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ACCESSION NBR: 8709100204 DOC. DATE: 87/09/01 NOTARIZED: NO DOCKET #
 FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
 AUTH. NAME AUTHOR AFFILIATION
 ROBER, R. W. Rochester Gas & Electric Corp.
 RECIP. NAME RECIPIENT AFFILIATION
 RUSSELL, W. T. Region 1, Office of Director

SUBJECT: Responds to NRC 870730 ltr re deviations noted in Insp Rept
 50-244/87-11. Corrective actions: pipe supports redesigned to
 use new Hilti Kwik-Bolts in place of existing shell-type
 anchor bolts. Revised support drawings encl.

DISTRIBUTION CODE: IE01D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 15
 TITLE: General (50 Dkt)-Insp Rept/Notice of Violation Response

NOTES: License Exp date in accordance with 10CFR2.2.109(9/19/72). 05000244

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	NRR/DRIS DIR	1 1	NRR/PMAS/ILRB	1 1
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ROCHESTER GAS & ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649-0001

ROGER W. KOBER
VICE PRESIDENT
ELECTRICITY

TELEPHONE
AREA CODE 716 546-2700

September 1, 1987

Mr. William T. Russell, Regional Administrator
U.S. Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

Subject: Inspection No. 50-244/87-11
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Russell:

This letter is RG&E's response to Inspection Report 87-11, transmitted by the NRC's July 30, 1987 letter from William V. Johnston to Roger Kober. In the Inspection Report, RG&E was requested to respond to the two Notices of Deviation, and to: 1) document the scope and results of the static equivalent analyses performed for selected portions of the Standby Auxiliary Feedwater and Service Water systems, 2) provide the status of the anchor bolt replacements, and 3) provide the schedule for completion of the Ginna long-term Seismic Piping Upgrade Program. This information is provided in Attachments 1 and 2.

In addition to these two Notices of Deviation, Section 6 of the Inspection Report noted that "...the licensee's QA Manual and QA Procedures Manual could be improved in the area of addressing requirements imposed by NRC/IE Bulletins". RG&E is evaluating our processes for responding to NRC/IE Bulletins, and, if necessary, will revise our procedures.

Very truly yours,

Roger W. Kober

Roger W. Kober

Attachments

xc: U.S. Nuclear Regulatory Commission
Document Control Desk (Original)

T. Polich
Ginna Resident Inspector

8709100204 870901
PDR ADDCK 05000244
Q PDR

IE 01
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ATTACHMENT 1

RESPONSE TO NRC INSPECTION NO. 50-244/87-11

As a result of the inspection conducted on May 5-8, 1987, the following deviation was identified.

Deviation A:

I.E. Bulletin 79-02, Pipe Support Base Plate Design Using Expansion Anchor Bolts, Revision 1 Supplement 1 permitted continued plant operation given the following two conditions were satisfied:

- a. For the pipe support as a unit, the factor of safety compared to ultimate strength is equal to or greater than two.
- b. For the anchor bolts the factor of safety is equal to or greater than two and for the support steel the original design factor of safety compared to ultimate strengths is met.

This supplement further specified that "Any support not satisfying the criteria should be classed as inoperable and the Technical Specification action statement met..."

Action Item 2 of the Bulletin 79-02 required that the licensee verify that the concrete anchor bolts have minimum factors of safety of 4.0 for wedge type anchors and 5.0 for shell type anchors. The licensee committed in the July 6, 1979 response to provide verification of the factor of safety for all Seismic Category I support anchor bolts.

Contrary to the licensee's commitment, the licensee did not have calculations to demonstrate the factors of safety for all supports subject to the Bulletin requirements."

Response:

Prior to July 6, 1987 Rochester Gas and Electric completed an interim assessment for concrete expansion anchor bolt factors of safety. This assessment was performed at the request of NRC Staff and was a result of the findings of NRC Inspection No. 87-11. Inspection 87-11 determined that the Service Water (SW) system in the screen house and the Standby Auxiliary Feedwater (SAFW) system were not included in the RG&E Seismic Piping Upgrade Program. This Upgrade Program is the means by which RG&E addressed the long term concerns of NRC IE Bulletin 79-02. In order to determine whether potential problems might exist for the subject systems in terms of the 79-02 criteria, an interim assessment was made of the factors of safety for the expansion anchor bolts of the subject pipe supports.



As was suggested by a Staff consultant, an equivalent static analysis was performed on two representative sections of piping. The pipe support loads from this conservative analysis were combined for a "worst case" condition of Deadweight + Maximum Thermal + SSE. These pipe support loads were then used to calculate anchor bolt factors of safety. For wedge-type anchor bolts with an initial calculated factor of safety less than 8, a base plate flexibility analysis was performed. Bolt loads were then re-evaluated to account for plate flexibility. For the supports with a factor of safety of 8 or greater, sufficient margin exists to ensure that the factor of safety is not reduced below 4 with plate flexibility effects and no plate analysis was performed at this time.

For the SW system in the screen house, the selection of the section of piping to be analyzed was made based on the physical configuration of the piping. This system consists of two parallel trains connected by a smaller cross-connect. The two trains are virtually identical in layout and have the same number of supports with expansion anchor bolts. The train with the slightly shorter pipe run was selected to reduce the time required for piping analysis modeling. The section of the SAFW systems chosen was based on the portion most important from a plant safety standpoint. Therefore, the portions of the system from the containment penetrations to the main feedwater piping were reviewed and the shorter section was selected to minimize the piping analysis modeling time and the time for completion of the interim assessment.

