet with attachments to the Quality Engineer-Process to announce additional process sheets required.
- D. Forward one copy of the Arc Strike Surveillance Report, Weld Repair Order, or Base Material Surveillance Report, with the cavity dimensions, to the Engineering Department for issue of the appropriate Repair Welding Process Sheet.

5.0 REPAIR BY WELDING

5.1 The documentation procedure used for butt welding shall also be used for all repairs made by welding. The appropriate process sheet, as shown in attachment F, shall be selected by the Engineering Department to effect fill of the established cavities.

5.2 Repairs shall be in accordance with an approved qualified Pullman Power Products welding procedure for the type of base material involved and recognizing that the cavity may differ in contour and dimensions from a normal butt welded joint.



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5.0 REPAIR BY WELDING - CONTINUED

5.3 Repairs shall be made by qualified welders.

5.4 For base material repairs and for repair in welds made by a welder other than the original welder, the repair welder shall apply his symbol adjacent to the repaired area.

6.0 GENERAL REQUIREMENTS

6.1 Elimination of Base Material Surface Defects

6.1.1 Unacceptable base material surface defects shall be removed by grinding or machining provided that:

- A. The remaining section thickness is not reduced below 87.5% of nominal wall. Thickness report is required.
- B. The depression after indication removal is blended uniformly into the surrounding surface. Visual inspection documentation is required. (See 4.2.2A)
- C. The area is examined by the Liquid Penetrant or Magnetic Particle method, as appropriate, to assure the indication has been removed or reduced to an acceptable limit. Examination report is required.

6.1.2 Areas ground to remove oxide scale or other mechanically caused imperfections for appearance or to facilitate proper Ultrasonic testing need not be examined by the Magnetic Particle or Liquid Penetrant method.

6.1.3 When the elimination of the defect reduces the remaining section thickness less than 87.5% of nominal but greater than 2/3 actual wall, the product shall be repaired by welding. An NCR per paragraph 2.5 is not required. (See 5.0)

6.2 Repair by Welding

6.2.1 The crafts, under control of issued process sheets, may repair by welding material from which defects have been removed, provided the following requirements are met:

- A. The defect shall be removed or the indication reduced to an acceptable size by suitable mechanical or thermal cutting or gouging methods and the cavity prepared for repair.



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6.0 GENERAL REQUIREMENTS - CONTINUED

6.2 Continued

- 6.2.1 B. When thermal cutting is performed to prepare weld joints or edges, to remove defective material or for any other purpose, consideration shall be given to preheating the material, using preheating schedules as shown in the appropriate Weld Procedure Specification. (See 3.3.1.A).
- C. The welding procedure and welders or welding operators shall be qualified in accordance with Project Procedure II-8 and ASME Section IX.
- D. After repair, the surface shall be blended uniformly into the surrounding surface.
- E. Each repair weld shall be examined by the Magnetic Particle or Liquid Penetrant method. In addition, when the depth of the repair cavity exceeds the lesser of 3/8" or 10% of the actual section thickness, the repair weld shall be radiographed.
- F. The product shall be heat treated after repair, if required.

6.3 Elimination of Weld Metal Defects

6.3.1 See paragraph 4.2.2 above.

6.3.2 Examination of Repair Welds

- A. The examination of a weld repair shall be repeated as required for the original weld except that when the defect was originally detected by Liquid Penetrant or Magnetic Particle methods and when the repair cavity does not exceed the lesser of 3/8" or 10% of the actual thickness, it need only be examined by the Liquid Penetrant or Magnetic Particle method.



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Attachment C

SEABROOK STATION PULLMAN POWER PRODUCTS

BASE MATERIAL SURVEILLANCE REPORT

JOB 7035

Status:

Heat Treatment _____
Hydrostatic Test _____
Repair Cycle Completed _____

Actual Wall Thickness _____

Orig. Code PX-52

Rec. Type 41-03-010

I M S Index _____

ATCH. C

Sys.	Line No.	Iso./Dwg.	Weld No.	Material	Size	Thks.
INDICATION				CAVITY		
Prepared By _____ Date _____				Prepared By _____ Date _____		
LOOKING NORTH				Length _____ Width _____ Depth _____		
LOOKING EAST				Length _____ Width _____ Depth _____		
LOOKING WEST				Length _____ Width _____ Depth _____		
LOOKING SOUTH				Length _____ Width _____ Depth _____		

NOTE: ASSIGN NUMBERS TO EACH INDICATION AND SURV DISTANCE
FROM CENTER OF WELD.



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Attachment A

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SEABROOK
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SEABROOK STATION PULLMAN POWER PRODUCTS

ARC STRIKE SURVEILLANCE REPORT

Status:

Heat Treatment _____
Hydrostatic Test _____
Repair Cycle _____

JOB 7035

ATCH. A

Orig. Code PX-52
Rec. Type 41-03-010
I M S Index _____

Sys.	Line No.	Iso./Dwg.	Weld No.	Material	Size	Actual Wall Thickness
INDICATION				CAVITY		
Prepared By _____ Date _____				Prepared By _____ Date _____		
LOOKING NORTH				Length _____ Width _____ Depth _____		
LOOKING EAST				Length _____ Width _____ Depth _____		
LOOKING WEST				Length _____ Width _____ Depth _____		
LOOKING SOUTH				Length _____ Width _____ Depth _____		

NOTE: ASSIGN NUMBERS TO EACH INDICATION AND SHOW DISTANCE
FROM CENTER OF WELD.

SF 1-01A (4-79)

* In Training

UE&C

P Sullivan Supv. Area #8
D. McGarrigan
R Kowitz Welding Supt

YAEC

P. O'Kie Piping level III Auditor
J. Noy, FQA Engineer
S. Sadowsky, FQA Engineer

PSNH

Cliche

Perrini

J. Pilvines Supt

ANI Royal Ins

J. Asivino, ANI

C. Voishnis, ANI

D. Mills, ANI

Clye O'Sullivan Regional Supt

SELLS QC Supt

B. Mills QASpecialist Red Issue #4

R. Doldt " " * " 4

B. Brown " " * " 4

Mike Fyfe " " * " 4

J. Anzivino QASpecialist

* In Training

Pullman Higgins

K. Swisher QASupv Systems

M. Newton Site Auditor

R. Donald QASupv Operations

→ R. Johnson QAEqp (Process)

R. Givner Fitter

R. Copper Welder

J. Martin QC Weld. Insp.

G. Dube " " "

P. Collotta " " "

B. Foster Welding Foreman

R. Brady Welder

R. Paradis Welder

R. Ring Welding Foreman

W. Prunier Area Welding Supt

P-H

P. Gemmell	WASpec	RL #1
S. Dural	"	" " 1
Andy Fuller	"	" " 1
N. LaPlante	Welder	
R. Fultz	Piping	Supv
D. Johnson	Welding	Foreman
J. Laviva	Piping	Weld Foreman
T. Sarat	Welder	
J. Dorman	Fitter	
F. Foster	QC	Supv
T. Methvin	Welder	
C. Bogdan	Welder	
S. Herdon	Offk	Engng

J.W Anzivino , QA Specialist

R Givner , Fitter

J. C. Anzivino, Royal Insurance ANI

[illegible]

1. UETR originates procurement at home office
2. YAEC reviews contractors procurement central procedures and procurement document
3. Project Manager (YAEC) coordinates procedure document central
4. Documents are reviewed by Engrg & QCA Depts
5. Documents are approved by Project Mgr.
6. YAEC performs audits - how often on all organizations

SEABROOK STATION
INTERIM PROCEDURE CHANGE

FGCP-1 IV.A.6

UE&C Procedure FGCP-3 Rev. No. 7 IPC No. 4

1. Reason For Change:

To be consistent with UE&C QCP-13, Revision 11 entitled
"Storage Level Requirements"

RECEIVED
U.E. & C. INC.

DEC 22 1981

SEABROOK
STATION

2. Affected Paragraph(s)/Existing Requirements

Reference IPC 1, Paragraph 5.1.2 a) c.

5.1.2 a) Fire retardant structure or room will be provided with the
following environmental conditions maintained:

- a) Relative humidity 50%
- b) Temperature - $65^{\circ}\text{F} \pm 10^{\circ}\text{F}$
- c) Filtered air supply using filters with a 75% efficiency rating.
- d) Housekeeping to minimize dust and other contaminants.

3. Revise (2) As Follows:

5.1.2 a) Fire retardant structure or room will be provided with the
following environmental conditions maintained:

- a) Relative humidity 50%
- b) Temperature - $65^{\circ}\text{F} \pm 10^{\circ}\text{F}$
- c) Filtered air supply using filters with a 75% dust arrestance
efficiency rating.
- d) Housekeeping to minimize dust and other contaminants.

Originator: J. J. Moran J.J. Moran Date: 12/18/81

Resident Construction Mgr.: [Signature] Date: 12-18-81

Project Engineering Mgr.: B. N. K... Date: 12/18/81

Resident Construction Engr.: M. G. E... Date: 12-18-81

Field Supt. QA: [Signature] Date: 12/18/81

Authorized Nuclear Inspector * J. Ariz... Date: 12/18/81

* Concurrence for ASME Section III Procedures

55171 Welding Procedure Spec & QA procedures

173 Observation of Welding

181 other Safety related Welding Proced & QA procedures

183 Observation of Welding

185 Visual Exam of Welds

177 welder qual

187 welder qual

Has chart 55178

55182

Total hrs	40	6/26			
	36				
	<hr/>				
	76				
			40% - 55171	36%	27 hrs $\frac{14}{13}$
			80% - 55181		8 $\frac{4}{4}$
			80% - 55172	10	8 $\frac{4}{4}$
			90% - 55182		16 $\frac{8}{8}$
			80% - 55173	20%	
			70% - 55183		
			30% - 55185	5%	4 $\frac{8}{8}$
			60% - 55177		16 $\frac{8}{8}$
			100% - 55187		5
			80 - 55178		

NIR 355, 124
P C 10802

Public Service Co. of New Hampshire
C/O United Engineers & Constructors Inc.
Route No. 1 - Site Access Road
Seabrook, NH 03874

9763, 011-10882, (PH 5681,
Customer Order No. PH 5682, PH 5683)

Order No. 165152-2

Shipped

This material conforms to Specification
Cust. Spec. IV 502 Dtd. 10/17/77
ASME SFA 5.4 Sec. II Part C & Sec
III

Type E. 316-16 F5

Test No. 2642
Mix 1

Trade Name
or Trademark: Arcaloy 316 AC DC F5
Diameter Size: 3/32"
1,350 lbs.
Lot Number: 05-1-A912M
Heat Number: 17616C

Carbon .04
Manganese 1.90
Chromium 19.96
Nickel 13.21
Silicon .59
Columbium + .02
Tantalum .01
Molybdenum 2.43
Tungsten
Copper .10
Titanium .04
Phosphorus .024
Sulphur .017
Vanadium .05

Concentricity 4%
Type Steel A-285

Test No.	Full	Split	Volts	Amps
Tensiles	1	6	25	80

Test Results: As Welded
Yield 90,600
Tensile 36.0%
Elongation
Red. of Area

P.P.P. Q.A.
APPROVED
BY PM
DATE 5-2-79

6% Schaeffler
5.4% Magne Gage

Filletts: OK Vertical Overhead

meets ASME Sec. II
Winter Add.
Modality 1-80 re-review

Nitrogen .098

State of Penna.)
County of York)

QA/QC SITE
REVIEWED
By L. White
UE & C 3/2/79
(u.e.)

