



Entergy Nuclear Operations, Inc.  
Vermont Yankee  
P.O. Box 0500  
185 Old Ferry Road  
Brattleboro, VT 05302-0500  
Tel 802 257 5271

August 25, 2006  
BVY 06-072

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Subject: Vermont Yankee Nuclear Power Station  
License No. DPR-28 (Docket No. 50-271)  
Response to Request for Additional Information  
Regarding Relief Request ISI-013, Fourth 10-Year ISI Interval**

- References:
- (1) Letter, USNRC to Entergy Nuclear Operations, Inc., "Vermont Yankee Nuclear Power Station – Request for Additional Information Regarding Relief Request Inservice Inspection (ISI)-013, Fourth 10-Year ISI Interval (TAC No. MD0287)," NVY 06-098, dated July 27, 2006.
  - (2) Letter, Entergy Nuclear Operations, Inc. to USNRC, "Relief Request ISI-012, Fourth ISI Interval," BVY 06-011, dated February 16, 2006.
  - (3) Letter, Entergy Nuclear Operations, Inc. to USNRC, "Relief Request ISI-013, Fourth ISI Interval," BVY 06-029, dated March 27, 2006.

In Reference (1), the Nuclear Regulatory Commission has requested additional information regarding Vermont Yankee's request, submitted in Reference (2) and supplemented in Reference (3), for relief from requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, pertaining to examination of Category B-F, Item 5.10, nozzle-to-safe-end welds.

Vermont Yankee's response to this request is provided in Attachments 1 and 2. Enclosure 1 provides copies of the requested component drawings.

No new regulatory commitments are being made in this submittal.

If you have any questions or require additional information regarding this response, please contact Mr. Jim DeVincentis at (802) 258-4236.

Sincerely,

Ted A. Sullivan  
Site Vice President  
Vermont Yankee Nuclear Power Station

Attachments (2)  
Enclosure  
cc listing (next page)

AD47

cc: Mr. Samuel J. Collins (w/o enclosure)  
Regional Administrator, Region 1  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406-1415

Mr. James J. Shea, Project Manager  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Mail Stop O-8C2A  
Washington, DC 20555

USNRC Resident Inspector (w/o enclosure)  
Entergy Nuclear Vermont Yankee, LLC  
P.O. Box 157)  
Vernon, Vermont 05354

Mr. David O'Brien, Commissioner (w/o enclosure)  
VT Department of Public Service  
112 State Street – Drawer 20  
Montpelier, Vermont 05620-2601

**Attachment 1**

**Vermont Yankee Nuclear Power Station  
License No. DPR-28 (Docket No. 50-271)**

**Response to Request for Additional Information  
Regarding Request for Relief No. ISI-013  
Fourth 10-Year Inservice Inspection Interval**

**Responses to RAI Questions**

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
REGARDING REQUEST FOR RELIEF NO. ISI-013  
FOURTH 10-YEAR INSERVICE INSPECTION INTERVAL

The staff reviewed the information submitted by Vermont Yankee and, based on this review, determined that additional information is required to complete the evaluation. Following are responses to each of the RAI questions.

Question 1:

Please provide drawings or sketches of the American Society of Mechanical Engineers (ASME) Code, Section XI, Category B-F components listed in the *List of Affected B-F Welds* attached to the licensee's letter dated February 16, 2006. Drawings or sketches of every component are not required. An example of one of each type of similar component will satisfy this request.

Response:

Enclosed are twenty-five (25) component sketches/drawings for the American Society of Mechanical Engineers (ASME) Code, Section XI, Category B-F components listed in the *List of Affected B-F Welds* attached to the licensee's letter dated February 16, 2006 (Reference Attachment 2 for affiliated drawings).

Question 2:

In the *List of Affected B-F Welds*, under materials please clarify the materials for the components listed in the table and provide weld rod material.

Response:

Per your request, Attachment 2 provides clarification for the materials and components listed in the table of affected B-F Welds and provides weld rod material used.

The information requested is also contained in the following:

- a. Letter FVY 88-62, dated July 27, 1988, "Vermont Yankee Response to NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping (Generic Letter 88-01)."
- b. Letter BVY 89-70, dated July 25, 1989, "Vermont Yankee's Response to NRC's Request for Additional Information: USNRC Generic Letter 88-01."
- c. "Safety Evaluation by the Office of Nuclear Reactor Regulation, Evaluation of NRC Generic Letter 88-01 Response, Vermont Yankee Nuclear Power Corporation," and enclosed "Technical Evaluation Report on Response from the Vermont Yankee Nuclear Power Corporation to Generic Letter 88-01 Pertaining to the Vermont Yankee Nuclear Power Station," published September, 1989.

Question 3:

In accordance with BWRVIP-75-A, "BWR Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules," Chapter 3, page 3-1 second paragraph, please provide a discussion as to how the conditions contained in BWRVIP-75-A are applicable to Vermont Yankee. Include a discussion as to why your material is resistant to inter-granular stress corrosion cracking (IGSCC) (For example, hydrogen water chemistry treatment program, material of subject components and/or other measures such as control of conductivity to prevent IGSCC).

Response:

Vermont Yankee (VY) complies with the latest version (BWRVIP-130) of the EPRI BWR Water Chemistry Guidelines control parameters. This document and applicable Entergy and VY procedures have the controls, limits and action levels for the parameters that contribute to IGSCC, such as sulfate, chloride and conductivity. This justifies using the normal water chemistry schedule for the respective weld categories in BWRVIP-75-A for all the IGSCC welds.

VY applied Noble Metal Chemical Addition (NMCA) in April 2001, followed with feedwater hydrogen injection (Hydrogen Water Chemistry) in November 2003. When the open issues on the definition of effective HWC/NMCA between the BWRVIP and NRC have been dispositioned (such as ECP, molar ratio, HWC availability, etc.), VY will evaluate use of the HWC/NMCA inspection frequency only on the welds where NMCA would be effective (i.e. on Recirculation System and RWCU System, but not on Core Spray System).

VY has a total of 156 welds that are classified as BWRVIP Category A. These welds are located in the Recirculation, Residual Heat Removal, Core Spray, Nuclear Instrumentation (including Jet Pump), Control Rod Drive and Reactor Water Clean-Up Systems.

The piping in the Recirculation and Residual Heat Removal Systems is so categorized as a result of being replaced with IGSCC-resistant 316 austenitic stainless steel during the 1986 refueling outage.

The Core Spray System is normally a non-flowing system. The portion from the reactor pressure vessel to the first isolation valve is low carbon type 316 stainless steel. The welds are low carbon type 308 stainless steel. This portion of the Core Spray System is Category A.

Since the system is non-flowing, the temperature will be below 200 °F before the first valve; therefore, the remaining portion of the system does not fall under the requirements of Generic Letter 88-01.

The Reactor Water Clean-Up (RWCU) System piping is low carbon type 304 or low carbon type 316 stainless steel. The welds are low carbon type 308 stainless steel. The piping susceptible to IGSCC was replaced during the 1980 timeframe. Thus, all Reactor Water Clean-Up piping 4 inches or greater in diameter and operating at greater than 200 °F is classified as Category A.

With the exception of the Core Spray safe ends and associated welds, all other system piping is of low carbon type 304 or low carbon type 316, stainless steel. The welds are low carbon type 308 stainless steel.

Question 4:

Please clarify that the personnel and procedures used for the examinations of Category A piping at Vermont Yankee are in accordance with the Electric Power Research Institute demonstration initiative program, under ASME Code, Section XI, Appendix VII and Appendix VIII.

Response:

Personnel and procedures used for the examinations of Category A piping at Vermont Yankee comply with the Electric Power Research Institute Performance Demonstration Initiative (PDI) Program, under the ASME Code, Section XI, Appendix VII and Appendix VIII. Examination personnel and procedures are selected based on their specific qualifications relative to Appendix VIII Supplement requirements. Information regarding these qualifications is retained in plant In-Service Inspection records.

**Attachment 2**

**Vermont Yankee Nuclear Power Station  
License No. DPR-28 (Docket No. 50-271)**

**Response to Request for Additional Information  
Regarding Request for Relief No. ISI-013  
Fourth 10-Year Inservice Inspection Interval**

**Description of Materials**

ATTACHMENT 2 TO BVY 06-072  
REQUEST FOR ADDITIONAL INFORMATION  
REQUEST FOR RELIEF NO. ISI-013  
4th 10-YEAR IN-SERVICE INSPECTION INTERVAL

Nozzle ID	Nozzle Material	Safe End Material	Weld Material	Butter Material	Drawings
N1A & N1B	A508 CLII w/ ASTM A371 Type ER 308L SS Clad	SA 182 F316	ER 308L - Root E 308-15 Weld	E 308L	Safe End: 5920-6623 Nozzle : 5920-238
N2A thru N2K	A508 CLII w/ ASTM A371 Type ER 308L SS Clad	SA 182 F316	ER 308L - Root E 308-15 Weld	E 308L	Safe End: 5920-6624 Nozzle : 5920-656
N6A & N6B	A508 CLII w/ ASTM A371 Type ER 308L SS Clad	SA 336 CL F8	ER 308L - Root E 308-15 Weld	E 308L	Flange: 5920-5331, 5263 Nozzle: 5920-243
N7	A508 CLII w/ ASTM A371 Type ER 308L SS Clad	SA 336 CL F8	ER 308L - Root E 308-15 Weld	E 308L	Flange: 5920-5331, 5263 Nozzle: 5920-244, 71
N8A & N8B	A508 CLII w/ ASTM A371 Type ER 308L SS Clad	SA 336 CL F8 Penetration seal (header low carbon 304 Stainless Steel)	ER 308L - Root E 308-15 Weld	E 308L	Header: 5920-5331, 5263 Nozzle: 5920-245. <b>Note:</b> The header (penetration seal) is welded directly to the nozzle. This safe-end was eliminated
N9	A508 CLII w/ ASTM A371 Type ER 308L SS Clad	SA 336 CL F8	ER 316L	E 308L	Safe End: 5920-246 Sh.2 Nozzle: 5920-246