The analysis results for the calculated factors of safety for the expansion anchor bolts associated with the SW line range from 2.73 to 8.4. The range of anchor bolt factors of safety for the SAFW line were found to be from 2.48 to 27.0. A complete summary of the results of the analysis is attached. Based on the results of this assessment and the conservative approach taken in the analysis, RG&E has a high degree of confidence that the supports of the subject systems are acceptable in terms of the requirements of 79-02 for the interim condition. RG&E is currently in the process of making a complete evaluation of the piping of the subject systems. The supports associated with these lines will be evaluated to criteria which are similar to that of the completed Seismic Piping Upgrade Program. The initial engineering for this Seismic Piping Upgrade scope extension has been started but a detailed schedule has not yet been developed. It is currently expected that engineering will proceed on a schedule such that any support modifications can be started during the 1988 refueling outage. Completion of construction activities are expected to be completed by the end of the 1989 refueling outage.



SUMMARY OF RESULTS FOR INTERIM ANCHOR BOLT
FACTOR OF SAFETY EVALUATION

<u>Pipe Support Number</u>	<u>System</u>	<u>Method of Attachment</u>	<u>Anchor Bolt Factor of Safety Qty/Type/FS</u>
N732	SW	Anchors set in concrete	See Note 1
N733	SW	Anchors set in concrete	See Note 1
N734	SW	Expansion anchor bolts	3/wedge/8.4 1/shell/6.4 - See Note 2
N735	SW	Expansion anchor bolts	4/shell/2.73 - See Note 2
N740	SW	Anchors set in concrete	See Note 1
N741	SW	Anchors set in concrete	See Note 1
N744	SW	Expansion anchor bolts	See Note 3
N745	SW	Expansion anchor bolts	See Note 3
AFW-3	SAFW	Welded to str. steel	---
AFW-4	SAFW	Welded to str. steel	---
AFW-5	SAFW	Welded to str. steel	---
AFW-6	SAFW	Welded to str. steel	---
AFW-7	SAFW	Welded to str. steel	---
AFW-8	SAFW	Welded to str. steel	---
AFW-9	SAFW	Expansion anchor bolts	4/wedge/27.0
AFW-10	SAFW	Expansion anchor bolts	2/wedge/5.24 - See Note 2
AFW-11	SAFW	Expansion anchor bolts	4/wedge/15.96
AFW-12	SAFW	Expansion anchor bolts	2/wedge/5.26 - See Note 2
AFW-13	SAFW	Expansion anchor bolts	2/wedge/2.48 - See Note 2

Notes:

1. Not subject to 79-02 criteria.
2. Base plate analysis performed.
3. Per piping analysis, support is in compression only.



ATTACHMENT 2

RESPONSE TO NRC INSPECTION NO. 50-244/87-11

As a result of the inspection conducted on May 5-8, 1987, the following deviation was identified.

Deviation B:

I.E. Bulletin 79-02, Action Item 4, requires that each anchor bolt used in piping system supports must be inspected unless it can be established that tension loads do not exist. The licensee's July 6 and December 7, 1979 responses to Bulletin 79-02 committed to reanalyze supports within the scope of the bulletin prior to initiation of inspection and testing.

Contrary to the licensee's commitment, the licensee records disclosed that Seismic Upgrade Program modifications performed to some piping systems made it possible for some compression-only supports, that had load changes, to be subjected to tension loads. This situation exists in five supports of a Seismic Category I system. At the time of this NRC inspection the licensee had not inspected the anchor bolts in these supports for proper installation, specified size and type."

Response:

At the time of the NRC inspection, the disposition of supports for IE Bulletin 79-02 was compared against the support modifications for the Seismic Upgrade Program. This comparison identified five supports which had not had the anchor bolts inspected for proper installation and which were now indicated as having tensile bolt loads. Subsequent detailed review of the latest support information determined that, in fact, one support still had no tensile loads, while the remaining four supports remained unresolved. Since the support configuration for these four supports did not allow adequate confirmation of the anchor bolt installation, the supports were re-evaluated to install new bolts.

The pipe supports were redesigned to use new Hilti Kwik-Bolts in place of the existing shell-type anchor bolts. This new bolt configuration was designed in accordance with the requirements of NRC IE Bulletin 79-02. The modifications of the four supports including new anchor bolts, have now been completed. Copies of the revised support drawings are attached. Note that the Inspection Report incorrectly identifies these supports as being in the Standby Auxiliary Feedwater system and the Service Water system in the screen house. These supports are actually located on systems which were modified as part of the original Seismic Upgrade Program scope. The attached drawings are for supports CCU-86, CCU-156, SWU-196 and SWU-198.



DESIGN DATA:

TYPE OF SUPPORT ☒ PLATE AND SHELL
☒ LINEAR
☐ COMPONENT STANDARD

REFERENCE DESIGN DRAWINGS
 PIPING D-304-623
 ISOMETRIC C-381-356 SHT. 9
 STRUCTURAL D-422-025

CODE CLASS 3

ANALYSIS CODE CC-100.

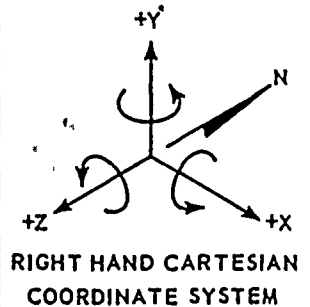
MAX. DESIGN TEMP. (°F) 200

FORMERLY ACH-93

PREDICTED PIPE MOVEMENT (INCHES)

X 0.001
 Y 0.001
 Z -0.014

	DESIGN MECHANICAL LOADS					
	FORCE (LBS.)			MOMENT (IN.-LBS.)		
	F _x	F _y	F _z	M _x	M _y	M _z
NORMAL		90				
UPSET		+1370 -1190				
EMERGENCY		—				
FAULTED		+2260 -2080				
TESTING		—				



NOTES:

GENERAL-

THE DESIGN, FABRICATION AND ERECTION OF THIS PIPE SUPPORT IS AND SHALL BE IN ACCORDANCE WITH SPECIFICATIONS:

RG&E SPEC. ME121 / NA / NA

ALL WELDS SHALL BE MADE WITH ELECTRODES HAVING A MIN. TENSILE STRENGTH OF 60,000 PSI.