Quality Systems Certification No. N-1224
Expiration Date: September 8, 1981

Subscribed and sworn to before me
this 21st day of February 1979

The undersigned certifies that the contents of
this report are correct and accurate and that all
operations performed by the undersigned or sub
contractors are in compliance with requirements
of the material specification and ASME Boiler and
Pressure Vessel Code Section III Division 1
section NCA-3800

PAGE 29 OF 45
ALLOY RODS DIVISION
CHEMETRON CORPORATION

SEAL Heber A. Jacobs
Notary Public

BY D. G. Flohr

My commission expires. 11/22/82

D. G. Flohr

P.O. 10882
NR 395,724

QUALITY CONTROL CHECKLIST
DELTA FERRITE CONTENT TEST
(PRODUCTION OF WELD PADS)

TEST NO. 1 ROD TYPE E-316-16 ROD SIZE 3/32
DATE 3/20/80 HEAT NO. 17616C LOT NO. 05-1-A-912M
MANUFACTURER CHEMETRON CORP
VOLT/AMP METER ID 279-8-6

INSPECTORS INITIALS

1. Base Plate Material	<u>304 SS</u>	<u>[Signature]</u>
2. Plate Marking	<u>#1</u>	<u>[Signature]</u>
3. Amp Range	<u>80</u>	<u>[Signature]</u>
Voltage Range	<u>21</u>	
4. Copper Bar Spacing	<u>5/16"</u>	<u>[Signature]</u>
5. Preheat temp 50°F min.	<u>75°F</u>	<u>[Signature]</u>
6. Interpass Temp 350°F max.	<u>OK</u>	<u>[Signature]</u>
7. Weld buildup in Reverse Direction each bead layer.	<u>OK</u>	<u>[Signature]</u>
8. No Stops or Starts in Test Area.	<u>OK</u>	<u>[Signature]</u>
9. Quenching with Water and Air correct	<u>OK</u>	<u>[Signature]</u>
10. Pad Surface Finish Complete	<u>OK</u>	<u>[Signature]</u>

P.P.P. Q.A. Review
Int. CS
Date 3-21-80

YAEC Review [Signature]
Int. [Signature]
Date 3/21/80

UE&C Review
Int. [Signature]
Date 3/21/80

Test is not a code requirement,
and was conducted using
parameters from PPP site procedures
JG 7/24/80

P.O. 10832

RIR 345724

QUALITY CONTROL CHECKLIST
DELTA FERRITE CONTENT TEST
(TEST RESULTS)

TEST NO. #1 ROD NO. E-316-16 ROD SIZE 3/32
DATE 3/20/80 HEAT NO. 17616C LOT NO. 05-1-A-912M
MANUFACTURE CHEMETRON Corp.
FERRITESCOPE ID 097-8979
TEST PAD NO. #1

Ferritescope Readings in Z

1. 6.5 Z
2. 6.5 Z
3. 6.8 Z
4. 6.0 Z
5. 6.5 Z
6. 5.9 Z
Avg. 6.36 Z

Z 6.4

Ferritescope Reading in FN

1. 4.9 FN
2. 5.4 FN
3. 5.4 FN
4. 5.0 FN
5. 5.0 FN
6. 4.9 FN
Avg. 5.1 FN

FN. 5.1

P.P.P. Q.A. Review

Int. CE
Date 3-21-80

YAEC Review

Int. cel
Date 3/21/80

UE&C Review

Int. 1
Date 3/21/80

PAGE 31 OF 45

ARC Exit Interview Attendance List

Inspection Type NRC EXIT, UNANNOUNCED VISIT - S. REYNOLD
 TITLE (443/81-13) ORGANIZATION

[illegible]

BLUE SHEET

SEABROOK STATION

REQUEST FOR FOLLOW-UP ACTION

NRC INSPECTIONS

IMS # - B 4.2.7

FORM - 001

PAGE 1 OF 1NO. 032

TO: J. P. Vought

DATE: 6/22/81

Inspection Item Description: Clarify Cross-Over Restraint Requirements UNIT: #1

(Dwg. F101482)

Ref: RFI 73/1442

Field Instruction F1-92 Rev. 1

As a result of NRC Inspection 81-08 by Inspectors Reynolds and Sanders, the following preliminary questions need response.

1. Justification for not stress relieving field welds (material being susceptible to laminar tearing, underbead cracking, etc.).
2. The elimination of NDE after weld buttering in field.

Corrective Action Required: As indicated above. UE&C's response should include the shop fabrication requirements (Cives).

Date Required: 6/29/81

Approved By: J. W. Singleton

Requested By: *W. L. Ligon*

YAEC FQAE

NOTE: Contractor is requested to respond by memo referring ident. number of this report.

RECEIVED U.E.&C.

BLUE SHEET

SEABROOK STATION

IMS # - B 4.2.7
FORM - 001
PAGE 1 OF 2
NO. 022

MAR 23 1981

REQUEST FOR FOLLOW-UP ACTION NRC INSPECTIONS

SEABROOK STATION

TO: J.F. Vought

DATE: 3/23/81

Inspection Item Description: Cross-Over Leg Restraint

UNIT: #1

Upon inspection of the restraints as on UE&C dwg. F-10182, ECA 01/1775 and ECA 01/1895 and Cives documentation of the fabrication of these restraints (Site Documentation Package) the conditions were identified:

- (1) UE&C dwg. F-101482 Section 101482C shows a horizontal frame at E1.(-) 20'-7½". The as-built condition is that in the place of the flange there are two stiffner plates installed.
- (2) a. ECA 01/1775A sht. 2 shows a typical corner detail. Is this applicable to every corner?

(cont. on pg. 2)

Corrective Action Required:

Address the above noted conditions and provide corrective action as necessary.

Date Required: 3/30/81

Approved By:

YAEC Site Manager

Requested By:

YAEC FQAE

NOTE: Contractor is requested to respond by memo referring ident. number of this report.

- (2) b. Is the orientation as shown on sht. 6 of this ECA mandatory?
- (3) Does Cives weld procedures require a backing strip for their single-vee groove welds?
- (4) UE&C Spec. 12-5 para. 3.3.1.7.b. requires single-vee groove weld corner joints to be batted and that the batted weld be visual and magnetic particle examined. There are no MT inspection reports in the Site Documentation Package that would substantiate that this is done.
- (5) The MT inspection reports show the type of joint that was MT examined. The only type of joints MT examined, according to the records in the Site Documentation Package, are single double bevel groove welds. There are no MT inspection reports for single or double-vee groove welds.
- (6) There is one visual inspection report for each fabricated piece and these pieces may include multiple welds. Is it acceptable, when welding to the requirements of AWS, to not identify the visual inspection of each individual weld?
- (7) UE&C dwg. F-101482 and applicable ECA's do not reflect the as-built condition of the pieces fabricated by Cives.
- (8) Some of the welds under the copes on the stiffener plates shown on UE&C dwg. F-101482 Section 101482A appear to be incomplete.

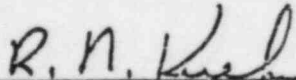
April 2, 1981

BLUE SHEET No. 22

Revised
Power Engineering Response:

We have the comments on Blue Sheet No. 22:

1. This is in accordance with the vendor detail and ECA 01/1775B.
2. a. ECA 01/1775A is intended to indicate typical in any direction.
Vendor drawings correctly show various details.
2. b. No. Actual orientation is shown on vendor detailed drawings.
3. Yes. A backing strip is required.
4. The present documents contain complete reports and include buttering, root, and final weld pass. These are not identified separately and the vendor is in the process of reviewing these documents to identify them separately.
5. Single vee and double vee groove welds will be documented when these welds occur. All full penetration joints were MT examined and documented.
6. Documentation is done for each component and is in accordance with the approved procedure VIS-P-78, FP 12877-01.
7. The ECA is revised to 01/1775B.
8. The vendor details show complete detail for all joints. These were reviewed by UE&C Engineering in Philadelphia.



R. N. Kuehn

RNK:cao

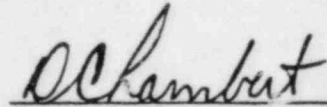
cc: JA Grusetskie
TP Vassallo
AJ Hulshizer
MA Edgar
RG Blair
PL Francis
JR Mayne
MP Hanson
RN Kuehn
H Shah

UE&C QA Response

Item 4.

Vendor Surveillance Supervising Engineer was contacted and requested that the UE&C Resident Vendor Surveillance Representative review the records at Cives to assure that magnetic particle inspection of the buttering was performed as required. The Vendor Surveillance Representative will review the documentation prior to submittal to the Site.

Item 8. UE&C QA is in the process of inspecting the welds under the copes on the stiffner plate. Welds have been found that are not complete. This inspection will be complete by 4/8/81 and the incomplete welds documented on an NCR.


D. C. Lambert

RECEIVED U.S. NRC

APR 20 1981

BLUE SHEET

SEABROOK STATION

IMS # - B 4.2.7
FORM - 001
PAGE 1 OF 1
NO. 022A

SEABROOK STATION

REQUEST FOR FOLLOW-UP ACTION

NRC INSPECTIONS

10 20 01 J. F. VOUGHT

TO: J. F. Vought

DATE: 4/17/81

Inspection Item Description: Cross-Over Leg Restraint

UNIT: #1

The response to two of the eight items identified on BS 022 was incomplete and/or incorrect. Item #1 and #7 stated ECA 01/1775B was revised to indicate there were 2 stiffener plates in the place of the flange. In reviewing the ECA it was still not apparent that was the intent of pg. 6 of 6 of the ECA. This was discussed with Mr. Mehta and Mr. Grusetskie of UE&C and they agreed to revise the ECA. Item #4 is incomplete. The present MT reports in the Site Data Package for Spec. 12-5, S.O. 6687, do identify when the MT is for the root weld and when for the final weld but nowhere do the MT reports indicate there was any MT on the buttering of the required joints. Additionally the Cives shop drawings do not indicate all, only some of the single-Vee groove butt welds or single-bevel groove butt welds for corner joints require buttering.

Corrective Action Required:

1. Assure that ECA 01/1775 is revised as agreed upon by Mr. Mehta and Mr. Grusetskie
2. Respond how programmatically the vendor is going to determine which joints were actually buttered.
- 2b. How programmatically they are going to identify the buttered joints that were MT'ed.
- 2c. UE&C shall identify, if any, unsat./deficient items via the appropriate document.
- 2d. State when will the documentation be revised/corrected.

Date Required: 4/24/81

Approved By: J. W. Singleton

Requested By: *D. H. Conell*
YAEC FQAE

NOTE: Contractor is requested to respond by memo referring ident. number of this report.

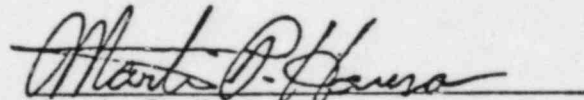
201

April 29, 1981

BLUE SHEET No. 22A

Power Engineering Response:

1. ECA 01/1775 has been revised to a C revision.
2. The vendor is going to determine which joints are actually buttered based on the information in the structural steel detail drawings. The structural steel detail drawings are prepared by the vendor, Cives. All joints that require buttering are indicated on these drawings. The Cives detailed drawings are reviewed and accepted by UE&C Power Engineering.
- 2b. All buttered joints are required to be magnetic particle inspected by this specification. The vendor will perform MT of all these joints in accordance with this specification.
- 2c. UE&C vendor surveillance is and will identify deficiencies as and when they occur.
- 2d. The UE&C vendor surveillance representative reviewed and accepted the revised and corrected vendor documentation for the discrepancies reported in this Blue Sheet on April 23, 1981. These were transmitted to the Seabrook site on April 24, 1981 by the vendor.


Martin P. Hanson

MPH:cao

cc: MP Hanson
H Shah
MA Edgar
JA Grusetskie
TP Vassallo
AJ Hulshizer
RC Lesnefsky
DC Lambert
RG Blair

(14) Misc - Machine welding Defect Update

SEABOOK

- ① ~~SITE TOUR WITH J. Durr~~ EXIT INTERVIEW & PERSONNEL CONTACTED
- ② REVIEW STATUS OF 443/31-13 PARA 2 PP 6-7
- ③ ANI Data - PUT WITH WELDOR QUAL FILE
- ④ YREC Auditing OF PH
- ⑤ WELD MONITORING QUESTION Ratio of QC to weldors
- ⑥ OTHER P-H AUDIT FINDING (OF P-H)
- ⑦ WELDOR QUALIFICATION
- ⑧ TRAINING - INDOCTRINATION IN GWS/WPS DOCUMENTS
- ⑨ REVIEW OF NCR'S
- ⑩ TRENDING - NEW PROGRAM
- ⑪ SENSITIZATION QUESTION
- ⑫ ~~SITE TOUR~~
- ⑬ PSAR & FSAR, Chapter 17
EFFECTIVE CODE DATES UEC 9763-006-248-43