**Enclosure 1**

**Vermont Yankee Nuclear Power Station  
License No. DPR-28 (Docket No. 50-271)**

**Response to Request for Additional Information  
Regarding Request for Relief No. ISI-013  
Fourth 10-Year Inservice Inspection Interval**

**Component Drawings**

5920-65 R1 10-26-67

VERMONT YANKEE NUCL. PWR. CORP.  
VERMONT YANKEE NUCL. PWR. STA.  
VERMONT, VERMONT

P.O. 44 726102 ITEM		DRAWING APPROVAL	
1	APPROVED WITHOUT COMMENTS	1	APPROVED WITHOUT COMMENTS
2	APPROVED WITH COMMENTS AS NOTED	2	APPROVED WITH COMMENTS AS NOTED
3	NOT APPROVED	3	NOT APPROVED
4	NO FURTHER REPRODUCIBLE REQUIRED	4	NO FURTHER REPRODUCIBLE REQUIRED
5	RESUBMIT REVISED REPRODUCIBLE	5	RESUBMIT REVISED REPRODUCIBLE
6	RESUBMIT CLOTH OR MYLAR REPRODUCIBLE AS SHIPPED	6	RESUBMIT CLOTH OR MYLAR REPRODUCIBLE AS SHIPPED
7	DO NOT PROCEED WITH FABRICATION	7	DO NOT PROCEED WITH FABRICATION

SPECIAL FORGINGS  
NOZZLES N1-A/N1-B

CHECKED BY *Wmk* DATE *5/12/67* ORG. DIV. *N* DAYS TO COMMENT *21*

SAICO SERVICES INCORPORATED  
AGENT  
RECTOR ST., NEW YORK 6, N.Y.

CERTIFIED BY VENDOR  
APPROVED BY *Ch Carroll*  
DATE *3 April 67*  
FOR

ATOMIC POWER EQUIP. DEPT  
SAN JOSE, CALIFORNIA  
POWER REACTOR ENGINEERING  
ENGINEERING SECTION

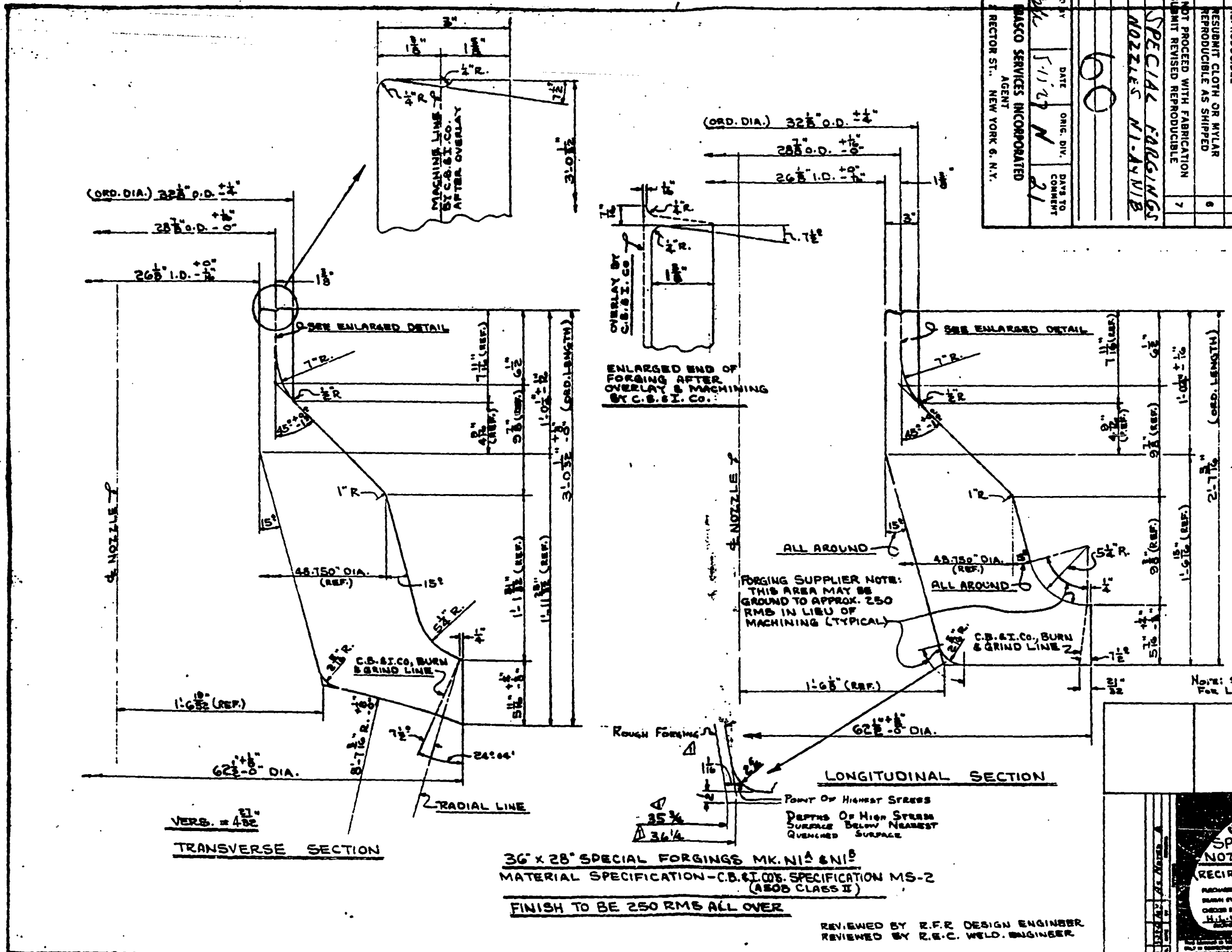
GENERAL ELECTRIC CO.  
APED - SAN JOSE  
VERMONT, YANKEE  
VPF # 1342-19-2  
EP # *2-1-1*

Note: See Dwg. # M-18  
For Location Of Test Specimens.

CHICAGO BRIDGE & IRON COMPANY  
BROOKLYN, N.Y.

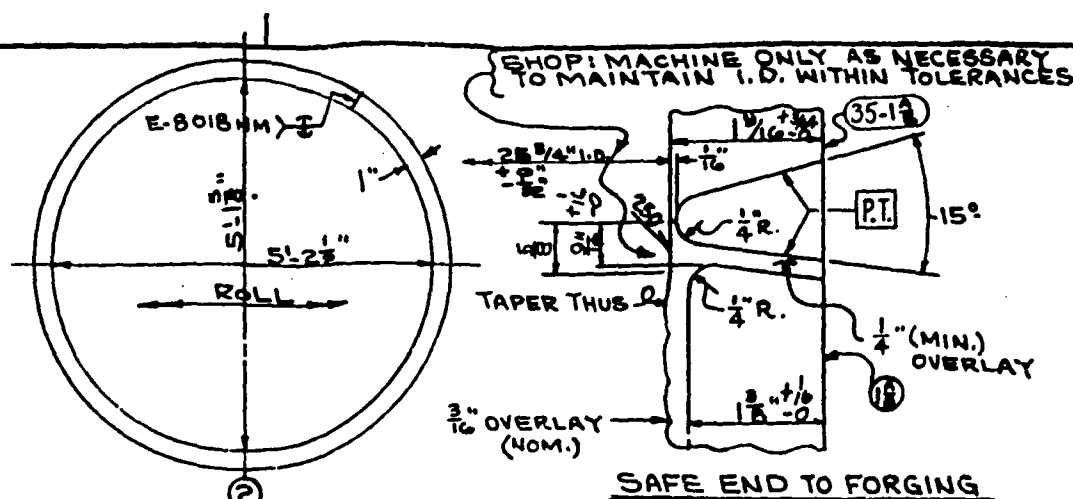
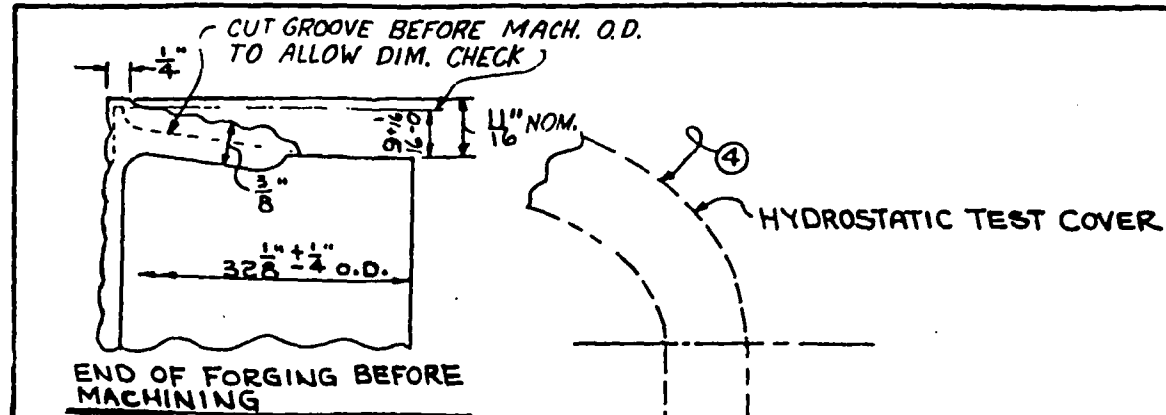
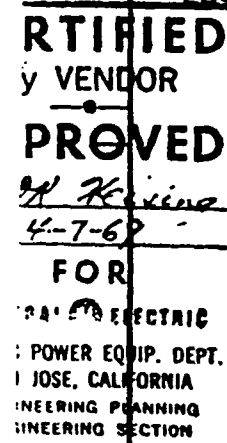
SPECIAL FORGINGS  
NOZZLES N1A & N1B  
(RECIRCULATION OUTLET)