MOVEMENTS AND FORCES ARE BASED ON NORMAL OPERATING TEMPERATURES

THE ABOVE NOTES DO NOT APPLY TO ITEMS MARKED WITH AN ASTERISK IN THE BILL OF MATERIALS. THESE ITEMS WERE PURCHASED AND INSTALLED PRIOR TO 1980.

DISPOSITION: REMOVE EXISTING BASE PLATE, ANCHOR BOLTS, CHANNELS, AND GROUT STRUCTURALLY GROUT EXISTING HOLES IN ACCORDANCE WITH ME 121. INSTALL NEW BASE PLATE, HILTI'S, CHANNEL SECTIONS AND SHIM PLATE.

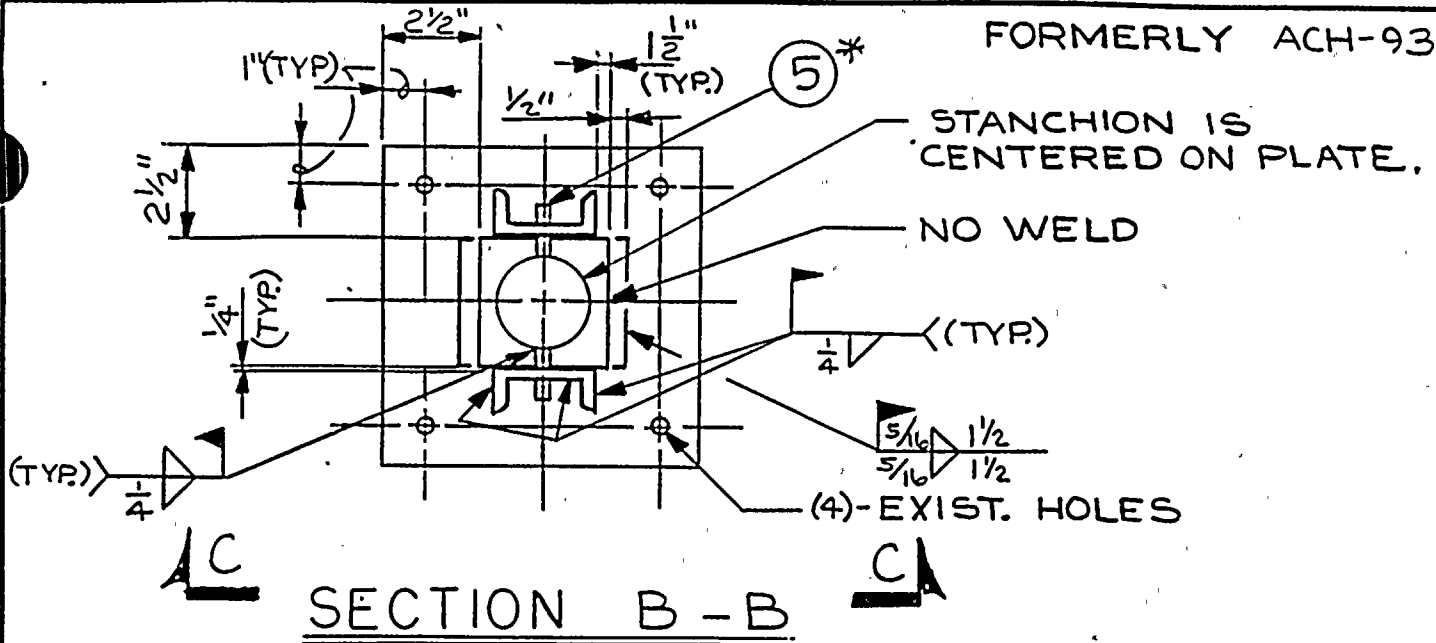
NUCLEAR SAFETY RELATED

3	23	KNS	REV'D PER RG&E COMMENTS 13NI-GR-1529	NI	038 KNS	7/28/87	ALL SIGNATURES AND REVISIONS ON THIS SHEET PERTAIN TO ALL SHEETS ASSOCIATED WITH THE PIPE SUPPORT INDICATED BELOW		
2	KNS	ELS	REV'D. PER 13NI-RG-1524	NI	038 ELS	7/10/87	CONSTRUCTION		
1	PA	GRA	AS BUILT	MRP	038 GN	7/24/87	10/1/81	CLIENT RELEASE <i>BIB</i>	
REV.	MADE	CHKD.	DESCRIPTION	ENG. INT.	APPR	DATE	DATE	RELEASED FOR	APPR.
REVISIONS							W.O. 044824-005		SCALE: NONE
CLIENT ROCHESTER GAS AND ELECTRIC CORPORATION				MADE		CHKD.	PIPING ENGINEERING APPROVALS		
PROJECT RNA STATION (EWR-2512)				SIGN		RLS	RWM	<i>B. A. Bell</i>	<i>D. Lums</i>
GILBERT ASSOCIATES, INC. ENGINEERS & CONSULTANTS READING, PA.				DATE		8/31/81	9/30/81	10/1/81	10-1-81
				PIPE SUPPORT MK-CCU-86		S-382-356		086.A	3
				TITLE		DRAWING NUMBER		SHEET	REV.