UE&C

Section 5

Procedure 5-E-1

Para IV A+B VS

V A 1

INTERFACKE BETWEEN
ANI'S / P-H / UE&C

ANSI STD for Auditors'
Qualifications

DC/Welder Ratio

Evaluation of ~~Defect~~ Welder Performance

PROCEDURE REVIEW AND PRE-TRAINING RECORD

PROCEDURE TITLE		CORRECTIVE ACTION	PROC. NO. XVI-2	REV. NO. 04	PRPR NO. 001
INITIAL DRAFT	PREPARER	K. Swisher	EXT.	3201	DIST. DATE 5/27/82
DISTRIBUTED FOR COMMENTS TO:	ENGINEERING	C. Scannell	NDE		
	FIELD QA	R. Donald	TRAINING	Vogel/Lantry/Sexton	
	QC	R. Wise <i>not returned</i>	QA SYSTEMS	K. Swisher	
DISTRIBUTED FOR:	<input checked="" type="checkbox"/> REVIEW AND COMMENTS		<input type="checkbox"/> PROPOSED DELETIONS		
INSTRUCTIONS	<p>The attached procedure is forwarded for review and comment. The Supervisor of each department indicated shall route the procedure to personnel in his department as he deems appropriate. Comments shall be documented by attaching sheets or by marking up the draft. The Supervisor shall approve all comments and return them, with this sheet, to the preparer.</p>				
COMMENTS	<input type="checkbox"/> NO COMMENTS <input type="checkbox"/> MINOR COMMENTS <input type="checkbox"/> MAJOR COMMENTS		ACTIONS <input type="checkbox"/> REVIEWED <input type="checkbox"/> CONCUR <input type="checkbox"/> PLEASE RETURN PRIOR TO ISSUE		
PERSONNEL WITH INPUT					
SUPERVISOR		TITLE		DATE	
EVALUATION OF COMMENTS	<input checked="" type="checkbox"/> COMMENTS EVALUATED <input checked="" type="checkbox"/> DISCUSSED WITH SIGNATORIES <input type="checkbox"/> RETURNED PRPR EXCEPTIONS		<input type="checkbox"/> SUBSEQUENT DRAFT REQUIRED <input type="checkbox"/> MEETING REQUIRED		
PREPARER		DATE			
6/4/82		6/4/82			
FINAL DRAFT PREPARATION	<input checked="" type="checkbox"/> TYPED AND PROOFREAD		<input checked="" type="checkbox"/> REVIEWED BY PREPARER <i>JS</i>		
DOCUMENT CONTROL SPECIALIST: <i>Donna Harforn</i> DATE <i>6-4-82</i>					
FINAL DRAFT APPROVAL	REVIEWED, FINAL COMMENTS INCORPORATED, AND APPROVED BY:				
<i>K. Swisher</i>		<i>C. C. Scannell</i>		<i>D. Davis</i>	
6/4/82		6-4-82		6-11-82	
QA SUPV.-SYSTEMS		CHIEF FIELD ENGINEER		QA MANAGER	
PRE-TRAINING REQUIREMENTS		CHIEF FIELD ENG. <i>C.C.</i>		QA MANAGER <i>Davis</i>	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO PERSONNEL OR GROUPS TO BE PRE-TRAINED		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <i>C.F.E., Q.A.M., Const. Supt. PCM</i>			
PRE-TRAINING COMPLETED BY TRAINING OFFICER: _____ DATE _____					
QA SYSTEMS CLOSEOUT	<input type="checkbox"/> ALL PRPR'S ACCOUNTED FOR		<input type="checkbox"/> ALL PRE-TRAINING RECORDS ATTACHED		
RECORDS:	DOC. CONTROL SPEC.	DATE	QA SUPV. ACKNOWLEDGEMENT	DATE	

CORRECTIVE ACTION FOR SIGNIFICANT CONDITIONS
ADVERSE TO QUALITY

1.0 SCOPE

- 1.1 This procedure provides measures to assure that conditions adverse to quality which have been identified as being significant per Paragraph 2.0 are investigated, corrected, documented and verified.
- 1.2 Corrective measures established herein are in addition to corrective measures accomplished through the NCR, SWO, and audit systems.

2.0 POLICY

- 2.1 This procedure describes the use of the Corrective Action Report (CAR) (see Appendix A). CARs are not required when corrective action is adequately accomplished through other corrective action systems such as NCRs, SWOs, and AARs, but may be generated under any of the following conditions.
 - 2.1.1 When corrective action through another system (see Para. 2.1) is not timely or adequate.
 - 2.1.2 When programatic conditions adverse to quality are identified through trend analysis or audit.
 - 2.1.3 When a higher level of priority is required for resolution of conditions adverse to quality which have been identified as significant.
- 2.2 CARs require response within five (5) working days by the organization responsible for implementing corrective action. Response shall include immediate corrective action to be taken and completed within five (5) working days. Immediate corrective action may include a schedule for completion of proposed corrective action when such corrective action exceeds a five workday period for projected implementation, and is authorized by the QA Manager or designee. Any CAR response not received by the due date shall be referred directly to the QA Manager and Resident Construction Manager for action.

3.0 INITIATING THE CAR

FLOW CHART OF CAR WHO? Ken Ray

- 3.1 CARs shall be initiated by the QA Supervisor, or his designee, at the direction of the QA Manager. Sections 1 through 3 shall be completed as indicated below.

Section 1 - Enter the governing requirement(s) (spec., manual, code, etc.)

Section 2 - Identify the basis of the CAR (trend analysis, NCR, audit finding, etc.)

Section 3 - Enter the description of the condition(s) adverse to quality (CATQ).
Itemize each specific area for which corrective action is to be addressed.
The description of conditions adverse to quality shall be signed by the QA Supervisor and the QA Manager.

- 3.2

WHO? Someone who? The QA Supervisor or designee will assign the next sequential CAR number and enter the date the CAR was typed in the heading of the CAR form. At this time, the date the corrective action response is due will also be entered in Section 4. The response due date shall not be longer than five (5) working days from the date indicated in the heading unless authorized by the QA Manager or designee as documented by signature adjacent to an extended response date.

HAVE AN
EXAMPLE
DONE

3.3 The QA Supervisor or designee shall then enter the CAR on a CAR log and handcarry the CAR and obtain signatures as required in Section 3. *WHO?*

4.0 ACKNOWLEDGEMENT OF CONDITIONS ADVERSE TO QUALITY (CATQ)

- 4.1 The department head or designee responsible for assuring the completion of corrective action shall review the CAR and acknowledge the CATQ by signing Section 3. Editorial corrections to specified CATQ (for purpose of clarity) may be made after consultation with the QA Manager.

5.0 DISTRIBUTION

- 5.1 The QA Supervisor or designee will distribute copies of the CAR to the following personnel as a minimum.

5.1.1 Resident Construction Manager

5.1.2 QA Manager

5.1.3 QA Supervisor - Systems

5.1.4 Responsible Department Head

5.1.5 Director of QA (through Monthly Advisory Report)

6.0 CORRECTIVE ACTION & ACTION TO PREVENT RECURRENCE

- 6.1 The department head shall identify the individual (assignee) who shall respond to the CAR by the date indicated in Section 4 (Response Due By).

- 6.2 The response shall be recorded on individual CAR Response forms (Appendices B & C) which are to be attached to the CAR. Separate response forms shall be used to address each Item identified in Section 3 as follows.

6.2.1 Action taken to correct the CATQ.

6.2.2 Date when action taken to correct the CATQ will be completed, or schedule for completion of corrective action (see Para. 2.2). When the "schedule option" is exercised, progress on corrective action implementation shall be reported per Para. 8.3 through 8.5.

6.2.3 Action taken to prevent recurrence of the CATQ.

6.2.4 Date when action taken to prevent recurrence of the CATQ will be completed, or scheduled (see Para. 6.2.2) for completion.

7.0 EVALUATION OF RESPONSES

- 7.1 Evaluation of CAR Responses will be completed by and documented on each CAR Response form (Appendices B & C) by the QA Supervisor or his designee. *WHO?*

7.2 The "Response Received By" will be signed and dated as received.

7.3 Each response will be reviewed for acceptance. *WHO?*

*QA Super.
or designee*

7.3.1 Unsatisfactory responses will be so indicated by checking the appropriate box. The "Comments" portion of the original response sheet will be marked with the date the response was returned to the Assignee and the comments appropriate to the unsatisfactory response. The original response will be retained and a copy forwarded to the Assignee for preparation of a satisfactory response.

7.3.2 Satisfactory responses will be so indicated by checking the appropriate box. Signature of the QA Manager or QA Supervisor also indicates acceptance of a "schedule" for corrective action, if applicable.

8.0 FOLLOW-UP

8.1 Satisfactory CAR responses will be returned to the Assignee responsible for effecting remedial and/or preventative corrective action.

8.2 The Assignee shall follow up on each response to assure completion of corrective action within the committed time frame (normally within five (5) days, unless a schedule for completion or extension has been approved. (see Para. 2.2).

8.3 CAR Responses which include an approved schedule for completion shall be followed up and documented by the Assignee weekly on a Corrective Action Progress Report (Appendix D). The report shall reference the CAR number and CAR Item number and shall include the following as a minimum.

8.3.1 Date the report was submitted.

8.3.2 Name of Assignee (see Para. 6.1)

8.3.3 Name of the individual(s) with responsibility for acting on the CAR Item.

8.3.4 The action taken during the reporting period.

8.3.5 The present status of the CAR Item.

8.4 The Assignee shall submit a copy of the Corrective Action Progress Report to the QA Supervisor or his designee and retain the original. The original report may be used for subsequent reporting until filled.

8.5 When corrective action has been completed, all original progress reports will be forwarded to the QA Supervisor or his designee.

9.0 VERIFICATION OF CORRECTIVE ACTION TAKEN

9.1 Verification of implementation of corrective and preventative action shall be made within five (5) working days of the dates indicated on the CAR Response.

9.2 Verification shall be accomplished and recorded by the QA Supervisor or his designee on each CAR Response. Responses for which weekly progress reports (Appendix D) are submitted shall be documented under "Weekly Progress Report Dates".

9.3 When corrective and preventative action has been verified the CAR response sheets can be closed out by dating and signature by the QA Supervisor or his designee.

9.4 CARs will be closed out only after all individual CAR responses have been closed out.

9.5 Any CAR Responses not closed out by the commitment date shall be referred directly to the QA Manager and Resident Construction Manager for action.

10.0 RECORDS

- 10.1 The QA Supervisor or his designee shall maintain a CAR Log. The log shall identify the CAR by number, date initiated, basis (see Para. 3.1, Section 2), and date closed.
- .2 Closed out CARs and appurtenant reports shall be maintained in accordance with Procedure XVII-3.
- 10.3 All CAR records shall be made available to the ANI upon request.

Appendix A.

DATE: _____

CORRECTIVE ACTION REPORT

CAR NO. _____

CUSTOMER: UE&C

PROJECT: SEABROOK STATION

PAGE 1 of

1. GOVERNING REQUIREMENT:

.. BASIS OF CAR:

3. CONDITIONS ADVERSE TO QUALITY (itemize):

PREPARED BY _____

APPROVED BY _____

ACKNOWLEDGED BY _____

4. RESPONSE DUE BY: _____

EXTENSION APPROVED BY: _____

ALL CAR RESPONSES
COMPLETED AND VERIFIED

QA SUPERVISOR _____

DATE _____

QA MANAGER _____

DATE _____

CAR RESPONSE (REMEDIAL ACTION)	CAR NO. _____ ITEM NO. _____ PAGE _____ of _____
-----------------------------------	--

REPAIRED BY: _____

ACTION TAKEN TO CORRECT CONDITIONS ADVERSE TO QUALITY (CATQ):

(CONTINUED ON ATTACHED SHEET)

DATE WHEN CORRECTIVE ACTION WILL BE COMPLETED:	SCHEDULE ATTACHED: YES/NO
--	---------------------------

RESPONSE RECEIVED BY:	DATE:	SAT	UNSAT
-----------------------	-------	-----	-------

COMMENTS:

ACTION TAKEN TO CORRECT CATQ:

(CONTINUED ON ATTACHED SHEET)

DATE WHEN CORRECTIVE ACTION WILL BE COMPLETED	SCHEDULE ATTACHED: YES/NO
---	---------------------------

RESPONSE RECEIVED BY:	DATE:	SAT	UNSAT
-----------------------	-------	-----	-------

<p><u>WEEKLY PROGRESS REPORT DATES</u></p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><u>FOLLOW-UP</u></p> <p>CORRECTIVE ACTION COMPLETED:</p> <p>_____</p> <p><u>VERIFICATION</u></p> <p>CORRECTIVE ACTION VERIFIED</p> <p>_____</p>
---	--

CAR RESPONSE
(PREVENTATIVE ACTION)

CAR NO. _____
ITEM NO. _____
PAGE _____ of _____

PREPARED BY: _____

ACTION TAKEN TO CORRECT CONDITIONS ADVERSE TO QUALITY (CATQ):

(CONTINUED ON ATTACHED SHEET)

DATE WHEN CORRECTIVE ACTION WILL BE COMPLETED:

SCHEDULE ATTACHED: YES/NO

RESPONSE RECEIVED BY:

DATE:

SAT

UNSAT

COMMENTS:

ACTION TAKEN TO CORRECT CATQ:

(CONTINUED ON ATTACHED SHEET)

DATE WHEN CORRECTIVE ACTION WILL BE COMPLETED

SCHEDULE ATTACHED: YES/NO

RESPONSE RECEIVED BY:

DATE:

SAT

UNSAT

WEEKLY PROGRESS REPORT DATES

FOLLOW-UP

CORRECTIVE ACTION COMPLETED:

VERIFICATION

CORRECTIVE ACTION VERIFIED

Appendix U

CORRECTIVE ACTION
PROGRESS REPORT

CAR NO. _____

ITEM NO. _____

PAGE _____ OF _____

DATE	ASSIGNEE	ACTION B.	FOLLOW UP ACTIONS AND STATUS

BLUE SHEET

IMS # - B 4.2.7

FORM - 001

PAGE 1 OF 1

038C

NO. _____

MAR 9 - 1982

SEABROOK STATION**REQUEST FOR FOLLOW-UP ACTION****NRC INSPECTIONS**3/9/82 *kel*

TO: UE&C RCM/Power Engineering

DATE: 3/9/82

Inspection Item Description: The welding of attachments across

UNIT: 1 & 2

(transverse to the beam axis) the tension flange of beams except as shown on UE&C design drawing is not permitted unless approved by the construction managers. All of UE&C Specifications address this area differently.