INVENTORY NO. 205-55545-1 CONTRACT NO. 9-6201  
BURN BY AIA DATE 1-18-67  
CHECKED BY JCC DATE 1-18-67  
H.L. WALKER  
DRAWING NO. M3 REV 1



REVIEWED BY R.F.R. DESIGN ENGINEER  
REVIEWED BY R.E.C. WELD. ENGINEER

11517

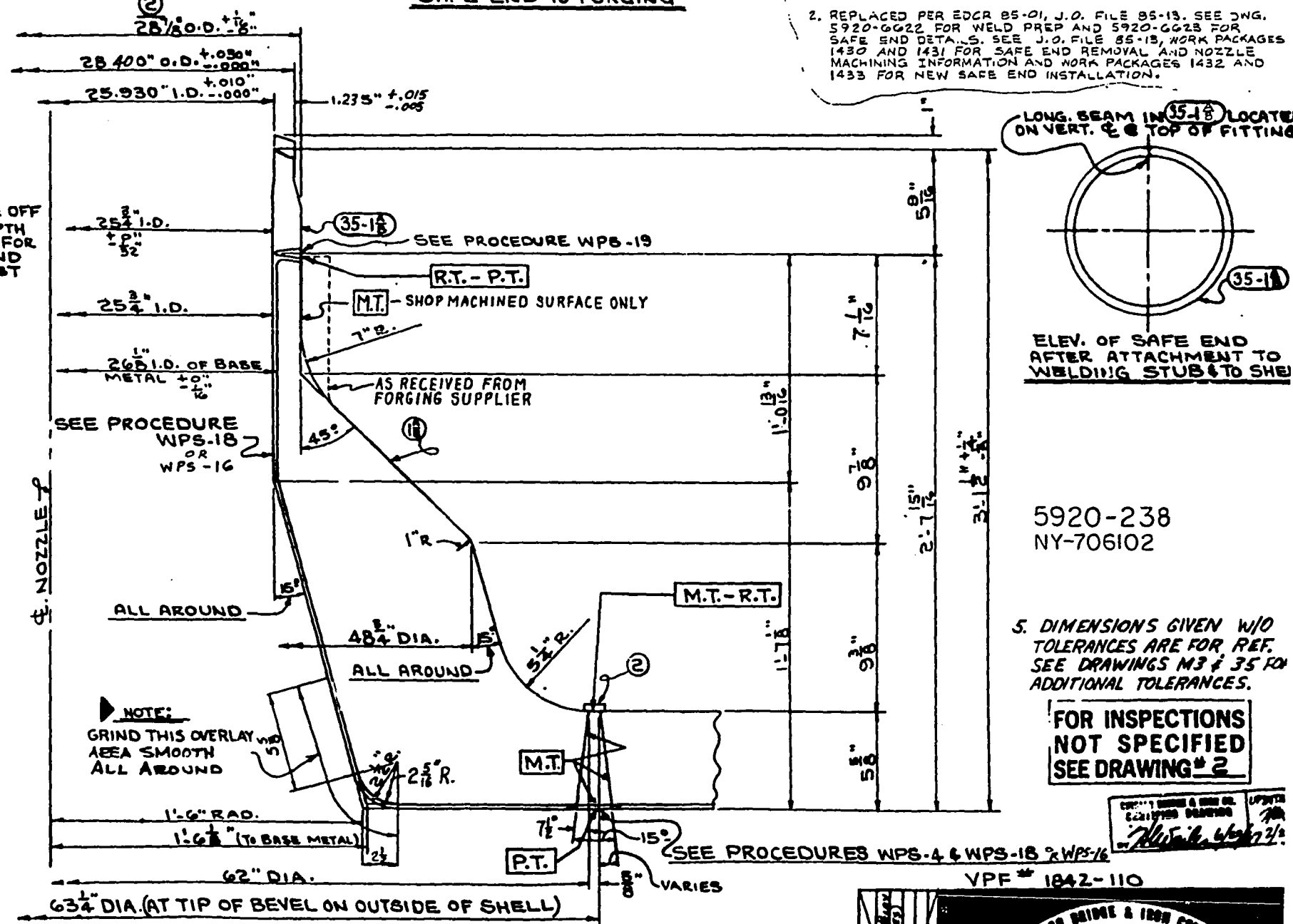
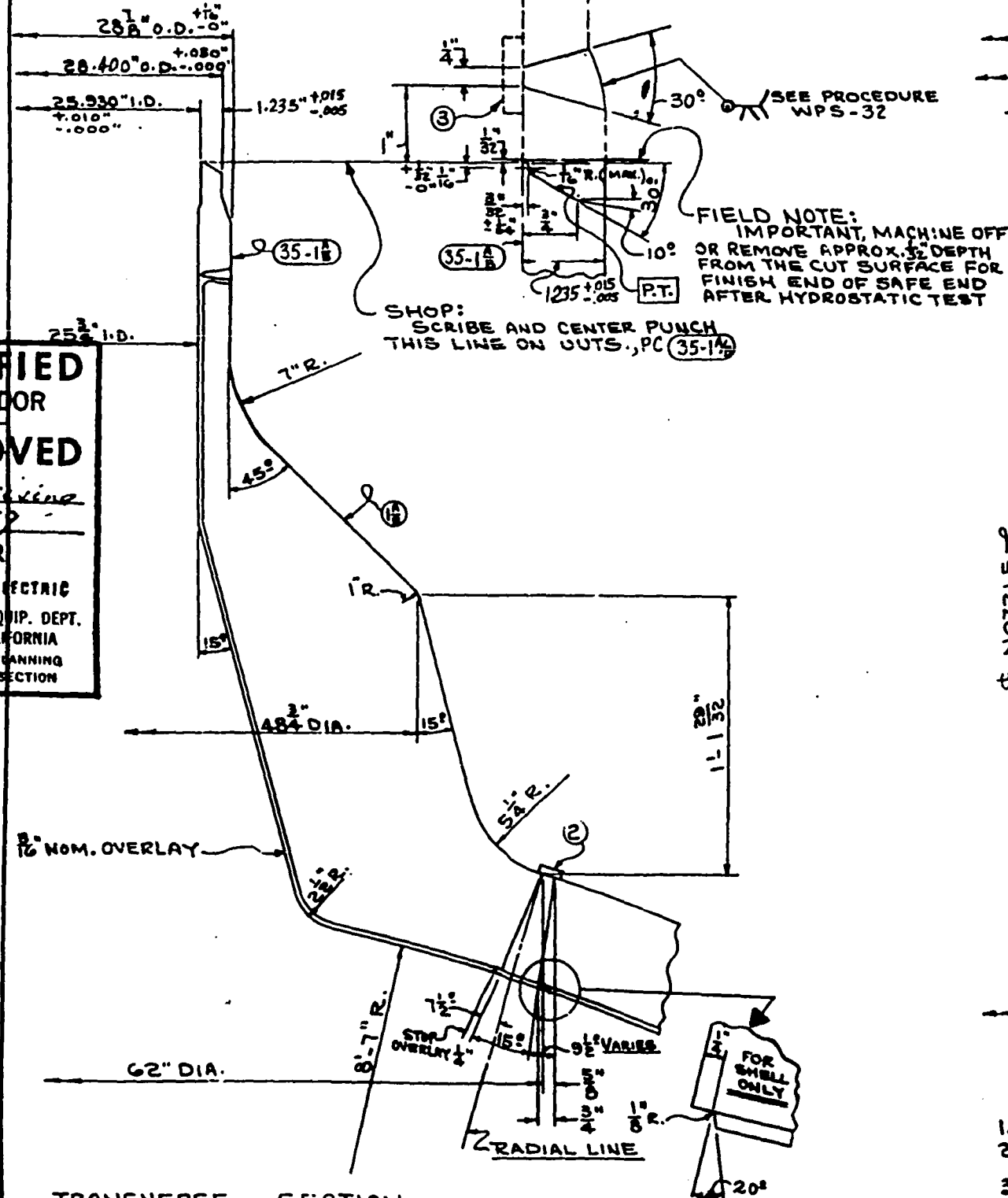


SHIP NO.	MARK	AMT. NO.	DESCRIPTION	LENGTH		SPEC.
				FE.	IN.	
	21-1A	2	36"x28" SPECIAL FORGING (ORDER AS PER DWG. M3)			MB-2 (A503 CLASS B)
	21-2	2	B.U. BAR 1"x 1/4" ROLL MIN. ON OUTS. (MIF BAR 18'-9" LG.)	16	9 1/2	A503-1 50. B.F.B. (MS-1)
	21-3	2	B.U. BARS 1"x 1/2" ROLL (MIF BAR 6'-9 1/2" LG.)	6	8 1/2	CAP B S-L
2	21-4		ELLIPTICAL HEADS 2 1/2" AXIS RATIO 1/4" NOM. THK. 2" R.F. 26" I.D.			A510 3A-70

NOTE: ORIGINAL NIA & B SAFE ENDS SHOWN HERE. NIA & B SAFE ENDS HAVE BEEN REPLACED 2 TIMES:

1. REPLACED PER CB&I CONTRACT 70-6259. SEE DWG. NO. G  
REV. 2 (5920-5333).

2. REPLACED PER EDCR 85-01, J.O. FILE 85-13. SEE DWG. 5920-GG22 FOR WELD PREP AND 5920-GG23 FOR SAFE END DETAILS. SEE J.O. FILE 85-13, WORK PACKAGES 1430 AND 1431 FOR SAFE END REMOVAL AND NOZZLE MACHINING INFORMATION AND WORK PACKAGES 1432 AND 1433 FOR NEW SAFE END INSTALLATION.