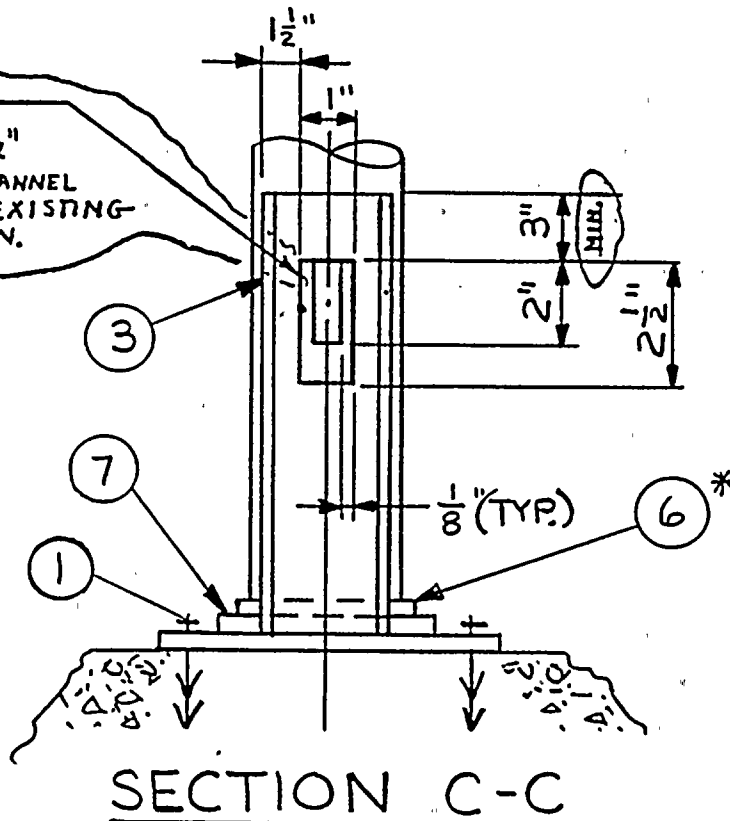


FORMERLY ACH-93



NOTE:

LOCATE 1" X 2 1/2" CUTOUT IN CHANNEL RELATIVE TO EXISTING LUG LOCATION.



7/29/57	CONSTRUCTION

FOR SIGNATURES AND REVISIONS, SEE GAI SHEET A

CLIENT
ROCHESTER GAS AND ELECTRIC CORPORATION

PROJECT
ONNA STATION (EWR-2512)

GILBERT ASSOCIATES, INC.
ENGINEERS & CONSULTANTS
READING, PA.

NUCLEAR SAFETY RELATED

PIPE SUPPORT MK-CCU-86	S-382-356	086 C	3
TITLE	DRAWING NUMBER	SHEET	REV.



DESIGN DATA:

TYPE OF SUPPORT ☒ PLATE AND SHELL
☒ LINEAR
☐ COMPONENT STANDARD

REFERENCE DESIGN DRAWINGS
 PIPING D-304-623
 ISOMETRIC C-381-356 SHT. 2
 STRUCTURAL D-422-025

CODE CLASS 3

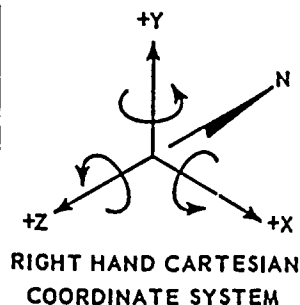
MAX. DESIGN TEMP. (°F) 200

ANALYSIS CODE CC 300
 FORMERLY ACH-97

PREDICTED PIPE MOVEMENT (INCHES)

X -0.002
 Y 0.000
 Z 0.026

	DESIGN MECHANICAL LOADS					
	FORCE (LBS.)			MOMENT (IN.-LBS.)		
	Fx	Fy	Fz	Mx	My	Mz
NORMAL		-1614				
UPSET		+0 -3062				
EMERGENCY		-				
FAULTED		+803 -4031				
TESTING		-				



NOTES:

GENERAL-

THE DESIGN, FABRICATION AND ERECTION OF THIS PIPE SUPPORT IS AND SHALL BE IN ACCORDANCE WITH SPECIFICATIONS:
RG&E SPEC. ME-121 / NA / NA

ALL WELDS SHALL BE MADE WITH ELECTRODES HAVING A MIN. TENSILE STRENGTH OF 60,000 PSI.
 MOVEMENTS AND FORCES ARE BASED ON NORMAL OPERATING TEMPERATURES

THE ABOVE NOTES DO NOT APPLY TO ITEMS MARKED WITH AN ASTERISK IN THE BILL OF MATERIALS. THESE ITEMS WERE PURCHASED AND INSTALLED PRIOR TO 1980.