Corrective Action Required: Ref. UE&C Memo S/L CE1652, dated Nov. 19, 1981 and UE&C

Power Engineering Letter, Feb. 5, 1982, response to B.S. 038A and 038B:

1. Torsion limitations are outlined on memo MM7610. This memo has not been utilized in support design for cable tray and conduit supports. Realizing torsion is not accounted for, for normal design loading, how does UE&C, account for torsional loading in structural framing for the above mentioned supports?

Date Required: 3/42/82

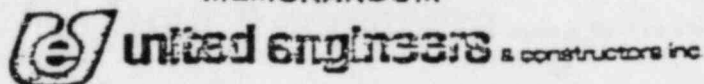
Approved By: J. W. Singleton

Requested By: *F. F. [Signature]*

YAEC FOAE

NOTE: Contractor is requested to respond by memo referring ident. number of this report.

MEMORANDUM



No. 9763.006
DEPT. Engineering - Power Division
To: Hareesh Shah - Field
FROM: D. D. Boyle - 06U0

OFFICE: Philadelphia
DATE: March 23, 1982
MM#-8802A
COPIES: See Distribution
File No.: 1.0.1.22
No Response Required

SUBJECT: Public Service Company of New Hampshire
Seabrook Station
Welding to Beam Flanges - Blue Sheet 38C

References: MM-8039A - Response to Blue Sheet 38
MM-8470A - Response to Blue Sheet 38A
Attached response to Blue Sheet 38B

Inspection Item Description of Blue Sheet 38C

"The welding of attachments across (transverse to the beam axis) the tension flange of beams except as shown on UE&C design drawing is not permitted unless approved by the construction managers. All of UE&C Specifications address this area differently."

Corrective Action Required:

"Ref. UE&C memo S/L CEL652, dated November 19, 1981 and UE&C Power Engineering Letter, February 5, 1982, response to B.S. 038A and 038B:

1. Torsion limitations are outlined on memo MM-7610. This memo has not been utilized in support design for cable tray and conduit supports. Realizing torsion is not accounted for, for normal design loading, how does UE&C account for torsional loading in structural framing for the above mentioned supports?"

Response:

This is not a deficiency.

No corrective action is required.

Discussion:

The allowable torsion curves contained in memo MM-7610 have been used in the design of cable tray and conduit supports where torsion is unavoidable. At the top of the curves in the memo it clearly states, "for conduit supports." In drawing 300248, Rev. 16, conduit tables are provided on sheets 12C and 12C1 providing the minimum size building steel for the support types. These

- 2 -

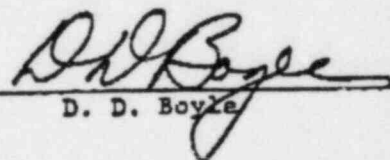
Discussion: (Cont'd.)

building steel tables were developed using the same allowable beam torsion curves as used for the design of pipe supports. The Conduit Notes and details on sheet 3E note F.4.C. states, "The method of attaching to steel framing and welding details for these attachments shall remain as shown and noted on the sheets included in these notes and details." Supports are shown on beam centerline or with the limits of off center supports as shown on sheet C-12.

The Cable Tray System Notes and Details sheet 3B note F.4.C repeats the quotation above and attachments are shown on the beam centerlines. ECA-013152A of March 5, 1982 recently reemphasized that: "for support details which attach to the bottom flanges of structural steel beams, the location of the support attachment shall be restricted to the centerline of the affected beam, exceptions to be submitted to site engineering for approval. Any support which does not meet above mentioned criteria is to be documented in the form of as-built".

As previously discussed in MM-8470A, response to Blue Sheet 38A, UE&C will run a beam design verification program after major installations have been completed. The program will detect any overload conditions, including any torsional loads.

If you should have any questions, please call.


D. D. Boyce

DDB/cod

Attachment

RESPONSE TO BLUE SHEET #38B

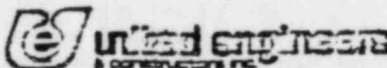
- 1(a) Estimated uniformly distributed load due to equipment and piping along with Dead, Live and other design loads are considered in the design of all structural framing members per procedures stated in the Structural Design Criteria (SD-66), Pages 18 through 24. The Containment annulus steel framing has also been re-evaluated based on frequency criteria (thus assuring low stress levels) per the General Procedures for Re-evaluation of Containment Annulus Steel Framing (Appendix to SD-66). Any secondary stress which could be imposed on the framing due the configuration of attachments of supplementary and support connections is not considered separately at this stage of design and construction. Estimated design loads are conservative and can safely be assumed to cover all primary and secondary loading conditions.
 - (b) The construction management is not required to review the stress condition of the structural framing. The stresses are controlled by engineering per procedures described in (a). Please also see response to Blue Sheet 38A, where we withdrew design requirements from Spec 12-2.
 - (c) Field welding of attachments across (i.e. transverse to the beam axis) the tension flange is controlled at the design stage by keeping the weld length within 75% of the flange width. Supports requiring cross flange field welding are located to avoid high stressed areas. An example would be avoiding cross flange welding on the tension flange in the middle third span of a simply supported beam. Furthermore, safeguard is inherent in the design of all safety-related structures due to the fact that during construction when attachments are installed, the seismic and majority of live loads are not present. The absence of these loads provides sufficient factors of safety against sudden failure.
 - (d) Physical interferences are being checked by plotting all supports on supplementary steel/coordination plans. The final check of the stress condition of all framing members will be made by the beam design verification program during which all imposed loads will be considered.
2. All loading conditions will be considered during the beam design verification program. The program will detect all overload conditions. The verification program will be started soon after major installations have been completed.

The computerized beam verification program is scheduled to start by July 1, 1982.

5520-643 REV. 8/81

PROJECT CHANGE

SEABROOK STATION

CONTRACTOR
USE ONLY

(SEE REVERSE SIDE FOR NOTES, INSTRUCTIONS AND DISTRIBUTIONS.)

SHEET 1 OF 2

DATE 3/2/82

J	0	9	7	6	3	0	1	3
1	2	3	4	5	6	7	8	9

 TYPE OF
CHANGE
(DCN, ECA, FCR, SAC
RFI)

E	C	A
10	11	12

SERIAL
NUMBER

0	1	3	1	5	2	A
13	14	15	16	17	18	19

DESCRIPTION OF CHANGE/REQUEST

ASME YES NO ☒SAFETY RELATED YES ☒ NO

* M A O N I S A R E S T R I C T L O C A T I O N O F E L E C T R I C S P L I T S I N I S T E E L B E A M S

Add the following note to General Notes - Supports of DWG. M-300228 and DWG. M-300229:
For support details which attach to the bottom flanges of structural steel beams, the location of the support attachment shall be restricted to the centerline of the affected beam, except-
ions to be submitted to Site Engineering for approval. Any support which does not meet
above mentioned criteria is to be documented in the form of as-built.

NOTE: No retrofitting is required to already installed supports prior to issuance of this ECA.

REASON FOR CHANGE
REQUEST FOR INFO

TO LIMIT TORSION ON STRUCTURAL STEEL

REFERENCE DOCUMENT

20	21	22	23	24	25	26	27	28	29	30
----	----	----	----	----	----	----	----	----	----	----

M	M	1	9	7	A
---	---	---	---	---	---

D	W	G	M	3	0	0	2	2	8
---	---	---	---	---	---	---	---	---	---

D	W	G	M	3	0	0	2	2	9
---	---	---	---	---	---	---	---	---	---

F	C	R	2	2	3	3	A
---	---	---	---	---	---	---	---

R	F	I					
---	---	---	--	--	--	--	--

Cable tray and conduit supports have not been restricted to require their attachment to structural steel in such a manner to avoid torsional stresses. DWG. M-300228 and DWG. M-300229 do not limit the contractor to attaching supports at the centroid or along the centerline of structural steel. The above mentioned change will restrict/limit torsion in structural steel due to electrical supports.

 WE Goodrich Job Eng.
NAME INITIATED BY TITLE

ACTION PARTY:

FIELD CONTACT:

 WE&C
ORGANIZATION
FCR/SAC/RFI
APPROVED BY

CRAFT Supt. AFFECTED/DATE

WE&C RES. CONSTR. ENGR./DATE

 WORKING DOCUMENT REQ'D BY:
1/15/82
SAC/FCR
DISCUSSED WITH

FOR ORIGINATOR

FOR CRAFT Supt.

FOR RES. CONSTR. ENGR.

AFFECTED DOCUMENTS

PIPING DWGS ONLY

ENTER SEISMIC DOCUMENT IF APPLICABLE

SIZE											NUMBER											SIZE											NUMBER											NUMBER											SUB-SECTION										
20	21	22	23	24	25	26	27	28	29	30	20	21	22	23	24	25	26	27	28	29	30	20	21	22	23	24	25	26	27	28	29	30	31	20	21	22	23	24	25	26	27	28	29	30	31	3																			
D	W	G	M	3	0	0	2	2	8		D	W	G									S	P	E	C			-							S	A	R																												
D	W	G	M	3	0	0	2	2	9		D	W	G									S	P	E	C			-							E	R																													
D	W	G									D	W	G									S	P	E	C			-						+																															
D	W	G									D	W	G									S	D											+																															

DCN/ECA APPROVALS

PREPARED BY RJ Rich, Jr.

LEAD RE WE Reading

LEAD RE AJ Hulshizer

INTER-DISCIPLINE
REVIEWAFFECTED YES NO ☒

APPROVED

PER OR PER (SEE) RES CONSTR. ENGR.

AWAITING
AS-BUILT
INFO/DWG
FROM
FIELD/
CONTRACTORYES ☐

A	P	P
20	21	22

 YES ☒ NO ☐

DATE

MO	DAY	YR
0	3	82
23	24	25

 YES ☐

INITIAL	DATE	INITIAL	DATE
I & C	N/A	MECH. SERV.	N/A
MECH.	N/A	NUCLEAR	N/A
ELEC./ SUB. STA.	REL 3/4/82	PIPING/ P.S.E.G.	N/A
BOSTON	N/A	STRUCT.	WHR 3-1

SAFETY RELATED APPROVAL


 QA APPROVAL *T.P. Hauler* 3.6.82
OWNER REVIEW NOT REQUIRED
IF REQUIRED

12M/22D 20:55 MT SEABROOK, STATIC - 9763

Sheet 2 of 2
ECA 01/3152A

FORM 3500

MEMORANDUM

 **United Engineers & Constructors Inc.**Sheet 2 of 2
FCKECA 01/3152
Sheet 2 of 2

JOS NO. 9763.006
DEPT. Engineering - Power Division
TO: M.P. McKenna
FROM: A.J. Hulshizer

OFFICE: Philadelphia

DATE: December 22, 1981
MIS: 8197ACOMES: AM Ebner OP Kalani
DH Rhoads MI Sanghvi
DD Boyle DCC
File: 3.0.25
No Response Required

SUBJECT: Public Service Company of New Hampshire
Seabrook Station
Torsion of Structural Steel
Ref.: MSF 7610A, dated August 20, 1981

By this memo, we are approving the use of charts, which were attached to the reference memo, for the entire Seabrook plant. This will allow you to design any supports transmitting a nominal torsion to the steel members. It should be monitored if there is more than one support on the steel member and the total torsion should not exceed the allowable limits set in the charts.

If there are any questions, please feel free to contact us.