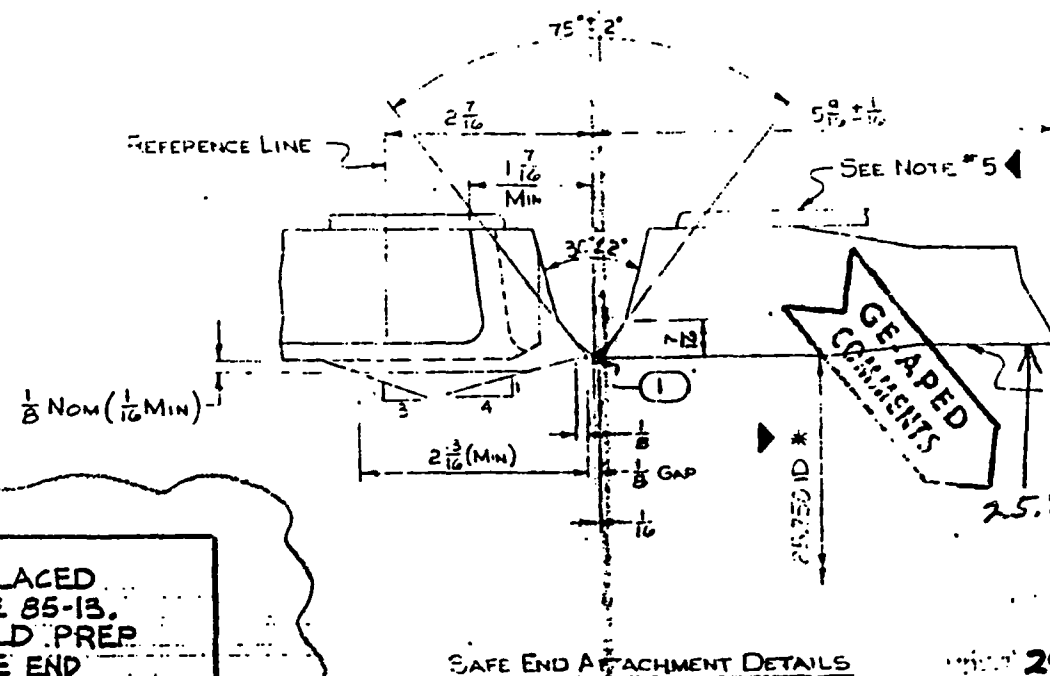
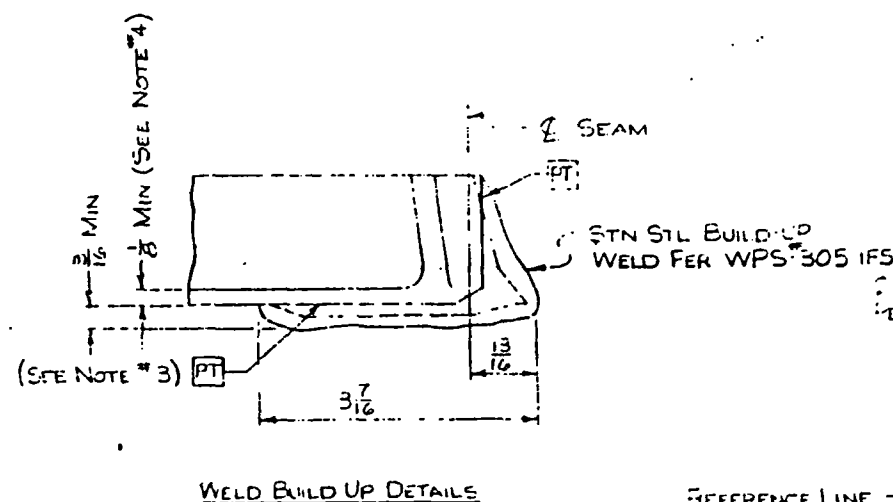
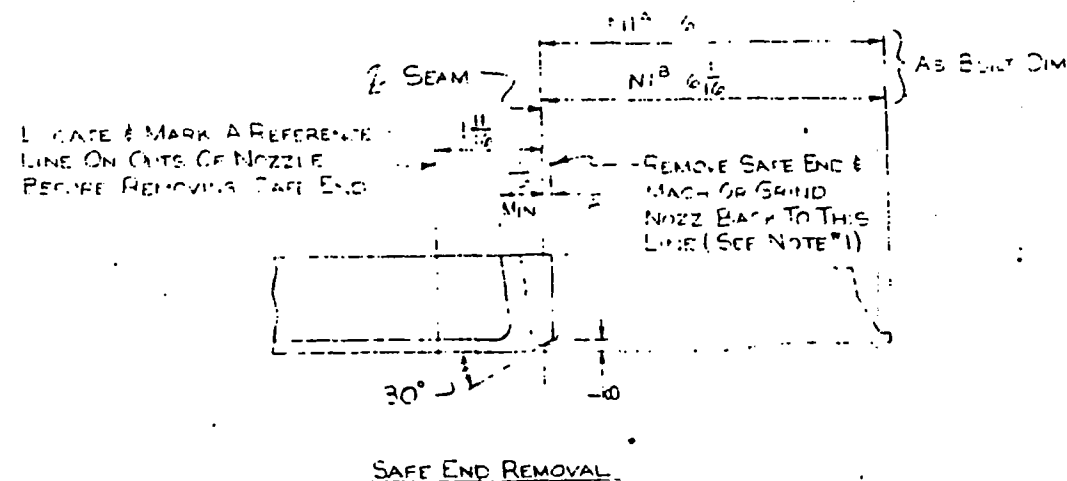
LONGITUDINAL SECTION

### GENERAL NOTES

1. SEE DRAWING #35 FOR COMPLETE SAFE END DETAILS & BILLING  
2. SHOP TO COMPLETE MACHINING OF N1/2 AS PER DRAWING M3  
& RECORD MEASUREMENTS DURING FABRICATION PER DRAWING R-4  
3. SHOP CHECK FORGING DIMENSIONS BEFORE MAKING CUTOFF  
IN SHELL.  
4. USE PIECE MARK SUFFIX FOR CORRESPONDING NOZZLE SUFFIX  
(PC 1A & 35-1A FOR N1/2)
- |   |                           |    |
|---|---------------------------|----|
| 4 | REVISED PER<br>EDCR 85-01 | PC |
|---|---------------------------|----|

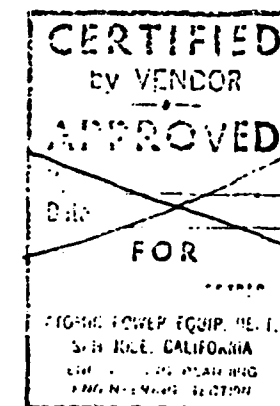
4	REVISED PER EDCP 85-01	P.C.	GC	MEM
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CHICAGO BRIDGE & IRON COMPANY  
PINDSBOROUGH, ALA.  
36" X 28" NOZZLES MK. N11B  
11.2" I.D. X 63.2" INS. HEADS  
NUCLEAR REACTOR FOR: GEN.  
ELECTRIC CO. FOR: CENTRAL VERMONT  
POWER CO. VERNON DAM, VERMONT  
PURCHASER NO. LS-50065-1 QUANTITY NO.  
DRAWN BY LS DATE 4/25/67  
CHECKED BY DEC DATE 5/11/67  
H.L. MAILES FOR  
DESIGN ENGINEER  
THIS DRAWING IS THE PROPERTY OF THE CHICAGO BRIDGE & IRON COMPANY AND IS TO  
BE USED ONLY IN CONNECTION WITH THE PERFORMANCE OF WORK OF THE CHICAGO BRIDGE & IRON  
COMPANY.



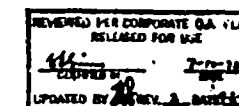
NOTE: NIA & B. SAFE ENDS REPLACED PER EDCR 85-01, J.O. FILE 85-13. SEE 5920-6622 FOR WELD PREP AND 5920-6623 FOR SAFE END DETAILS. SEE J.O. FILE 85-13, WORK PACKAGES 1430 AND 1431 FOR SAFE END REMOVAL AND NOZZLE MACHINING INFO. AND WORK PACKAGES 1432 & 1433 FOR NEW SAFE END INSTALLATION.