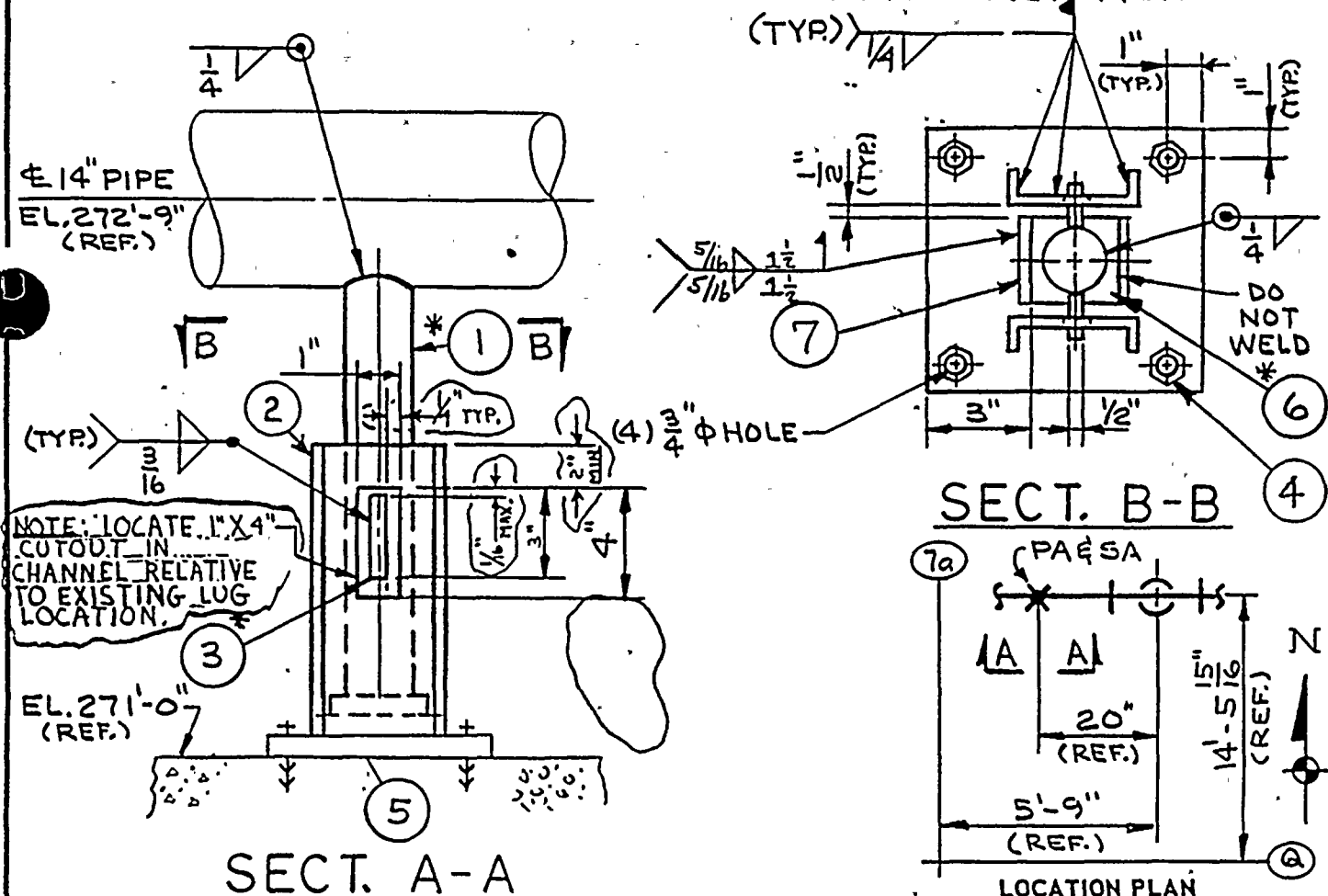
DISPOSITION REMOVE EXISTING BASE PLATE, ANCHOR BOLTS, CHANNELS, AND GROUT. STRUCTURALLY GROUT EXISTING HOLES IN ACCORDANCE WITH ME121. INSTALL NEW BASE PLATE, HILTI'S CHANNEL SECTIONS AND SHIM PLATE. NUCLEAR SAFETY RELATED

3	JB	KNS	REV'D. PER RG&E COMMENTS 13N1-GR-L1529	NI.	2/25/87	7/28/87	ALL SIGNATURES AND REVISIONS ON THIS SHEET PERTAIN TO ALL SHEETS ASSOCIATED WITH THE PIPE SUPPORT INDICATED BELOW		
2	JB	EJS	REV'D PER 13N1-RG-1524	NI.	6/18/87	7/10/87			
1	RLS	WT	AS BUILT PER FCR 2512-586	NI?	7/1/87	7/1/87			
REV.	MADE	CHKD.	DESCRIPTION	ENG. INT.	APPR	DATE	DATE	RELEASED FOR	APPR.
REVISIONS							W.O. 044824-005	SCALE: NONE	
CLIENT ROCHESTER GAS AND ELECTRIC CORPORATION				MADE SIGN GRA		CHKD. RWM	PIPING ENGINEERING APPROVALS K.T. Nagle		ENG. INT. CHK. P.A.M.
PROJECT HANA STATION (EWR-2512)				DATE 11-18-81		11-25-81	1-7-82		1-11-82
GILBERT ASSOCIATES, INC. ENGINEERS & CONSULTANTS READING, PA.				PIPE SUPPORT MK-CCU-156		S-382-356		156A	3
				TITLE		DRAWING NUMBER		SHEET	REV.



ITEM	NO. REQD.	PART NO.	DESCRIPTION	MATERIAL SPECS.
*1	1	—	4" SCH 40 PIPE X 12 3/8" LG. (REF.)	A106 GR. B
2	2	—	C6 X 8.2 CHANNEL X 13 1/4" LG. (CUT TO SUIT)	SA 36
3	2	—	1 1/2" X 3" X 1/2" PLATE	SA 36
4	4	—	5/8" Φ HILTI KWIK BOLT MIN. CONC. EMB = 2 3/4"	—
5	1	—	10" X 10" X 3/4" PLATE	SA 36
*6	1	—	5" X 5" X 1/2" PLATE	A 36
7	1	—	5" X 6" X THICKNESS TO SUIT (SHIM PLATE)	SA 36
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px;">7/29/87</div> <div style="text-align: center;"> <p>CONSTRUCTION</p> <p>LIMITED CONSTRUCTION: AS NOTED</p> <p>PRELIMINARY NOT FOR CONSTRUCTION</p> <p>REVISIONS: SEE</p> </div> <div style="text-align: right;">JH</div> </div>				

NOTE: ALL ITEMS CENTERED EXCEPT AS NOTED FORMERLY ACH-97



FOR SIGNATURES AND REVISIONS, SEE GAI SHEET A

CLIENT

CHESTER GAS AND ELECTRIC CORPORATION

PROJECT

NA STATION

(EWR-2512)

GILBERT ASSOCIATES, INC.
ENGINEERS & CONSULTANTS

READING, PA.

NUCLEAR SAFETY RELATED

PIPE SUPPORT MK-CCU-156	S-382-356	156 B	3
TITLE	DRAWING NUMBER	SHEET	REV.