K.M. Kalavadi
Allen J. Hulshizer

FOL

KHX/md

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<p>1. Implementation - Contractor/Licensee</p> <p>1.1. <u>Construction/Fabrication/Installation Adequacy</u></p> <p>55171 (SA) Select the appropriate IE Modules 55173 (OB) regarding: (1) observation of 55175 (VI) work and (2) records review for the 55178 (SW) subject inspection area.</p> <p>(11) Follow the instruction and guidance only to the extent necessary to establish confidence that the activity is adequately controlled or to an extent that will support indicated enforcement actions by NRC. The specific instructions of the Modules may be abandoned and replaced with independent pursuits that are determined to be more germane to the subject inspection area, with concurrence of the team leader.</p> <p>Specific paragraphs of the applicable IE modules shall be added to this checklist in the space provided with concurrence of the team leader.</p>		

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
1.2 Is the <u>mission</u> or <u>task</u> for each organization involved <u>clearly documented</u> ?	PPPProducts Div of MWKelley	
1.3 Has the support required for the mission or task been clearly documented and planned for?		
1.4 Do involved personnel regardless of extent of responsibility understand the overall task or mission? Do they clearly understand how their responsibility supports the mission?		
1.5 Is the identified mission or task appropriate?	Subjective evaluation	
1.6 QA/QC organization	Subjective evaluation	
- Is the location of housing conveniently near the location of the work activity?		
- Are work areas, supplies, and records maintenance facilities adequate?		
- Are special tools and equipment immediately available and sufficient in number?		

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<ul style="list-style-type: none"> - Are the provisions for all the above commensurate with other site organizations? - Are there any identifiable conditions which adversely affect functions of the QA/QC organization? <p>1.7 <u>Manpower Resources</u></p> <ul style="list-style-type: none"> - Are there documented work projections showing QA/QC manpower requirements over the course of construction? - Is the current manpower adequate to sufficiently support the level of activity? - Is the current manpower (management and staff) clearly qualified? - Have documented QA/QC manpower requests and justifications been expeditiously handled by management? Have they been handled in accordance with documented administrative procedures? 		

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<ul style="list-style-type: none">- Are the administrative procedures clearly responsible to the unique conditions at the construction site? (i.e., rapid changes in needs)- Do manpower requests clearly identify the level of qualifications (education and experience) needed?- Is the monetary compensation, relative to other trades, such that clearly qualified and capable candidates will be attracted to these positions? <p>1.8 <u>Personnel Qualifications</u></p> <ul style="list-style-type: none">- Is there a documented system for the training and indoctrination of personnel?- Is there a documented system to assure that personnel qualifications are maintained and changed as needed?- Is there a system to easily verify the status of personnel qualifications?		

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- Is there a mechanism which clearly informs personnel of the status of their qualifications?
- Are qualifications responsive to and in accordance with requirements?
- Do the contacted personnel perceive any problems with current qualifications system and associated records?

NOTE: Confirm the implementation and evaluate the adequacy of each of the elements above.

1.9 Craftsmen

- Is there an adequate supply of qualified craftsmen?
- When fully qualified (journeyman) craftsmen are not available, what provisions have been established to assure quality production?
- Are there training and indoctrination programs for craftsmen?
- Are records of such training maintained?

Regulatory Guide 1.28
Regulatory Guide 1.74
ANSI N45.2
ANSI N45.2.10
ANSI N45.2.23
10 CFR Part 50, App B,
Criterion II

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<p>- Is such training periodically updated?</p> <p>- Elicit the opinions of such training and indoctrination from craftsmen contacted.</p> <p>1.10 <u>Employee Morale</u></p> <p>During the conduct of any portion of these checklists, elicit from the persons contacted their opinions relative to the adequacy of:</p> <ul style="list-style-type: none"> - construction management; - concern for a quality product; - working conditions; - harmony between construction and QA/QC organizations; - harmony between the various design, engineering and construction personnel; and procurement organizations; - personnel management practices; - compensation and work loading (i.e., overtime) practices; 	<p>Subjective evaluation</p>	

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<p>- personal safety and related issues.</p> <p>Based on an assessment of the above, make a subjective determination of employee morale. This consideration is for management, staff, and craftsmen.</p> <p>1.11 <u>Construction/QA/QC Organization Interface Control</u></p> <p>1.11.1 Are documented administrative procedures defining organizational interfaces in use?</p> <p>1.11.2 Do forms and records used to communicate across such interfaces conform to the requirements of the QA program and administrative procedures?</p> <p>1.11.3 Is there a functional flow chart demonstrating how information flows across the interfaces? If not, is there an adequate documented description of information flow?</p> <p>1.11.4 Examine interface documents used in this area and determine the following:</p>	<p>Regulatory Guide 1.28</p> <p>Regulatory Guide 1.74</p> <p>Regulatory Guide 1.123</p> <p>ANSI N45.2</p> <p>ANSI N45.2.10</p> <p>ANSI N45.2.13</p>	

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<ul style="list-style-type: none"> - Documents and records clearly identify the subject, its specified criteria, the authority of the signature(s), date, the action accomplished, and the unique identity of the document. - Is the document traceable and is the scope of addressees appropriate? 		
1.11.5 Examine any deficiency noted above to the extent that a clear corrective action can be established.		
1.11.6 Are the contacted personnel clearly knowledgeable of the interface control system?		
1.11.7 Elicit employee opinions relative to the adequacy of the system examined.		
1.12 <u>Document Control</u> In this inspection area determine if documents are being issued, revised, handled, stored, and discarded in accordance with QA program, administrative procedures and other designated requirements.		

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
1.12.1 Has a central document control facility been established? - Are the facilities and control systems adequate? - Are the document recipients aware of the interfaces control between their organizations and central document control? - Are material/fabrication qualification and inspection records adequately controlled by the documentation control center?		
1.12.2 Are there clearly defined indications of the status of each document (i.e., <u>controlled</u> or <u>not</u>) on the document?		
1.12.3 Do personnel clearly understand that uncontrolled documents are not to be used for construction or decisions relative to constructions?		
1.12.4 Determine through review if personnel have, to extent necessary, access to controlled documents; - Are such documents available at the work location?		

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<p>1.12.5 Do recipients of controlled documents clearly understand their responsibilities relative to handling and following these documents?</p> <ul style="list-style-type: none"> - Do personnel using these documents know how to initiate a change to these documents? - Is there a system which directly informs the document receipt of changes? - Is the document recipient knowledgeable of this system? <p>1.12.6 Examine a variety of controlled documents in use at any field location to determine if they are in fact controlled in accordance with the requirements.</p> <ul style="list-style-type: none"> - Determine if issued documents are maintained in a legible condition free of personal notes and/or comments. - Is a clear record maintained for "voided" controlled documents such as NCRs, inspection reports 		

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- Are uncontrolled documents such as memoranda, "notes", etc. used to supplant or circumvent controlled documents used to report problems and other adverse issues.

1.12.7 Elicit opinions from contacted personnel relative to the adequacy of document control.

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<p>1.13 <u>Audits/Surveillance</u></p> <p>1.13.1 Has a comprehensive schedule and audit plan been established?</p> <ul style="list-style-type: none"> - Is the plan regularly reviewed and updated in response to construction progress of identification of adverse conditions? - What is the implementation status of this plan? (behind schedule or not) - If planned audits/surveillance were missed determine why they were missed. <p>1.13.2 Review audit and surveillance reports, associated checklists and not the basis (planned or problem initiated). Determine if:</p> <ul style="list-style-type: none"> - The scope of the activity was appropriate. - If personnel conducting the audit were appropriately qualified. - If audit checklist appropriately addressed the specified requirements. 	<p>Regulatory Guide 1.28 Regulatory Guide 1.74 ANSI N45.2 ANSI N45.2.10 ANSI N45.2.12 ANSI N45.2.23</p>	

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<ul style="list-style-type: none"> - If the audit basis and findings are clearly documented. - If the QA auditors were adequately supported by technically qualified personnel (i.e., metallurgist, discipline engineers and appropriate). - If the audit surveillance results are appropriately distributed to affected organizations. - If management effectively evaluates audit/findings, as shown by documented involvement. - Does management regularly use this information to effectively evaluate the quality of the construction effort? 		
<p>1.14 <u>Audit/Surveillance Follow-up</u></p> <p>Determine through review, if follow-up and corrective actions for adverse surveillance and audit findings are appropriate, including:</p> <ul style="list-style-type: none"> - notification of affected organizations; 		

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<p>1.13 <u>Audits/Surveillance</u></p>		
<p>1.13.1 Has a comprehensive schedule and audit plan been established?</p> <ul style="list-style-type: none"> - Is the plan regularly reviewed and updated in response to construction progress of identification of adverse conditions? - What is the implementation status of this plan? (behind schedule or not) - If planned audits/surveillance were missed determine why they were missed. 	<p>Regulatory Guide 1.28 Regulatory Guide 1.74 ANSI N45.2 ANSI N45.2.10 ANSI N45.2.12 ANSI N45.2.23</p>	
<p>1.13.2 Review audit and surveillance reports, associated checklists and not the basis (planned or problem initiated). Determine if:</p> <ul style="list-style-type: none"> - The scope of the activity was appropriate. - If personnel conducting the audit were appropriately qualified. - If audit checklist appropriately addressed the specified requirements. 		

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<ul style="list-style-type: none"> - notification of effective levels of management; - identification and control of the nonconforming item of service; - identification of specific time limits for corrective actions; - determination of adverse trends; - consideration for additional management actions to effect resolution of problems. <p>1.14.1 Discuss the audit and surveillance reports with the managers whose organizations were audited. Determine if:</p> <ul style="list-style-type: none"> - management is knowledgeable of findings and their significance; - management has taken other actions to resolve problems; - management attitude regarding quality issues is appropriate. 		

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1.15

Hold Points

Frequently QA/QC systems and associated administrative procedures established hold-points to limit the progress of an activity until confirmation of adequacy has been established by properly qualified persons or organizations.

Identify hold-points for activities in this inspection area and determine if:

- personnel understand the hold-point system;
- established hold-points are appropriate;
- QA/QC regularly audits the performance of personnel relative to hold-points;
- QA/QC has identified any organizations who abuse the hold-point system by not stopping the activity until required confirmations are in place;

Regulatory Guide 1.28
Regulatory Guide 1.74
ANSI N45.2
ANSI N45.2.10

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<p>1.16</p> <p><u>Stop-Work/Stop-Process</u></p> <ul style="list-style-type: none"> - corrective actions taken or specified for any abuse of hold-points was appropriate. - Determine through conversation if QA/QC personnel clearly understand and exercise their stop-work/stop process authority and responsibility. - Determine through discussion if the QA/QC organization management and staff have any reservations about exercising this authority. - Determine through discussion if the practices at the site compromise QA/QC exercise of this authority. <p>1.16.1</p> <p>Examine the functional implementation of stop-work/stop-process authority established by the QA/QC programs and administrative procedures to determine if:</p> <ul style="list-style-type: none"> - QA/QC can act unilaterally in this regard or to what extent; - management adequately supports QA/QC actions in this regard; 		

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- that this authority had been sufficiently delegated down to the lowest practical level of the QA/QC organization.

1.16.2

Review any records demonstrating QA/QC Stop-work/stop-process implementation and determine if:

- management adequately supported the action;
- affected organization took effective corrective action;
- corrective actions were timely and effective;
- actions to preclude re-occurrence were taken.

1.17

Records System and Facilities

- Determine if all QA/QC and construction management personnel have received training and indoctrination regarding the principal records maintenance system.

Regulatory Guide 1.28
Regulatory Guide 1.74
Regulatory Guide 1.88
ANSI N45.2
ANSI N45.2.10
ANSI N45.2.9
10 CFR 50, App B, Crit XVII

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- Determine if any involved individual can adequately access the record system.
- Determine if records are identifiable and retrievable with ease and facility.
- Determine if records are properly stored and safe guarded.
- Determine if record interface control between individuals and organizations is in accordance with QA/QC and administrative procedures.
- Determine how record or documentation deficiencies are identified and controlled until resolved.

1.17.1 Determine if records contain the minimum required information.

- Determine if information is clear and legible.
- If initials are used to sign records, determine if cross reference to full names are available.