REV	DATE	DESCRIPTION	LENGTH	SPEC.	WT
2	6-1	WELDING GROOVE INSERT			
		25 3/4 ID TUBING			

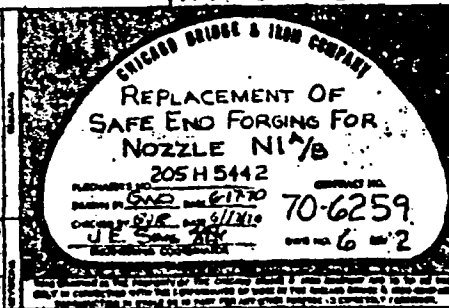


#### NOTES

- INSTRUCTIONS FOR REMOVAL OF EXISTING SAFE ENDS:
  - DETERMINE LOW ALLOY-STAINLESS INTERFACE WITH THE FOLLOWING METHODS:
    - AS BUILT DIMENSION FROM ORIGINAL PARTS
    - POLISH AND OXIDIZE SURFACE
    - VISUAL LOCATION OF INTERIOR ROOT BEAD
    - SEVERN GAGE
  - MAKE INITIAL CUT 3/4" FROM ESTABLISHED E OF WELD
  - CHECK E OF WELD BY INSPECTING EXISTING ROOT BEAD
  - REMOVE METAL TO FINAL CUT LINE
- FINISH ON ALL MACHINED SURFACES TO BE 250RMS
- INSPECT SURFACE TO BE OVERLAYED PER OI-1 INSPECTION PROCEDURE POI-1
- G.E. TO CHECK THICKNESS OF EXISTING OVERLAY IF REQUIRED BY POI-1
- SEE DWG K1 FOR ARC STRIKE SHIELD MATERIAL AND DIM
- MACH ID OF WELD PREP TO WITHIN ±.010 OF MEASURED ID OF SAFE END



3	REVISED PER EDCR 85-01	BY P.C.G.	CHKD	APPRD
---	------------------------	-----------	------	-------



DIST	DESIGN	N.C.	C
1	MECH.		✓
	CONC. HYD.		
	ARCH. STR.		
	SWYD. STR.		
	ELEC.		
	HVAC		
	PLUMBING		
1	HYMAN	✓	
	ENGINEERING		
4	MECH.		✓
	CONC. HYD.		
1	ARCH. STR.		✓
	ELEC.		
	HVAC		
	BLDG. ENG.		
	INSTR.		
	WTR. T		
	STRESS		
	SMELTING		
	RADWASTE		
	STD DIST		
	FOR INFO ONLY		

5920-5533 Ro #2  
ERMONT YANKEE NUCL. PWR. CORP.  
ERMONT YANKEE NUCL. PWR. STA.  
ERMONT, VERMONT

NO.	ITEM
1	REVIEWED WITHOUT COMMENTS
2	REVIEWED WITH COMMENTS AS NOTED
3	NOT APPLICABLE
4	NO COMMENTS. NO PRINT RETURNED
5	NOT FOR INSTALLATION
6	NO FURTHER REPRODUCIBLE REQUIRED
7	RESUBMIT REVISED REPRODUCIBLE
8	RESUBMIT CLOTH OR NYLAR REPRODUCIBLE AS SHIPPED
9	DO NOT PROCEED WITH FABRICATION RESUBMIT REVISED REPRODUCIBLE

PRINT INCLUDED NOTE:  
REPLACEMENT OF SAFE END FORGING FOR NOZZLE NIA/B

REVIEWED BY	DATE	ORIG. DIV.	DI
S.R.	10/19/70	M	

THE FOREGOING SHALL IN NO WAY RELIEVE CONTI FROM ENTIRE RESPONSIBILITY FOR ENGINEERING, I WORKMANSHIP, MATERIAL AND ALL OTHER LIABILITY THE CONTRACT.

EBASCO SERVICES INCORPORATED  
AGENT  
2 RECTOR ST., NEW YORK, N.Y. 100

L21-042801

REVISION STATUS TABLE				
APPLIED DOCUMENTS		HITACHI DWG. REVISION		
DWG. NO.	REV. NO.	ECN OR EDS NO.	REV. NO.	REASON OF REVISION BY HITACHI
VYEDCR-85-1 S2	0	—	0	—
SK 84095	—	—	0	—
112D3879	0	—	A	ENG'G SHEET NO. YE-VY-0031
			B	

FM-FIELD WELD  
現地溶接部  
PE-PLAIN END  
現地調整部  
SM-SHOP WELD  
工場溶接部

DESIGN CON-  
TITION  
設計  
条件

DESIGN PRESS.  
設計圧力  
DESIGN TEMP.  
設計温度

1250 (PSIG)  
87.9 (KG/CM<sup>2</sup>)  
575 (°F)  
302 (°C)

RELATING DRAWINGS  
関連図面  
ASSEMBLY DRAWING  
組立図

FABRICATION  
SEQUENCE  
製作手順図  
FABRICATION  
INSPECTION PLAN  
生産管理表

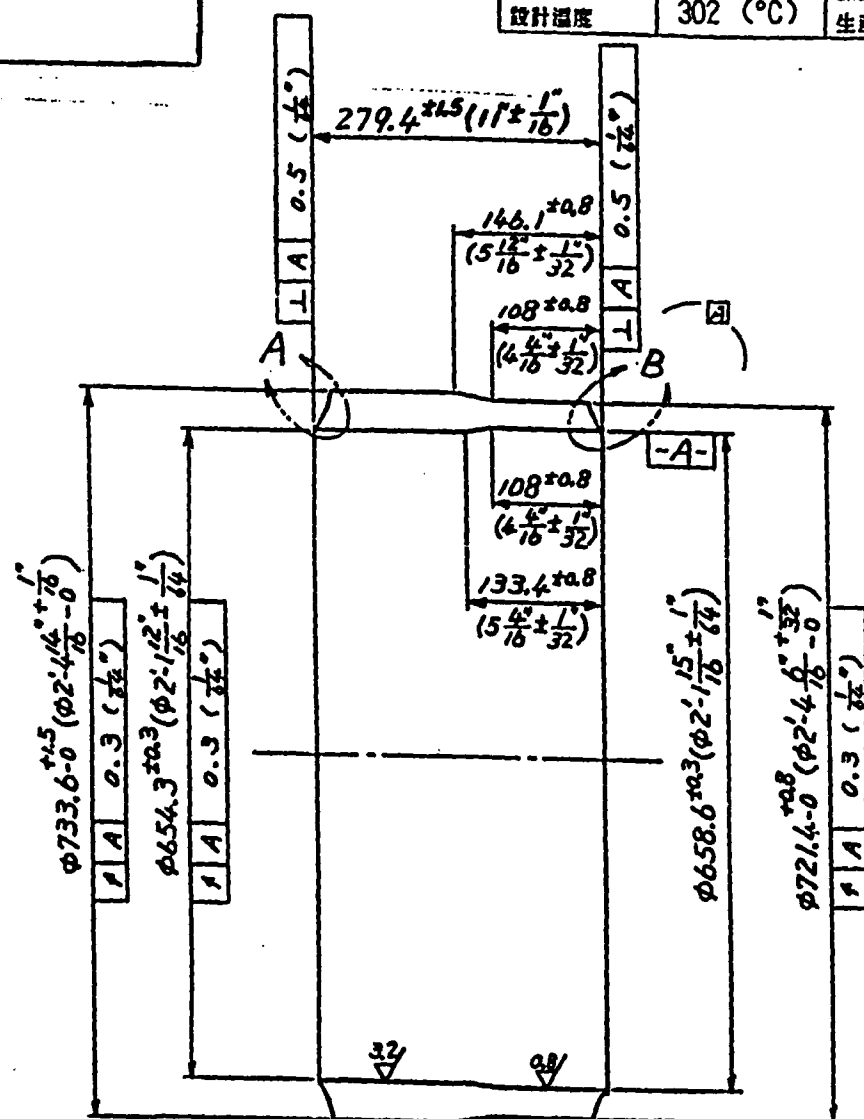
PIPING SYSTEM  
系統名  
RECIRCULATION  
LOOP PIPING  
原子炉再循環系配管

PIPING CLASS ASME SEC. III  
配管等級  
SAFETY CLASS  
安全クラス  
SEISMIC CLASS  
耐震クラス

SYM.	DWG. ZONE	REVISIONS	DATE	REVD.	CHKD.	APPD.	RE. DWG.	INTR.	RE. MF.
A	A-1	CHGD. WELD. PREP ETC.	Jul. 18, '85	T. S. 10	J. H. 10	J. H. 10			

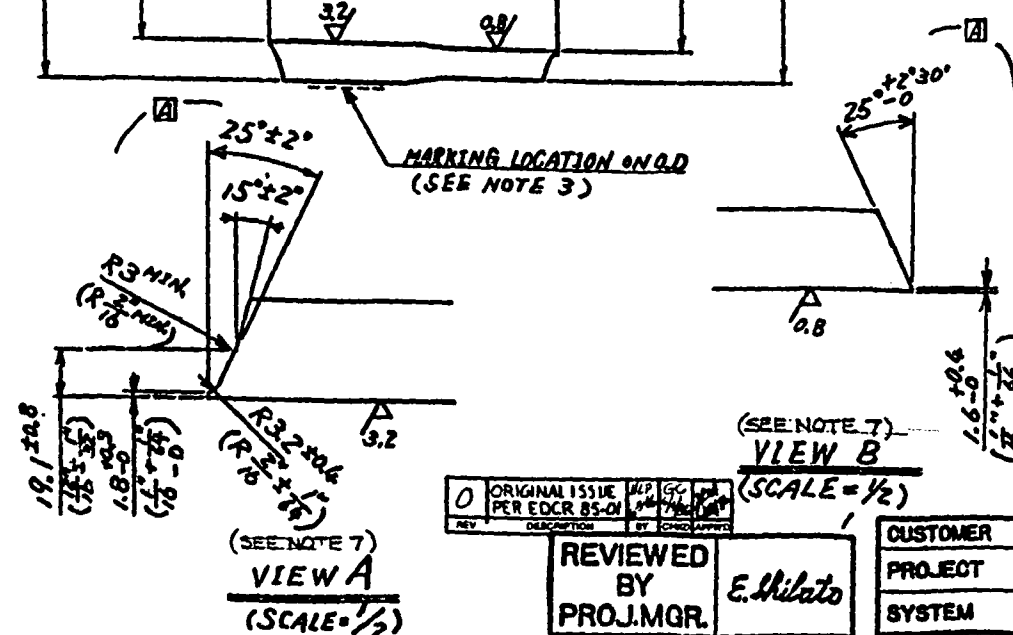
## NOTES

- (1) "DELETED"
- (2) DIMENSIONS OF THIS DWG SHOWS FINAL FINISHED DIMENSIONS.
- (3) MARKING ITEMS SHALL BE DONE THE FOLLOWING ITEM ON MARKING LOCATION OF THIS DWG.
- MANUFACTURER'S BRAND
  - HILL WORK NO.
  - STEEL GRADE (ASME SA-182 F316)
  - JOB. NO.
- (4) DIMENSIONAL UNIT OF THIS DWG'S DIMENSIONS SHALL BE MM AND THE UNIT OF PARENTHEZIZED DIMENSIONS IS INCH.
- (5) THE FOLLOWING SURFACE ROUGHNESS SYMBOL OF  $\sqrt{3.2}$  ( $\sqrt{3.2}$ ,  $\sqrt{0.8}$ ) MEANS:
- $\sqrt{3.2}$  ( $\sqrt{3.2}$ ): DESCRIBED SURFACE ONLY.
  - $\sqrt{0.8}$ : ALL SURFACES EXCEPT MARKED AS ( $\sqrt{3.2}$ ,  $\sqrt{0.8}$ )
- (6) ALL CORNERS AND EDGES SHALL BE FINISHED TO BE R  $\frac{1}{8}$ " MAX UNLESS SPECIFIED.
- (7) WELD PREPS WERE REVISED IN THE FIELD. SEE 5920-6622, SHEET 1 FOR ACTUAL WELD PREP DETAILS.