DESIGN DATA:

TYPE OF SUPPORT ☒ PLATE AND SHELL
☒ LINEAR
☐ COMPONENT STANDARD

REFERENCE DESIGN DRAWINGS
 PIPING D-304-695
 ISOMETRIC C-381-358SHT. 1
 STRUCTURAL D-422-005

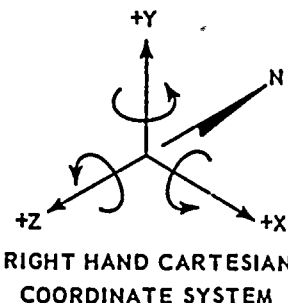
CODE CLASS 3MAX. DESIGN TEMP. (°F) 200

PREDICTED PIPE MOVEMENT (INCHES)

X -0.000
 Y 0.000
 Z 0.000

ANALYSIS CODE SW-1000FORMERLY SWAH-22

	DESIGN MECHANICAL LOADS					
	FORCE (LBS.)			MOMENT (IN.-LBS.)		
	F _x	F _y	F _z	M _x	M _y	M _z
NORMAL		-1375				
UPSET		⁺⁰ -2265				
EMERGENCY		-				
FAULTED		+405 -3155				
TESTING						



NOTES:

GENERAL-

THE DESIGN, FABRICATION AND ERECTION OF THIS PIPE SUPPORT IS AND SHALL BE IN ACCORDANCE WITH SPECIFICATIONS:

NA / NA / NA

ALL WELDS SHALL BE MADE WITH ELECTRODES HAVING A MIN. TENSILE STRENGTH OF 60,000 PSI.
 MOVEMENTS AND FORCES ARE BASED ON NORMAL OPERATING TEMPERATURES

THE ABOVE NOTES DO NOT APPLY TO ITEMS MARKED WITH AN ASTERISK IN THE BILL OF MATERIALS. THESE ITEMS WERE PURCHASED AND INSTALLED PRIOR TO 1980.

DISPOSITION: REMOVE EXISTING BASE PLATE, ANCHOR BOLTS, CHANNELS, & GROUT. FILL EXISTING HOLE WITH STRUCTURAL GROUT IN ACCORDANCE WITH ME-121. INSTALL NEW BASE PLATE, HILTI'S, CHANNEL SECTIONS, AND SHIM PLATE.