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<p>1.18 <u>Nonconformance and Trending</u></p> <ul style="list-style-type: none"> - Determine if nonconforming items or services are being routinely identified and documented. (Discuss and record review.) - Determine how many types or categories of nonconformance documentation is used. (i.e., "Deficiency Reports", "Corrective Action Requests", "Deviation Reports", and "Audit Findings", etc. - Determine if proposed corrective actions are appropriate and timely. - Determine if prescribed levels of authority and independence concurred in resolution of issue. - Determine if nonconformance and corrective action documentation is properly identified and controlled. 	<p>Regulatory Guide 1.28 Regulatory Guide 1.74 ANSI N45.2 ANSI N45.10</p>	

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<ul style="list-style-type: none"> - Is a central log identifying nonconformance documentation maintained? Is it adequate? - By record review, determine if procedures controlling nonconformance documentation are adhered to. <p>1.18.1 Determine if there is a systematic and regularly reviewed "Trending" of repeat nonconformances.</p> <p>1.18.2 Determine if the trending program includes all types or categories of nonconformances. (i.e., "Deficiency Reports", "Nonconformance Reports", "Deviation Reports", and "Audit Findings", etc.</p> <ul style="list-style-type: none"> - If it does not, establish the reason. - Determine if the "Trending" system used by contractors and licensee are compatible or interface adequately. - Review corrective action caused by the identification of adverse trends. 		

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1.18.3 Determine if the subject organizations' management regularly reviews nonconformance summary reports and trend evaluations.

- Determine if the subject organizations' management took any actions or wrote any directives as a result of this information.

1.18.4 Determine if involved personnel understand the system for identification and control of nonconformances.

- Did they receive adequate training?

1.19 Construction Controls

Determine how the site construction organizations are organized to control the subject construction activity and evaluate the adequacy of QA/QC interfaces with these construction organizations. The specific elements to consider are:

- Is the organization arrangement functionally responsive to QA/QC and Administrative procedures?
- Adequate QA/QC participation in specific construction activities.

Regulatory Guide 1.28

Regulatory Guide 1.74

ANSI N45.2.4

ANSI N45.2.23

ANSI N45.2.12

ANSI N45.2.13

ANSI N45.2

ANSI N45.10

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<p>1.19.1</p> <ul style="list-style-type: none"> - Assignment of QA/QC management and staff to specific areas of contractor responsibility. - Is information flow for hold-point notification clearly provided for and do involved personnel understand the system? <p>Does the QA/QC organization participate in work planning and scheduling meetings? Determine the existence and adequacy of the following:</p> <ul style="list-style-type: none"> - Does QA/QC management forecast it's staffing requirements and assignments based on participation in scheduling and planning meetings? - Examine records attesting to this participation and evaluate the extent of participation. <p>1.19.2</p> <p>Is there adequate coverage of activities by the QA/QC organization? Determine by:</p> <ul style="list-style-type: none"> - discussions with QA/QC inspectors; - discussion with craftsmen, shop stewards, and third party inspectors; 		

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<p>1.19.3 Determine to the extent possible:</p> <ul style="list-style-type: none"> - discussion with craft supervision personnel. - if there are any instances where in a work activity was stopped because of the unavailability of QA/QC participation and why they were unavailable by: - discussion with production managers; - concurrently determine the production managers attitude regarding the adequacy and availability of QA/QC staff; - review and discussion of procedures written to preclude ongoing activities without QA/QC participation; - determine extent of licensee management notification, and participation in the resolution of the problem associated with these considerations; 		

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INSPECTION AREA	ACCEPTANCE CRITERIA	FINDINGS
<p>1.20 <u>Equipment Qualification and Calibration</u></p> <p>Confirm through records review that the QA/QC and administrative procedural requirements for equipment and materials qualification/calibration are adhered to by the following:</p> <ul style="list-style-type: none"> - verify that responsible personnel are qualified to make determinations as to adequacy; - verify that such items are labeled to show status; - verify that adequate documentation is available to support acceptability; - verify adequacy of item by comparison and evaluation of purchase order specification, receipt inspection records, and other pertinent records; - verify the traceability of qualification/calibration records to items is maintained. - elicit comments and opinions from contacted personnel regarding 	<p>Regulatory Guide 1.28 Regulatory Guide 1.74 Regulatory Guide 1.23 ANSI N45.2 ANSI N45.2.10 ANSI N45.2.13</p>	

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<p>- review outstanding nonconformances and open items involving the subject inspection area.</p> <p>1.21 <u>Handling and Storage of Materials</u></p> <p>Determine if the implementation of material and equipment handling, storage, shipping, cleaning, and preservation is in accordance with QA/QC and administrative procedures and instructions by the following:</p> <p>- observe all storage areas for subject items;</p> <p>- verify the adequacy of storage of selected items;</p> <p>- review QA/QC surveillance records for frequency and comprehensiveness of inspection;</p> <p>- determine awareness and qualification of store-keepers;</p> <p>- determine the adequacy of issue control;</p> <p>- are conditional releases used and are the appropriately controlled;</p>	<p>Regulatory Guide 1.28</p> <p>Regulatory Guide 1.37</p> <p>Regulatory Guide 1.74</p> <p>ANSI N45.2</p> <p>ANSI N45.2.1.</p> <p>ANSI N45.2.2</p> <p>ANSI N45.2.10</p>	

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<ul style="list-style-type: none"> - observe material handling and handling equipment; determine adequacy; - evaluate housekeeping conditions; - evaluate fire and other hazard protection; - evaluate adequacy of storage areas; - determine if there are controlled areas for nonconforming items; - are there adequate measures to preclude use of nonconforming items; - are nonconforming items adequately identified; - are manufacturer's recommendations appropriately addressed; - are material control personnel adequately trained and indoctrinated regarding QA/QC requirements? 		

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<p>2. Management Involvement QA/QC Organization Corporate/Site</p> <p>2.1 Does the documented policy statement include a concise definition of the management mission or task objectives?</p> <p>2.2 Determine through discussion if principal management personnel clearly understand and support quality assurance commitments and requirements.</p> <p>2.3 Do principal corporate individuals assigned responsibility for QA/QC direction, have responsibilities for other areas: Does multiple responsibility adversely affect QA/QC?</p> <p>2.4 Does corporate management have clearly defined administrative procedures controlling the delegation of authority?</p> <p>- Does the assigned individual have clearly defined responsibilities and authority?</p>	<p>Regulatory Guide 1.26 Regulatory Guide 1.74 ANSI N45.2 ANSI N45.2.10 ANSI N45.2.3 SAE Chapter 17</p>	

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<p>2.5 Does corporate management regularly review the performance of individuals with delegated responsibilities?</p> <ul style="list-style-type: none"> - How frequently does corporate management visit the site? Does it appear adequate? - Does corporate management routinely review audit and nonconformance trending reports from the site? From vendors and suppliers? - Is there documented evidence that corporate management positively responds to adverse routine site audits? Surveillance and nonconformance report summaries and trends? From vendors and suppliers? - Does corporate management routinely follow-up on the effectiveness of their corrective action directives? Is follow-up comprehensive and effective? 		

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<p>2.6 Does corporate management have a documented plan and schedule for independent management audits of all site activities?</p> <ul style="list-style-type: none"> - How frequently do these audits occur? - Have previous audits been comprehensive and substantive in their implementation? - What is the implementation status of this independent audit function? (On schedule or not?) - If not on schedule, examine the cause. Note any indication of corporate management attitude problems. - Is there documented evidence that management took comprehensive corrective actions for all noted nonconformances and further examined and evaluated all concerns and observations? - Was corrective action followed up in a timely and effective manner, and its implementation verified by corporate management? Were additional follow-up audits directed by corporate management? 		

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<p>- Determine through meeting record review, and discussions with corporate management personnel if the QA/QC organization is provided support and consideration commensurate with that provided other construction organizations?</p> <p>2.7 Examine the organization and operation of the corporate management individuals or groups responsible for evaluation and approval of QA/QC manpower request.</p> <p>- Were assessment and approvals responsive to demonstrated needs?</p> <p>- Was adequate compensation, relative to other trades, established to attract fully qualified candidates?</p> <p>- Were the evaluations and approvals reasonable in the context of justified need?</p> <p>- Is unjustified rigor imposed on the justification for such requisitions?</p>		

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2.8 Examine the organization and operation of corporate management individuals or groups responsible for evaluating and approving QA/QC housing equipment and facility requisitions.

- Were assessments and approvals/denials adequately responsive to justified needs?
- Corroborate opinions of site based QA/QC management by discussion with QA/QC auditors and inspectors and document conclusions.

2.9 Has the licensee established a QA review committee?

- What is the composition of the committee (i.e., job descriptions of individuals)?
- Are the responsibilities and interfaces clearly documented?
- Does the review committee meet frequently enough to be effective?

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- Does the review committee followup on its directives?
- Does corporate management take initiative regarding safety issues or wait for expression of NRC concern?
 (Verify through inspection experience and any indication of unaddressed prior knowledge of nonconforming conditions).
- Is corporate management adequately responsive to NRC concerns and noncompliance items?

2.10 Management Effectiveness

(Through records review and discussion with personnel, evaluate the following):

- 2.10.1 Are responsibilities of management and subordinates clearly defined?
- 2.10.2 Do corporate management and subordinates appear to completely understand their responsibilities?
- 2.10.3 Are subordinates held accountable for assigned responsibilities?

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2.10.4 Are interfacing management activities between different organizations clearly defined?		
2.10.5 Is the management attitude regarding safety related construction such that adequate attention and support can be expected in all areas of safety significance?		
2.10.6 Does corporate management provide adequate support and compensation, relative to other trades, to assure that the requisite quality of personnel, materials, and services is available?		
2.10.7 Does management require timely and thorough reporting of 50.55(e) and part 21 occurrences?		
2.10.8 Is management kept adequately informed by subordinates?		
2.10.9 Is management aware of current issues and problems?		

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2.10.10 Are subordinates informed by management?

- What is the routine procedure?

- What special procedures are implemented?

2.10.11 Does corporate management support the delegation of stop/work-stop process authority to lowest level practical (QA/QC inspector)?

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<p>1. <u>Program Implementation</u></p> <p>1.1 <u>Procurement Activity (Major Contractors/ Disciplines/Subcontractors)</u></p> <p>Selectively examine several procurement documents for major contractors, disciplines and/or subcontractors at the site.</p> <p>1.1.1 Are the specified design parameters in accordance with those listed in the SAR or other AE/Licensee specifications applicable to the preparation of site procurement documents? Is the AE/Licensee monitoring site issued procurement documents for inclusion of these requirements</p> <p>1.1.2 Do procurement specifications identify the applicable technical requirements (i.e., applicable codes and standards)?</p> <p>1.1.3 Do the purchasing documents impose the requirements of 10 CFR 21 when "basic components" are purchased? (Basic components are discussed in NUREG 0302.)</p> <p>1.1.4 Is the supplier on the approved list of suppliers?</p> <p>1.1.5 Have the vendor's Quality Assurance Programs been audited by the purchaser organization?</p> <p>1.1.6 Do procurement specifications identify appropriate QA requirements including requirements to protect the item against environmental conditions for periods of long-term storage (i.e., hot and humid, subject to ocean atmosphere, cold and damp, etc.)</p>		

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<p>1.1.7 Where a Certificate of Conformance (COC) is to be used for acceptance in lieu of some or all final conformance records, do the specifications for the COC document require the following information to be included in the COC:</p> <p>1.1.7.1 Identification of the purchased material or item (reference to PO or procurement document is acceptable)?</p> <p>1.1.7.2 Identification of specific requirements met (via list or reference to procurement document)?</p> <p>1.1.7.3 Identification of procurement requirements not met, if any?</p> <p>1.1.7.4 Signature of an appropriate member of supplier's QA function?</p> <p>1.1.7.5 Identification of procedures or QA program to be followed for filling out, review and approval of certificates?</p> <p>1.1.7.6 Receiving inspection as the means to determine that purchaser/agent has verified by audit (or source verification) the validity/effectiveness of the suppliers COC system?</p> <p>1.1.8 When required (e.g, for complex engineered components) in addition to the COC, was any source verification relative to acceptance of the item specified and/or performed?</p>		

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1.1.9 Was implementation for the protection, handling, control of procurement specifications and purchasing documents adequate?

1.2 Receiving Inspection

1.1.1 Are receiving inspection records available? Are identified discrepancies reviewed by QA and/or engineering, as appropriate, to assure proper disposition?

1.2.2 Are procurement document requirements for acceptance of the item by receiving inspection adequate? (Factors such as safety significance and whether the procurement relates to an engineered item or one of standard design (off the shelf) should be considered.)

1.2.3 Is the documentation for certificates of conformance adequate? Where procurement documents do not require a COC from the supplier, do they include the following:

1.2.3.1 Identification of the purchased material or item (reference to PO or procurement document, if on-hand, is acceptable)?