1	SAFE END	3	ASME SA-182 F316 (NUCLEAR GRADE)	
PT.NO.	NAME	Q'TY.	MATERIAL	REMARKS

SURFACE ROUGHNESS SYMBOLS	
ANSI STANDARD SYMBOL	APPLICABLE HITACHI STANDARD SYMBOL (ANSI STANDARD)
$\sqrt{3.2}$	$\sqrt{0.8}$
$\sqrt{0.8}$	$\sqrt{1.6}$
$\sqrt{12.5}$	$\sqrt{3.2}$
$\sqrt{250}$	$\sqrt{6.3}$
$\sqrt{500}$	$\sqrt{12.5}$
$\sqrt{1000}$	$\sqrt{25}$
(MICROINCHES)	(ROUGHNESS AVERAGE, Ra)



VERMONT YANKEE

☒ APPROVED

☐ APPROVED WITH COMMENTS

☐ FAB. MAY BE PROCEEDED. RE-SUBMIT THE REVISED DOC.

☐ NOT APPROVED

DATE: 8/7/85

YANKEE ATOMIC ELECTRIC CO.

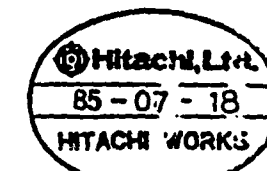
VERMONT YANKEE NUCLEAR POWER CORP.

REVIEWED BY: E. Mito

PROJECT: VERMONT YANKEE NUCLEAR POWER CORP. VERNON, VERMONT

SYSTEM: RECIRCULATION SYSTEM AND RESIDUAL HEAT REMOVAL SYSTEM

5920-6623



THIS DRAWING IS RELEASED TO GE ONLY FOR USE WITH ENGINEERING AGREEMENT 444-HB-1101 BETWEEN GE AND VERMONT YANKEE N.P.C.

## FOR CERTIFICATION

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OWN.	CHKD.	APPD.	DATE	THIRD	TITLE
J. H. 10	J. H. 10	J. H. 10	Mar. 18, '85	1/5	RECIRC. OUTLET SAFE END N1

Hitachi, Ltd.  
Tokyo Japan

HITACHI WORKS DWG. NO.  
10R290-127

S 22150 1A2 DWG PAPER

VERMONT YANKEE

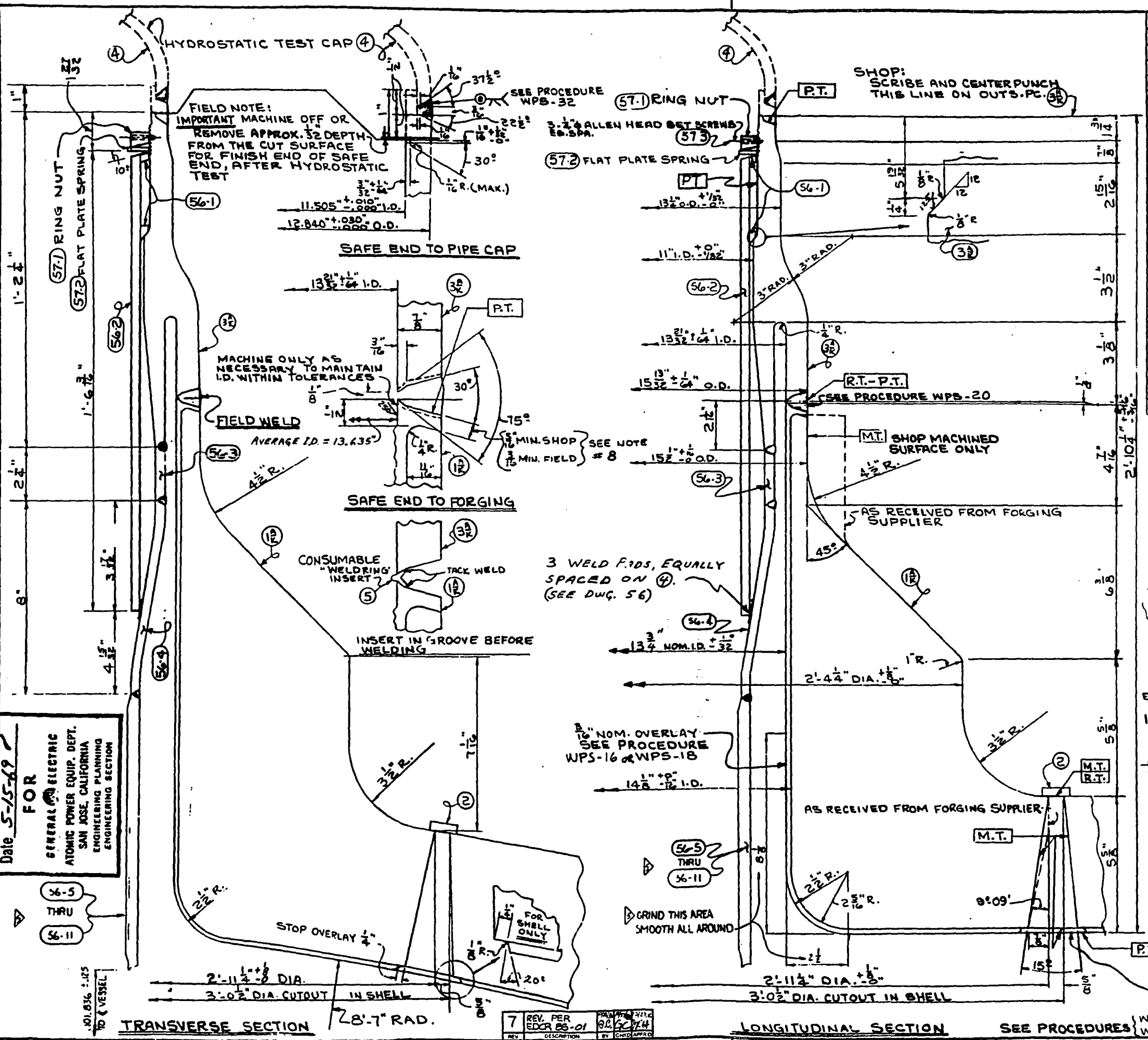
GENERAL ELECTRIC CO.  
APR 20 - SAN JOSE  
VPF# 1842-181-7  
EP# 2-1-1

**CERTIFIED**  
by VENDOR  
**APPROVED**  
By *[Signature]*  
Date 5-15-69  
FOR  
GENERAL ELECTRIC  
ATOMIC POWER EQUIP. DEPT.  
SAN JOSE, CALIFORNIA  
ENGINEERING PLANNING  
ENGINEERING SECTION

9-5624

36-5  
THRU  
36-11

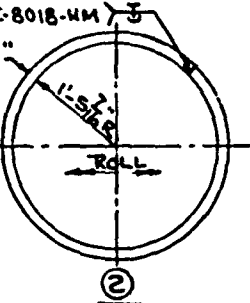
101,836 ±.125  
TO VESSEL



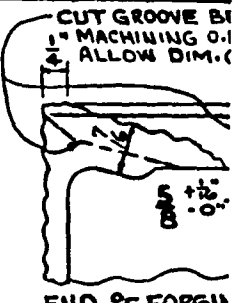
ITEM NO.	MARK	DESCRIPTION	QTY	UNIT
22-1A	10	12" SPECIAL FORGINGS (ORDER NO MACHINE AS PER DWG. M14)		
22-2	10	B.U. BAR 1 1/2" ROLL (MIFBARS 11" LG.)	9	T32
10	255A	SAFE END ASSEMBLY		
22-3A	10	SPECIAL SAFE END FORGING (ORDER AS PER DWG. M13)		
56-1	20	R. 11 1/2" O.D. x 10 1/8" I.D. x SK THK (M/F R 3/8" THK)		
56-2	10	R. 10" SCH 40S PIPE (M/F R 1 1/2" LG. P. 8)		SK
56-3	10	R. 12" SCH 40S PIPE 8E	0	2 1/4
56-4	10	12" 10" SCH 40S CONCENTRIC GROOVE RUBBER GASKET (SEE DWG. 56 FOR DETAILS OF (56-5) WELD (56-11))	0	8
57-1	10	R. 11 1/2" O.D. x 9 1/8" I.D. x SK THK (M/F R 11 1/2" O.D. x 9 1/8" I.D. x SK THK)		
57-2	10	R. 11 1/2" O.D. x 9 1/8" I.D. x 1/8" THK (M/F R 11 1/2" O.D. x 9 1/8" I.D. x 1/8" THK)		
57-3	30	1/4" SET SCREWS 20 TPI. UNC	0	0 1/4
10	22-4	12" STD. 3MIS WELDING PIPE CAP		
10	22-5	WELDING INTERF. x 13 1/2" ID THRU GENERAL NOTES		