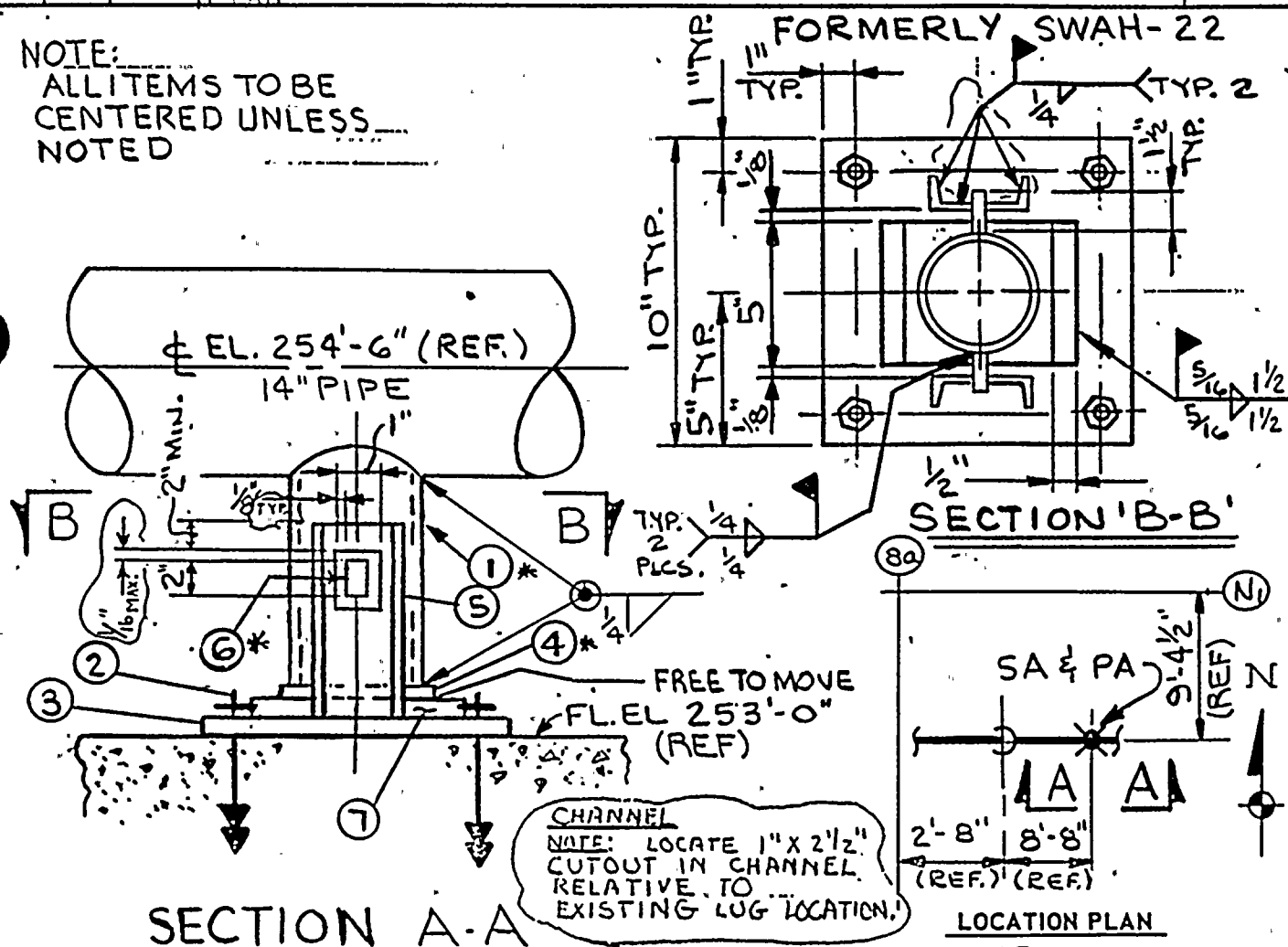
NUCLEAR SAFETY RELATED

4	JB	KNS	REV'D. PER RG+E COMMENTS	NZ	ALLS	7/28/87	ALL SIGNATURES AND REVISIONS ON THIS SHEET PERTAIN TO ALL SHEETS ASSOCIATED WITH THE PIPE SUPPORT INDICATED BELOW		
3	TWB	EL	REV. AS PER 13N1-RG-1524.	NI	ALLS	7/10/87			
2	WG	JB	AS-BUILT & REV'D PER ECN-2517-201 LOADS & MUMT'S RG+E 35-634	UIC	ALLS	11/1/86	CONSTRUCTION		
1	VP	EL	AS-BUILT	NRP	ALLS	9/12/83	CLIENT RELEASE		
REV.	MADE	CHKD.	DESCRIPTION	APPR	DATE	DATE	RELEASED FOR		APPR.
REVISIONS						W.O. 044824-005		SCALE: NONE	
CLIENT ROCHESTER GAS AND ELECTRIC CORPORATION				MADE	CHKD.	PIPING ENGINEERING APPROVALS			ENG. INT. CHK.
PROJECT LANNA STATION (EWR-2512)				SIGN	DAA	RWM	B.H. Bell	D.L. Jones	NRP
				DATE	8-10-81	8-24-81	9/23/81	9-23-81	9/24/81
GILBERT ASSOCIATES, INC. ENGINEERS & CONSULTANTS READING, PA.				PIPE SUPPORT MK-SWU-196		S-382-358		196A	4
				TITLE		DRAWING NUMBER		SHEET	REV.



ITEM	NO. REQD.	PART NO.	DESCRIPTION	MATERIAL SPECS.
*1	1	—	4" SCH. 40 PIPE x 9 7/8" LG. (REF.)	A106
2	4	—	5/8" Φ HILTI KWIK BOLT (MINIMUM CONC. EMB. = 2 3/4")	—
3	1	—	10" x 10" x 3/4" PLATE W/ 4-3/4" Φ HOLES	A 36
4	1	—	5" x 5" x 3/8" PLATE	A 36
5	2	—	C3 x 4.1 CHANNEL x 0.12" LG. (CUT TO SUIT)	SA36
*6	2	—	2" x 1 1/2" x 3/4" PLATE (LUG)	SA36
7	1	—	5" x 6" x (THICKNESS TO SUIT) (SHIM PLATE)	SA36
CONSTRUCTION				
LIMITED CONSTRUCTION: AS NOTED				
PRELIMINARY NOT FOR CONSTRUCTION				
DATE				

NOTE:
ALL ITEMS TO BE
CENTERED UNLESS
NOTED



FOR SIGNATURES AND REVISIONS, SEE GAI SHEET A

CLIENT
ROCHESTER GAS AND ELECTRIC CORPORATION

PROJECT
ONNA STATION (EWR-2512)

GILBERT ASSOCIATES, INC.
ENGINEERS & CONSULTANTS
READING, PA.

NUCLEAR SAFETY RELATED

PIPE SUPPORT MK-SWU-196	S-382-358	196 B	4
TITLE	DRAWING NUMBER	SHEET	REV.



DESIGN DATA:

TYPE OF SUPPORT ☒ PLATE AND SHELL
☒ LINEAR
☐ COMPONENT STANDARD

REFERENCE DESIGN DRAWINGS

PIPING D-304-696
 ISOMETRIC C-381-358 SHT. 1
 STRUCTURAL D-422-022

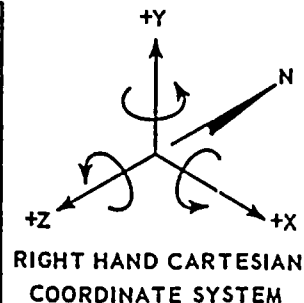
CODE CLASS 3MAX. DESIGN TEMP. (°F) 200ANALYSIS CODE SW 1000

PREDICTED PIPE MOVEMENT (INCHES)

FORMERLY SWAH-16

X 0.000
 Y 0.000
 Z 0.000

	DESIGN MECHANICAL LOADS					
	FORCE (LBS.)			MOMENT (IN.-LBS.)		
	F _x	F _y	F _z	M _x	M _y	M _z
NORMAL		-4147				
UPSET		+0 -5179				
EMERGENCY		—				
FAULTED		+41 -6919				
TESTING		—				



NOTES:

GENERAL

THE DESIGN, FABRICATION AND ERECTION OF THIS PIPE SUPPORT IS AND SHALL BE IN ACCORDANCE WITH SPECIFICATIONS:

RG&E SPEC ME-121

NA

NA

ALL WELDS SHALL BE MADE WITH ELECTRODES HAVING A MIN. TENSILE STRENGTH OF 60,000 PSI.

MOVEMENTS AND FORCES ARE BASED ON NORMAL OPERATING TEMPERATURES

THE ABOVE NOTES DO NOT APPLY TO ITEMS MARKED WITH AN ASTERISK IN THE BILL OF MATERIALS. THESE ITEMS WERE PURCHASED AND INSTALLED PRIOR TO 1980.

DISPOSITION: REMOVE EXISTING BASE PLATE, ANCHOR BOLTS, CHANNELS & GROUT
 FILL EXISTING HOLE WITH STRUCTURAL GROUT IN ACCORDANCE WITH
 ME-121. INSTALL NEW BASE PLATE, HILTIES, CHANNEL SECTIONS,
 AND SHIM PLATE.