1.2.3.2 Identification of specified requirements to be met (via list or reference to procurement document)?

1.2.3.3 Identification procurements not met, if any?

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1.2.3.4 Signature of an appropriate member of suppliers QA function?		
1.2.3.5 Identification of procedures or QA program to be followed for filling out review and approval of COCs?		
1.2.3.6 Receiving inspection as the means to determine that purchaser/agent has verified by audit (or source verification) the validity/effectiveness of the supplier's COC system?		
1.2.4 When source verification is specified for acceptance of an item in addition to a COC, is the appropriate receiving inspection organization aware of the source verification results?		
1.2.5 Do material receiving inspection records indicate compliance with acceptance requirements?		
1.2.6 Are nonconforming items properly tagged and segregated?		
1.2.7 Does the procurement documentation show that the specific procurement requirements such as codes, standards, and other specifications, have been met for the purchased material or equipment? Also, have selected material and physical requirements in the procurement document been met?		
1.2.8 Has other documentation (e.g., test, material and inspection data) presented with certificates of compliance been reviewed by technical personnel who are capable (through experience, education or training) to assure that components meet all specified safety-related requirements? Do other vendor documentation (material, test, inspection, etc.) include required data?		

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<p>1.2.9 In cases where the receiving inspection function has identified a nonconformance which relates to a deviation from specified requirements not previously identified on the COC or other vendor supplied documentation, does the corrective action proposed include a need to re-audit the vendors system for preparation and issuance of a COC? Also, was the "deviation" subject to a Part 21 evaluation?</p>		
<p>1.3 <u>Storage</u></p>	<p>ANSI N45.2.2</p>	
<p>1.3.1 Are the work and QA/QC procedures established to conduct activities of storage for safety-related items in Class A, B, C and D levels of storage adequate?</p>		
<p>1.3.2 Do the facilities for storage of Class A equipment have an environmentally controlled atmosphere and provisions to prevent animals (especially rodents) and birds from entering?</p>		
<p>1.3.3 Are the facilities for Class B, C and D equipment storage satisfactory?</p>		
<p>1.3.4 Is protection from damage during storage adequate?</p>		
<p>1.3.5 Is testing equipment available and suitable for intended use?</p>		
<p>1.3.6 Are records of storage conditions being maintained as specified and are they current? Do the records reflect that the specified storage conditions are being met?</p>		

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1.3.7 Have appropriate controls been imposed on
access to storage areas?

6.0 Pullman-Higgins (P-H)

6.1 Organization

6.1.1 Pullman-Higgins (P-H) is

of the Pullman Power Products Division (Williamsport, Pa.) of Pullman, Inc.

P-H is responsible for field fabrication of piping systems to meet UE and C specifications and applicable ASME and B31.1 requirements.

~~was~~ Inspection focused on P-H ASME pipe welding to verify system and personnel adequacy and to evaluate the effectiveness of implementation of approved procedures by responsible personnel. Included in the inspection was a review of the YAEC surveillance and auditing activities of P-H welding activities.

6.2 Areas Inspected

Specific ~~the~~ areas inspected included filler metal controls, QC Inspection activities, interview of weldors and welding foremen, weldor training and performance qualification, QC weld monitoring, machine GTA butt welding, ANI/P-H interface for weldor qualification and pipe welding, and control of austenitic stainless steel welding to avoid sensitization. Tours of the site were made to observe pipe welding and weldor performance qualification testing. The inspector reviewed procedures and specifications for conformance to regulatory requirements and to determine their effectiveness in providing measures to control special processes.

6.3 Findings

16.3.1 Welder Training and Performance Qualification.

The NRC Inspector reviewed the weldor performance procedures used by P-H for weldors qualified on-site ^{to insure that welding is accomplished by qualified personnel.} and off-site. A detailed analysis was made of the controls exercised in the maintenance of identification during welding and evaluation of the test assemblies. The NRC Inspector attended a typical indoctrination course where a recently qualified weldor is instructed to understand those portions of the Field Weld Process Sheet and the Weld Rod Stores Requisition applicable to the weldor. Pullman Power Products PH001 dated 12/15/81 "Instructions for Weldors" is read to and with the weldor. *revised*

A review was made of the P-H 6/21/82 Qualified Weldor List which indicated that 95 of the current 364 weldors ~~qualified~~ were qualified by welding off-site test assemblies under P-H QC Supervision. All except 3 welded P-H Standard Welding Test SWT #1. Weldors qualified off-site were trained and tested at UA Welding Schools at Seabrook, N. H.; Cleveland, Ohio; Terre Haute, Indiana; or Pasco, Washington. ^H All of the Seabrook, N. H., test assemblies were radiographed by P-H at the Seabrook Site. The disposition sheets for the RT are maintained with the ASME PQR document. ^H Currently (since 6/82), weldors qualified off site are photographed by the P-H QC Welding Inspector supervising the welding and the photographs are referred to at time of employment at the Seabrook Site.

^H No violations were identified.

6.3.2 Review of Instructions to Welders

The NRC Inspector discussed with P-H the lack of clarity in " directions to the weldor provided by the welding parameter table which is Attachment 5 to PH001 and which is issued by the Weld Rod Issue Stations with all filler metal. P-H indicated changes would be made to the presentation of the GTAW parameters to provide more explicit information for the welding of consumable inserts and other GTAW welding. Included with the proposed changes to PH001 would also be a review of the method of presenting the GTAW joulian electrical parameters in the WPS documents.

The NRC Inspector interviewed a number of weldors and welding foremen to review information on their training, qualification testing, and understanding of the variables indicated in the ASME WPS documents. Specific questions were asked, e.g., WPS requirements ~~Results of these interviews~~ indicated for acceptable oxygen level in purge gas. [^] The P-H ^{that} welding foremen and weldors have not been trained in the purpose and content of these documents that constitute the ASME WPS. Both the P-H general welding specifications (e.g., GWS-III) and P-H Welding Procedure Specifications (e.g., IT1-III-1-KI-12) are needed to constitute the complete list of essential, non-essential and supplementary essential variables required by the ASME Code. QW-100.1 and QW-200.1 indicate that the manufacturer or contractor shall

prepare written WPS documents to provide direction to the weldor while making welds to Code requirements. Contrary to this requirement, the weldor cannot receive directions from the WPS documents when neither the weldors nor the welding foremen who technically assist welders the welds are instructed in the P-H GWS and P-H Welding Procedure Specifications, documents. Inspection indicated that these documents were physically available for reference by the weldors at the QC Welding Inspectors Stand, but, as the weldors did not know of the existence of these documents, they could not provide "directions to the weldor" as required by

ASME Section III NA-4133.9 and Sections IX QW 100.1 and QW 200.1 (a) when the weldors were not knowledgeable of their existence.

Failure to meet the above itemized ASME Code requirements constitutes a violation of 10CFR 50 Appendix B, Criterion IX.

Welding Filler Metal Control Review

6.3.3 A review was made of filler metal control system including ~~from~~ initial indication of filler metal type on the P-H ISO drawing, storage of filler metal at the Rod Issue Stations, issuance control measures and return of stubs and unused filler metal. Personnel in the QA Engineering Process area and in Rod Rooms #4 and #1 were interviewed to determine their understanding of the control measures. ^A No violations in the filler metal control system were identified.

0.3.8

Machine Orbiting GTA Butt Welding

The NRC Inspector reviewed ^{the} ~~the~~ status of the subject welding activities previously reported in combined reports 50-443/81-07; 50-444/81-06 and report 50-443/81-13. The following welds have been completed and met ASME radiographic soundness requirements in the as-welded condition as of the dates indicated:

RC-8-01, F 0101	3/24/82
, F 0102	3/24/82
, F 0103	3/17/82
RC-5-01, F 0101	4/2/82
, F 0102	3/29/82
, F 0103	3/29/82
RC-2-01, F 0101	4/19/82
, F 0102	4/21/82
, F 0103	4/12/82
RC-11-01, F 0102	4/28/82
, F 0103	4/23/82
, F 0104	4/30/82

These welds will be re-radiographed for final ASME acceptance following ISI grinding.

No violations were identified

6.3.5 Authorized Nuclear Inspector (ANI) Interface with P-H

The inspector interviewed three Royal Insurance Co ANI's and their supervisor to review their activities in welder qualification, routine weld hold point inspections, and to solicit information on any specific areas of concern for the quality of pipe welds currently being produced. The ANI's provide routine unannounced surveillance inspection of the P-H Site Training and Qualification Test Shop. They insure that the stencil numbers assigned are not duplication of existing stencils. They check union card identification, but do not specifically verify the welder's picture badge identification. They check the test assemblies for permanent fixturing and proper stenciled identification of test assemblies. The ANI follows NCA 5254 and ANSI N 626.2 - 1976 Paragraph 4.2.9.

The ANI's have questioned the qualifications and called for requalification testing of three welders during erection of the Seabrook Site.

The inspector checked 6 ANI interoffice memoranda that indicated ANI review of WPS and PQR documents and the ANI chronological log lists for this activity dated 6/9/80 and 6/18/82. A cursory review of the ANI log entries was made by the inspector.

Although the activities of the ANI third party inspection is not included under the purview of the NRC, their activities provide additional inspection to the ^{on site} welder qualification program. An indication of a level of compliance for this

6.3.6 Review of Audits of P-H Welding Activities

The inspector reviewed YAEC weekly surveillance reports numbers 163 to 175 for the period 2/27/82 to 5/22/82 and interviewed the YAEC personnel performing the surveillance. A weekly report activity report is made and YAEC-Framingham is informally kept up to date with the surveillance information.

The inspector reviewed YAEC Audit Reports SA 598CS203 (November 24, 25, 1981 - December 3, 8 & 30, 1981 - January 6, 7, & 19, 1982) and SA 596CS202 (March 8-10, 1982). Audit Report SA 598CS203 indicated as one of the areas of concern that P H was not conducting weld monitoring in compliance with their QA Procedure Requirements stated in Document X-10 paragraphs 5.1, 5.2, and 5.3. Paragraph 5.2 requires monitoring each weldor at a minimum of once every three months (which is a relaxation of a previous requirement for monthly monitoring). Further review of YAEC Audits and Surveillance of P-H activities is reported in paragraph 3.0.

6.3.6 Review of Audits of P-H Welding Activities

The inspector reviewed YAEC weekly surveillance reports numbers 163 to 175 for the period 2/27/82 to 5/22/82 and interviewed the YAEC personnel performing the surveillance. A weekly report activity report is made and YAEC-Framingham is informally kept up to date with the surveillance information.

The inspector reviewed YAEC Audit Reports SA 598CS203 (November 24, 25, 1981 - December 3, 8 & 30, 1981 - January 6, 7, & 19, 1982) and SA 596CS202 (March 8-10, 1982). Audit Report SA 598CS203 indicated as one of the areas of concern that P H was not conducting weld monitoring in compliance with their QA Procedure Requirements stated in Document X-10 paragraphs 5.1, 5.2, and 5.3. Paragraph 5.2 requires monitoring each weldor at a minimum of once every three months (which is a relaxation of a previous requirement for monthly monitoring). Further review of YAEC Audits and Surveillance of P-H activities is reported in paragraph 3.0.

showing discrepancies signed off as reviewed with no comment, (2) incomplete and questionable record entries, (3) travel speed, amperage and voltage outside the range of the WPS. ^{P-H} Recommendations from this review include improved training in the requirements of Procedure X-10 and revisions to the WPS documents to broaden the parameter ranges. The NRC inspector requested that a review be made of the effect of changes in joulian heat input ranges on notch toughness requirements and sensitization (where applicable) and to generally review the clarity of parameter tables for consumable insert ~~fusion~~ fusion and GTAW. (As further stated in paragraph 6.3.1).

CF

Review of the YAEK Audit and Surveillance Reports of P-H Activities and review of the P-H Audit Reports, as previously discussed,

constitutes failure to take prompt corrective action or weld monitoring in accordance with 10CFR 50 Appendix B Criterion XVI

6.3.7 Remedial actions to
↳ mitigate welding defects

The NRC inspector reviewed the methods currently being employed by P-H and U&EC to evaluate and minimize welding defects. Records are currently kept and continuously updated of X-Ray Reject rate percentages and totals for each welder. Specific welder defect trends are recorded (where applicable) to indicate what types of defects are being produced by specific welders. This information is used to assist welding foremen and welding engineers in providing on the job additional instruction and to point out specific techniques which need more training. Both paid and unpaid additional training for welder upgrading is available at the site. Monthly Welder Training Upgrade Summary sheets were

reviewed by the inspector.

An onetime bonus assignment program based on radiographic quality records previously discussed provides incentives for welders to produce better quality and to take advantage of training and upgrading programs.