- SEE DWG. "MIS" & "MET" FOR COMPLETE SAFE END DETAILS.
- SHOP TO COMPLETE MACHINING OF 1/4" PER DWG. "MIS" RECORD MEAS. DURING FABRICATION PER DWG. P. 4.
- SHOP CHECK FORGING DIMENSIONS BEFORE MAKING JOINT IN FIELD.
- FL. WELDS & INSERTS MUST BE MADE IN FIELD. WELDING IN FIELD MUST BE DONE FOR INSIDE NO. 4 ETC.
- DIMENSIONS GIVEN WITHOUT TOLERANCES ARE FOR REFERENCE. SEE M4 & M5 FOR ADDITIONAL TOLERANCES.
- SEE DWG. 57 FOR RING NUT, PLATE SPRING AND SET SCREW DATA.
- SEE DWG. 56 FOR COMPLETE THERMAL SLEEVE DETAILS.
- THICKNESS OF OVERLAY WELD SHALL BE 3/8" MIN. MINIMUM 1/4" ALLOWANCE FOR CUTTING & RE-FLATTENING IN FIELD IS NEEDED.
- OF FINAL SAFE END/THERMAL SLEEVE SHALL BE. DATE OF THERMAL SLEEVES REPLACED PER EDCR 85-01 J. 2. FILE 5 SEE 5920-6622 FOR WELD PREP DETAILS, 5920-6624 SAFE END DETAILS, AND 5920-6625 FOR THERMAL SLEEVES DETAILS. SEE J. 2. FILE 55-13 WORK PACKAGES 4 & 7 FOR REMOVAL AND MACHINING AND WORK PACKAGES 1420 - 1429 FOR INSTALLATION DETAILS.

5920-656  
NY-706102



FOR INSPECTIONS  
NOT SPECIFIED  
SEE DRAWING 2



VERMONT YANKEE  
12" NOZZLE MK. N27K  
17.2" I.D. x 63.2" I.D. HEAD  
NUCLEAR REACTOR FOR  
GENERAL ELECTRIC CO. OF  
CENTRAL VERMONT POWER CO.  
VERMONT DAM  
VERMONT  
DRAWN BY: JCC DATE: 5/15/69  
CHECKED BY: LS DATE: 7/1/69  
H.L. WALES  
9-62C  
DWG NO 22

REV.	PER	EDCR	85-01	DATE	BY	APPROVED
7	REV.	PER	EDCR	85-01	80	5/21/74

LONGITUDINAL SECTION

SEE PROCEDURES WPS-4 & WPS-18

821-062401

## REVISION STATUS TABLE

APPLIED DOCUMENTS			HITACHI DWG. REVISION	
DWG. NO.	REV. NO.	ECN OR EDS NO.	REV. NO.	REASON OF REVISION BY HITACHI
VE-EDCR-85-1 S2	0	—	0	—
SK 840828	0	—	0	—
137C8449	0	—	A	HITACHI'S REVISED BY PURCHASER'S REQUIREMENT
			B	ENG'G SHEET NO YE-VY-0031

 FH-FIELD WELD  
 現地溶接部  
 PE-PLAIN END  
 現地調整部  
 SW-SHOP WELD  
 工場溶接部

 DESIGN COND-  
 TION  
 設計条件  
 ASME CODE SEC. II  
 1980 EDITION INCLUDING  
 ALL ADDENDUM THROUGH  
 SUMMER OF 1982

 RELATING DRAWINGS  
 関連図書  
 ASSEMBLY DRAWING  
 組立図

 PIPING SYSTEM  
 系統名  
 RECIRCULATION LOOP PIPING  
 原子炉再循環系配管  
 PIPING CLASS ASME SEC. II  
 配管等級

 DESIGN PRESS.  
 設計圧力  
 1250 (PSIG)  
 87.9 (kg/cm<sup>2</sup>)  
 DESIGN TEMP.  
 設計温度  
 575 (°F)  
 302 (°C)

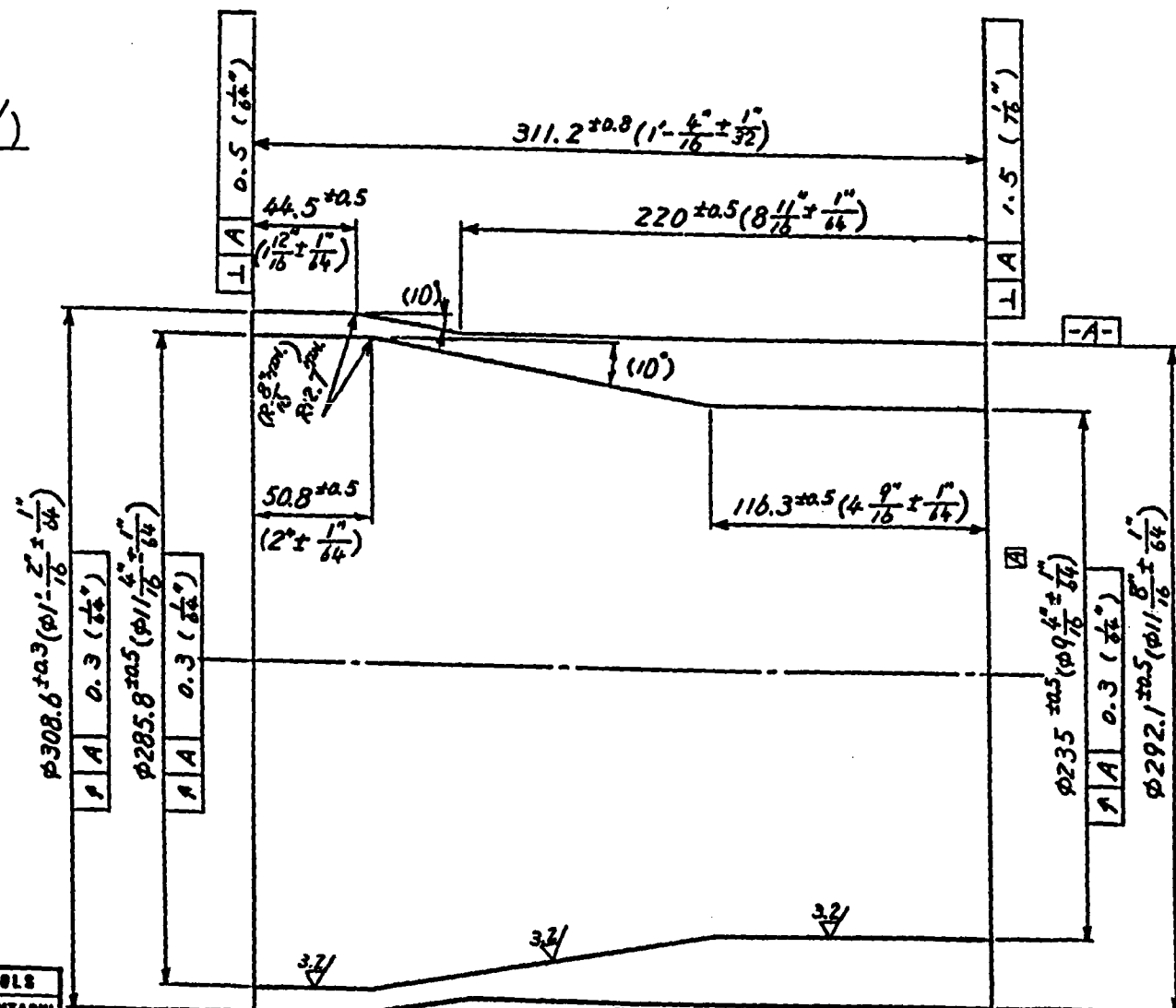
 FABRICATION SEQUENCE  
 製作手順図  
 FABRICATION INSPECTION PLAN  
 生産管理表

 SAFETY CLASS  
 安全クラス  
 SEISMIC CLASS  
 耐震クラス

SYMBOL	DWG. ZONE	REVISIONS	DATE	REV'D.	CHK'D.	APP'D.	RE. DWG.	RE. MTR.	RE. MTR.
④	C-3	CHGD. DIM. ETC.	APR. 10, '85	T. Shimizu	T. Shimizu	T. Shimizu			
⑤	A-5	CHGD. NOTE (2) ETC.	JUL. 18, '85	T. Shimizu	T. Shimizu	T. Shimizu			

## NOTES

- (1) "DELETED"
- (2) DIMENSIONS OF THIS DWG SHOWS FINAL FINISHED DIMENSIONS.
- (3) MARKING ITEMS SHALL BE DONE THE FOLLOWING ITEM ON MARKING LOCATION OF THIS DWG.
- MANUFACTURER'S BRAND
  - MILL WORK NO.
  - STEEL GRADE (ASME SA-182 F316)
  - JOB. NO.
- (4) DIMENSIONAL UNIT OF THIS DWG'S DIMENSIONS SHALL BE mm AND THE UNIT OF PARENTHEZIZED DIMENSIONS IS INCH.
- (5) THE FOLLOWING SURFACE ROUGHNESS SYMBOL OF  $\sqrt{3.2}$  MEANS:
- $\sqrt{3.2}$ : DESCRIBED SURFACE ONLY.
  - $\sqrt{3.2}$ : ALL SURFACES EXCEPT MARKED AS  $\sqrt{3.2}$ .
- (6) ALL CORNERS AND EDGES SHALL BE FINISHED TO BE R  $\frac{1}{8}$ " MAX UNLESS SPECIFIED.
- (7) SEE 5920-G622, SHEET 1 FOR FIELD WELD PREP DETAILS.