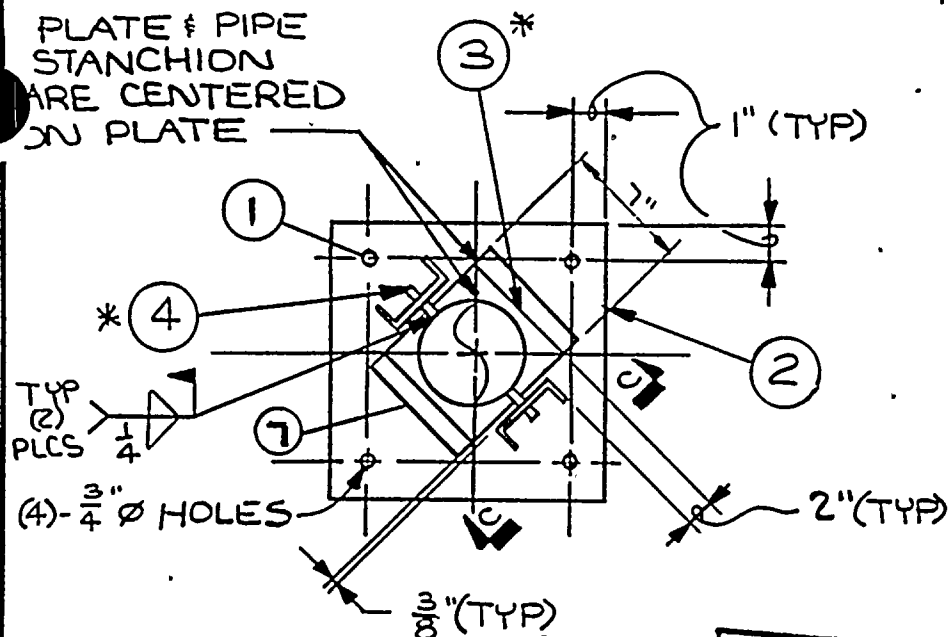
NUCLEAR SAFETY RELATED

4	AB	KNS	REV'D. PER RG+E COMMENTS 13NI-GR-L1529	NI	AB	1/28/87	ALL SIGNATURES AND REVISIONS ON THIS SHEET PERTAIN TO ALL SHEETS ASSOCIATED WITH THE PIPE SUPPORT INDICATED BELOW		
3	TWB	ES	REV. AS PER 13NI-RG-1524.	NI	ES	11/10/87			
2	WJ	AB	REV'D. LOADS + MGMT'S. RG+E 85-034 REV. REF DWG - DRAFT ERROR	ORC	WJ	11/1/87	CONSTRUCTION		
1	VP	ET	AS-BUILT	NRP	KTN	1/15/88	1/15/88	CLIENT RELEASE	1/15/88
REV.	MADE	CHKD.	DESCRIPTION	ENG.	APPR	DATE	DATE	RELEASED FOR	APPR.
REVISIONS							W.O. 044824-005		SCALE: NONE
CLIENT ROCHESTER GAS AND ELECTRIC CORPORATION				SIGN	MADE	CHKD.	PIPING ENGINEERING APPROVALS		ENG. INT. CHK.
PROJECT ANNA STATION (EWR-2512)				DATE	8-8-81	8-24-81	BH Bell DK Combs		NRP
GILBERT ASSOCIATES, INC. ENGINEERS & CONSULTANTS READING, PA.				PIPE SUPPORT MK-SWU-198		S-382-358		198 A	4
				TITLE		DRAWING NUMBER		SHEET	REV.





PLATE & PIPE
STANCHION
ARE CENTERED
ON PLATE

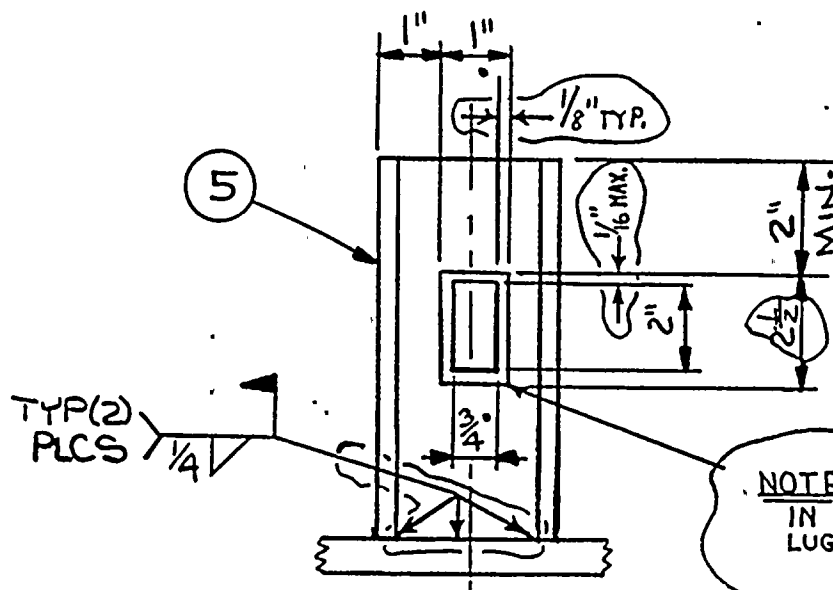


SECTION B-B

7/29/87

CONSTRUCTION

LIMITED CONSTRUCTION: AS NOTED
PRELIMINARY: NOT FOR CONSTRUCTION



SECTION C-C

NOTE: LOCATE 1" X 2 1/2" CUTOUT
IN CHANNEL RELATIVE TO EXISTING
LUG LOCATION.

FOR SIGNATURES AND REVISIONS, SEE GAI SHEET A

CLIENT
DOCHESTER GAS AND ELECTRIC CORPORATION

PROJECT
GINNA STATION (EWR-2512)

GILBERT ASSOCIATES, INC.
ENGINEERS & CONSULTANTS
READING, PA.

NUCLEAR SAFETY RELATED

PIPE SUPPORT MK-SWU-198	S-382-358	198 C	4
TITLE	DRAWING NUMBER	SHEET	REV.