The NRC inspector wishes to acknowledge the efforts made by the licensee, YAES, UETC and P-H in these areas to improve weld quality.

3.0. Quality Assurance

3.1 Organization and Description

3.1.1 Public Service Company of New Hampshire (PSNH) which has overall responsibility for quality assurance (QA) has delegated the establishment and implementation of the QA program to Yankee Atomic Electric Company (YAEC). PSNH ~~relates~~ ^{maintains cognizance} of the QA program by ~~the~~ quarterly QA Evaluations, Reports from YAEC, by quarterly QA Management Meetings with YAEC and by representation on ~~the~~ selected audits of YAEC, contractors and subcontractors.

3.1.2 YAEC has assigned responsibility for the three levels of QA on site as shown below. Off-site QA activities are not shown since they were not included in the inspection.

Level 1 - Quality control (QC) by each subcontractor for his activities and by United Engineers and Constructors, Inc. (UEEC), the Construction Manager, for receiving, inspection and storage.

Level 2 - Surveillance by YAEC on all activities performed by Level 1 organizations and by UEEC on civil and structural activities including ^{the} containment liner.

Level 3 - Audits by YAEC on activities of Level 1 and ~~Level 2~~ organizations and by each contractor and subcontractor ^{Level 1 and 2} of activities performed by their organizations.

3.1.3 ~~3.1.3~~ YAEC surveillance is carried out by a Field QA Group ^{on site}, under the direction of a Manager ^(FQAM) who reports to the Manager, Construction QA (QAM) in the YAEC corporate office. ~~YAEC audits are performed by auditors from the corporate office~~ YAEC audits are performed by auditors reporting to the QAM and assigned to the corporate office. The QAM reports ~~to the~~ to the ~~Vice President~~ Director, of Quality Assurance who in turn reports to the Vice President, Seabrook Project.

~~3.1.4~~ 3.1.4 YAEC surveillance and QC are performed by a Field QA group, on site, under the direction of a Superintendent, Field QA (FSQA). The FSQA reports to the ~~the~~ Corporate Manager, Reliability and Quality Assurance (RCQA) through the Manager, Project QA.

3.2 Areas Inspected

~~The inspected~~ The inspection included YAEC audit and surveillance programs and VEEC surveillance and QC programs. A tour of the site was made to observe the status of construction and as-built condition of the work.

For each program the inspector reviewed written policies and procedures; interviewed management and other selected QA personnel; and reviewed selected documents. Policies and procedures were reviewed for conformance to regulatory requirements. Specifically - the requirements for independence of the QA/QC organizations; ~~for~~ ^{for} qualification, indoctrination and training of personnel; and ^{for} management control of quality activities were reviewed. Management interviews discussed the manager's responsibility, authority and management support; inter-relationships both ~~internally~~ ^{internally} internally and with other contractors/ ~~and~~ sub-contractors; staffing; and problem solving activities. Other interviews discussed experience, indoctrination and training; problems encountered; ^{and} management support. Documents reviewed included audit and surveillance ^{reports,} schedules, ^{and} logs; personnel qualification and ^{training} records; ~~and~~ records of corrective actions; ~~and~~ ^{and} ~~weekly, or monthly~~ reports to management; ~~and~~ ^{and} ~~actions~~ records of management meetings.

3.3 Findings

(4)

3.3.1 Violations

3.3.1.1 Qualification Records

The inspector reviewed training and qualification records of selected personnel assigned to the UESC Field QA Group. Records of ten people were reviewed. Six of them were certified as qualified for Level 2 Surveillance. However, the certification did not identify the activities ^{for} which they were qualified to perform surveillance. This is contrary to UESC Corporate Standard No. II-3, "Qualifications and Certification of Inspection, Testing and Surveillance Personnel, section 2.4.6 which states that ~~the~~ "The qualification of personnel shall be documented in an appropriate form, including the following information for each employee: -- Activities qualified to perform. --"

This is a violation of 10 CFR 50, Appendix B, Criterion V which requires that activities affecting quality be prescribed by appropriate procedures and accomplished in accordance with those procedures. (ESC 443/82-06, 444/P2-06) ~~Security test~~

3.3.1.2 Waterstop Installation Procedures

(5)

During the site tour the inspector observed that the waterstops installed in walls of unit 2 fuel storage building had been displaced in some locations so as to encroach on the reinforcing steel. Drawings, specifications and the manufacturers instructions were reviewed ~~and~~ to determine the installation requirements and the matter was discussed with UELC engineers. Dwg. 9763-F-101696 states that waterstop is to be located between near and far face reinforcing. Except for the manufacturers instructions on field splicing of joints no other instructions ^{on waterstop installation} ~~could be found~~ were available. This is a violation of 10 CFR 80, Appendix B, Criterion V which requires that activities affecting quality be prescribed by appropriate procedures.

3.3.2 Significant Observations

3.3.2.1 Weakness

The inspector reviewed selected YAEC site QA surveillance reports and weekly reports of surveillance during January ~~th~~ to June 1982. ~~Twenty-three~~ ^{Twenty-three} ~~Thirty~~ weekly reports of surveillance of Pullum-Higgins (P-H) were reviewed. Twenty-two deficiencies were identified in ~~the~~ these reports in connection with information required to be shown on process sheets ^{used by} ~~issued to~~ welders. Review of records and discussions with YAEC disclosed no corrective actions taken to correct these repetitive deficiencies.

The inspector reviewed YAEC ^{site} audits of P-H during June 1981 to April, 1982 and identified the following:

- Audit No. SA SDP CS 158, ^{June, 1981} - Eighteen deficiencies identified indicating weaknesses in implementation of the P-H QA program. Weld monitoring shown as a repetitive deficiency also identified by YAEC surveillance and P-H internal audits.
- Audit No SA 565 ~~CS~~ CS 184, ^{November and December, 1981} - Identified fourteen deficiencies. YAEC letter of transmittal recommended a more comprehensive indoctrination ^{training} and assessment program ^{to be established} and ~~procedure revision~~ that more corporate support to the field is required.

- Audit No. SA573 CS 18P, November 1981 - January 1982 -
~~It~~ Identified fourteen deficiencies. ^{The} ~~transmittal~~
 letter recommended more corporate involvement
 by P-H, to assure more effective management control of
 the QA program.
- Audit No. SA 598 CS 203, April, 1982 - Identified
 twenty deficiencies. This audit identified
 two primary areas of concern: material identification
 and weld monitoring. The letter also stated
 that P-H management was less than effective ⁱⁿ
 taking corrective action in the above areas.

Responses by P-H to these audits ^{provided} ~~showed~~ acceptable
~~the~~ corrective action ^{for} the individual deficiencies
 but ~~provided no response~~ did not acknowledge or respond
 to the recommendations for correction of programmatic
 or repetitive problems. During this period three
 additional audits ^{of P-H} were conducted for verification
 of corrective action. Individual deficiencies
 were being corrected acceptably. In one case, more
 corporate support was again recommended.

An audit of P-H corporate ^{activities} was conducted in
 March 1982. ~~management~~ P-H management was
 found to be more heavily involved than anticipated
 but nevertheless the findings of Audit No. SA573 CS 18P
 were considered to be valid and unchanged.

the inspector reviewed records of ~~YAEF~~ ~~management~~ (A)
actions taken by YAEC to correct the P-H management
and programmatic deficiencies identified during
YAEC surveillance and audits. The following records
were examined:

- YAEC quarterly Quality Assurance Evaluation
Reporting ^{to the licensee.} The February 1982 report discussed the
lack of P-H ~~corporate~~ Corporate support and stated
that a meeting had been scheduled with P-H
Vice President of Quality Assurance to outline
actions required to resolve this matter. The
April, 1982 report discussed the results of
the P-H Corporate audit
- YAEC weekly reports to management. The reports
of January 8, 1982, January 21, 1982, March 12, 1982 and
May 24, 1982 ^(January 6, 1982) discussed the above-mentioned
meeting, P-H management actions, the P-H Corporate
office and a meeting with P-H site management
concerning lack of timely and positive corrective
actions.
- Management Quarterly QA Review Meetings. The
P-H program weakness was discussed during
the ~~meeting~~ January 14, 1982.
- Site meeting with P-H, ^{June 24, 1982.} The lack of adequate
and timely corrective action was discussed. Major
concerns were identified as weld monitoring and
material identification. P-H stated that QA
operations would be strengthened by assignment of
two corporate personnel. YAEC Field QA group was
directed to perform daily surveillance of weld monitoring.

(9)

discussed ~~management~~
 The inspector, the P-H deficiencies and YAEC ~~activities~~ ^{efforts}
 to obtain their correction with YAEC management.
 The problems had been identified by YAEC site
 QA and audit personnel as well as by P-H internal
 auditors during mid-1981 and on numerous
 occasions thereafter. ~~by~~ x YAEC management was
 aware of the problems and had attempted to obtain
~~corrective action by~~ corrective action by P-H
~~during January 1982~~ at least since January 1982,

~~no progress~~ As of June 28, 1982, the major
 concerns, weld monitoring and material identification
 were still unresolved and were still attributed
 to lack of adequate supervision.
 Failure to provide effective ~~and~~ and timely resolution
 is ~~a management weakness~~ of the P-H QA
~~program~~ deficiencies is a weakness of the YAEC
 program.

3.3.2.2 Program Strength

~~During review of YAEC audits and personnel records~~
~~and interviews with the inspector noted~~

~~The inspector's review of YAEC audits~~

The inspector reviewed the YAEC audit and ~~field~~ ^{reports,}
 surveillance program. Selected audit ~~and~~ ^{surveillance}
 and personnel records ^{reports,} were reviewed. Interviews were conducted
 with selected personnel in the audit and surveillance

Interviewed

groups. Personnel were found to be knowledgeable in their fields and with good technical background. The audit reports were well prepared and it was apparent that thought had been given to programmatic aspects of findings. Recommendations in the transmittal letters showed evidence that consideration had been given to the cause of ^{identified} deficiencies. The qualification of audit and surveillance personnel and the quality of the audit reports are a strength of the audit program.

3.3.2.3 Acceptable Items

3.3.2.3.1 Management audit YAEC

The inspector reviewed Management Audit reports for 1981 and 1982. Reports No 81-1 & 2 and 81-3 audited corrective action and No. 82-1 audited design control activities. Discussion of these audits with YAEC management disclosed that previous management audits of the entire QA program had not been of ~~the~~ sufficient value to management. The scope of the audits had been restricted in 1981 and 1982 in order to obtain information which would be of more value for overall control of the QA program. ~~The inspector questioned the value of restricted audits restricted~~ ~~future audits must be performed~~ ~~by~~ ~~Arrangements have been made for firmness of~~ ~~future management audits under the interactivity~~

the AEC personnel in reviewing the

Major Issues Pending at Seabrook

1. I-82-47 Backscatter "B"
I-82-50 Defects & coolant pipe weld
2. 10CFR 2.206 Petition on financial qualification
of PSNH. Insufficient for QA.
3. Non-safety cable tray. Contracted violation
4. Design & design change control

9

To:

JOHN CARR, CHIEF
FREEDOM OF INFORMATION AND
PRIVACY ACT BRANCH

FOIA 524



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

JUN 04 1982

MEMORANDUM FOR: F. J. Miraglia, Jr., Chief, Licensing Branch 3, NRR

FROM: R. W. Starostecki, Director, Division of Project and Resident Programs

SUBJECT: 10 CFR 2.206 PETITION REGARDING THE FINANCIAL QUALIFICATIONS OF THE PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE (PSNH)


This forwards Region I's plans relative to the petition filed on February 8, 1982 by the Seacoast Anti-Pollution League.

Region I will provide technical information to NRR to assist in the reply to the subject petition. This information will be provided after the Construction Assessment Team (CAT) inspection at Seabrook Station has been completed and documented. The CAT inspection is presently scheduled to begin on June 21 and end on July 2, 1982. Documentation of the findings of the inspection will be available during the week of July 19, 1982. Region I will supply information as requested in Mr. Grosso's March 26, 1982 memorandum by August 6, 1982.

We foresee the scope of our input to include:

- our assessment of the construction Quality Assurance Program at Seabrook
- the results of our review of the implementation of the QA program by the utility
- an evaluation of the quality controls implemented at the site
- an analysis of quality control problems identified by the utility and the NRC to determine trends and causal linkages among these problems

If you have questions regarding our plans, do not hesitate to contact me.


R. W. Starostecki, Director
Division of Project and Resident Programs

cc:
A. Grosso, ELD
A. Cerne, SRI, Seabrook
J. Durr, DETP, RI
L. Wheeler, NRR
D. Eisenhut, NRR

Dupe of ~~8304080028~~