①  $\sqrt{6.3}$  /  $\sqrt{3.2}$ 

PT. NO.	NAME	Q'TY.	MATERIAL	REMARKS
1	TRANSITION PIECE	11	ASME SA-182 F316 (NUCLEAR GRADE)	

## VERMONT YANKEE

☒ APPROVED

☐ APPROVED WITH COMMENTS

☐ FAB. MAY BE PROCEEDED.

☐ RE-SUBMIT THE REVISED DOC.

☐ NOT APPROVED

DATE: 8/7/85

YANKEE  
ATOMIC  
ELECTRIC  
CO.VERMONT  
YANKEE  
NUCLEAR  
POWER  
CORP.
 REVIEWED BY  
 PROJ. MGR.  
 E. Hilato

 CUSTOMER VERMONT YANKEE NUCLEAR POWER CORP.  
 PROJECT VERMONT YANKEE NUCLEAR POWER CORP. VERNON, VERMONT  
 SYSTEM RECIRCULATION SYSTEM AND RESIDUAL HEAT REMOVAL SYSTEM

5920-6625



## FOR CERTIFICATION

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OWN: T. Shimizu	Rev. 08. '85	THIRD	TITLE
CHKD: S. Shimizu	7	AND PROJ.	TRANSITION PIECE
APPD: R. Shimizu		SCALE	N2
			HITACHI WORKS DWG. NO.
			10R290-128

 Hitachi, Ltd.  
 Tokyo Japan

 HITACHI WORKS DWG. NO.  
 10R290-128

S 221350 (A2 DWG. PAPER)

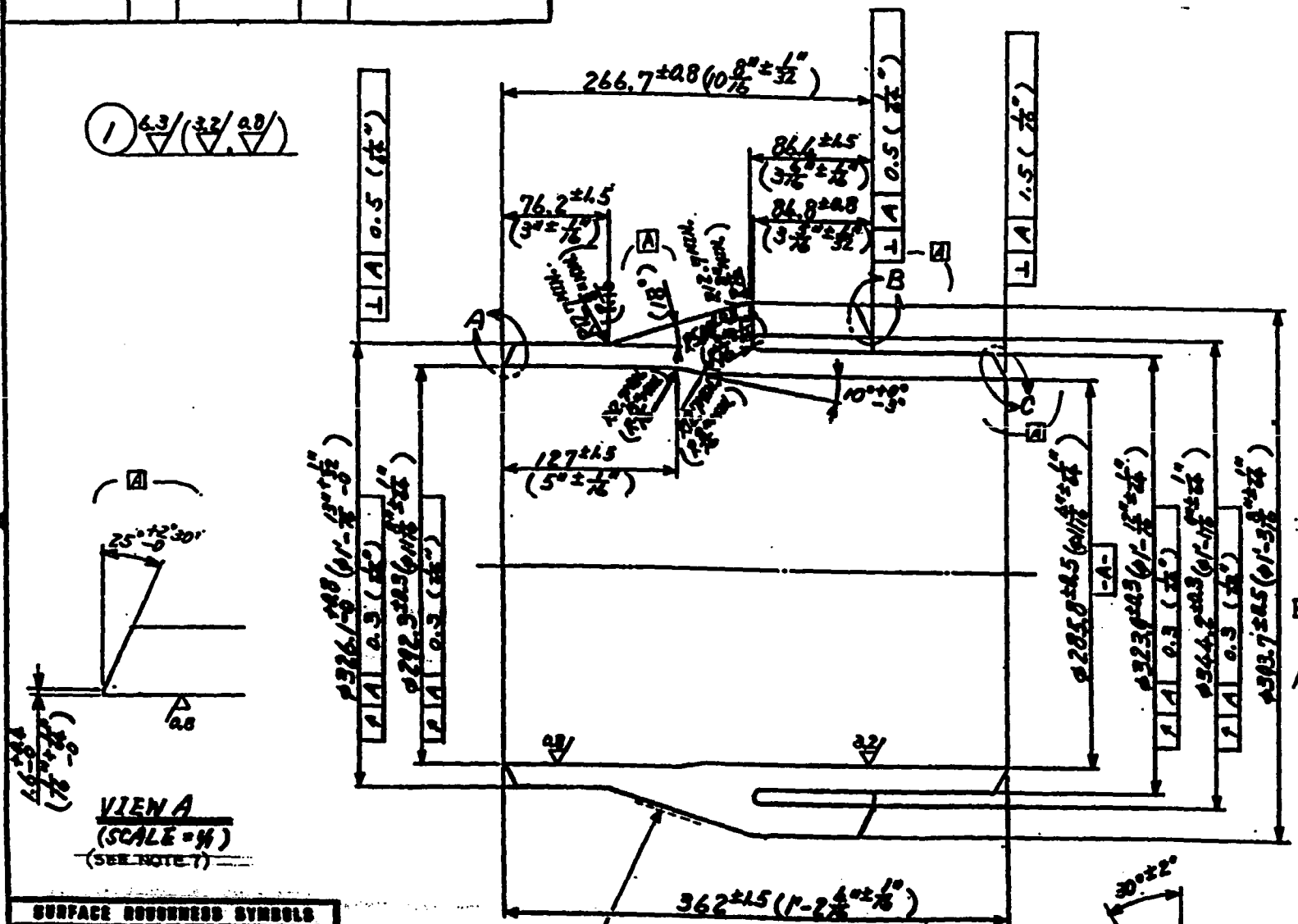
REVISION STATUS TABLE				REVISIONS		DATE	REVD.	CHKD.	APPD.	RE. DWG.	INTR.	RE. MF.
APPLIED	DOCUMENTS	HITACHI DWG. REVISION		REV. NO.		REASON OF REVISION		BY HITACHI				
DWG. NO.	REV. NO.	ECN OR EDS NO.	REV. NO.									
VYEDOR-051S2	0	—	0									
SK 840826	0	—	0									
137C8448	0	—	A			ENG'G SHEET NO. YE-VY-0031						
			B									

FW-FIELD WELD 現場溶接部 PE-PLAIN END 現場溶接部 SW-SHOP WELD 工場溶接部	DESIGN COND- TION 設計条件	ASME CODE SEC. II 1980 EDITION INCLUDING ALL ADDENDA THROUGH SUMMER OF 1982	RELATING DRAWINGS 関連図書 ASSEMBLY DRAWING 組立図	PIPING SYSTEM 系統名 配管等価	RECIRCULATION LOOP PIPING 原子炉再循環配管	SYM. 記号	DWG. ZONE 図面区域	REVISIONS 改訂	DATE 年月日	REVD. 改訂	CHKD. 検査	APPD. 承認	RE. DWG. 改訂図面	INTR. 納入	RE. MF. 改訂明細
DESIGN PRESS. 設計圧力	1250 (PSIG) 87.9 (MPa)	FABRICATION SEQUENCE 製作手順図	SAFETY CLASS 安全クラス	DESIGN TEMP. 設計温度	575 (°F) 302 (°C)	FABRICATION INSPECTION PLAN 生産管理表	SEISMIC CLASS 耐震クラス								

# NOTES

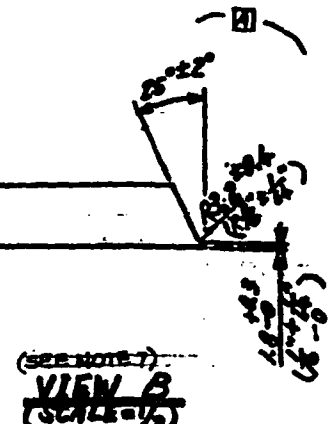
- "DELETED"
- DIMENSIONS OF THIS DWG SHOWS FINAL FINISHED DIMENSIONS.
- MARKING ITEMS SHALL BE DONE THE FOLLOWING ITEM ON MARKING LOCATION OF THIS DWG.
  - MANUFACTURER'S BRAND
  - MILL MARK NO.
  - STEEL GRADE (ASME SA-182 F316)
  - JOB. NO.
- DIMENSIONAL UNIT OF THIS DWG'S DIMENSIONS SHALL BE MM AND THE UNIT OF PARENTHEZIZED DIMENSIONS IS INCH.
- THE FOLLOWING SURFACE ROUGHNESS SYMBOL OF  $\sqrt{32}$  MEANS:
  - $\sqrt{32}$ : DESCRIBED SURFACE ONLY.
  - $\sqrt{32}$ : ALL SURFACES EXCEPT MARKED AS  $\sqrt{32}$
- ALL CORNERS AND EDGES SHALL BE FINISHED TO BE R  $\frac{1}{8}$ " MAX UNLESS SPECIFIED.
- WELD PREPS WERE REVISED IN THE FIELD. SEE 5920-6622, SHEET 1 FOR ACTUAL WELD PREP DETAILS.

1	SAFE END	11	ASME SA-182 F316 (NUCLEAR GRADE)	
PT.NO.	NAME	Q'TY.	MATERIAL	REMARKS



SURFACE ROUGHNESS SYMBOLS	
ANSI STANDARD SYMBOL	OFFSHORE STANDARD SYMBOL (ANSI STANDARD)
$\sqrt{32}$	$\sqrt{32}$
$\sqrt{63}$	$\sqrt{63}$
$\sqrt{125}$	$\sqrt{125}$
$\sqrt{250}$	$\sqrt{250}$
$\sqrt{500}$	$\sqrt{500}$
$\sqrt{1000}$	$\sqrt{1000}$
(MICROINCHES)	(ROUGHNESS AVERAGE, Ra)

MARKING LOCATION ON D  
(SEE NOTE 3)



REVIEWED BY  
PROJ.MGR. E. Mito

CUSTOMER: VERMONT YANKEE NUCLEAR POWER CORP.  
PROJECT: VERMONT YANKEE NUCLEAR POWER  
SYSTEM: CORE, VERMONT YANKEE REGENERATION SYSTEM AND RESIDUAL HEAT REMOVAL SYSTEM

VERMONT YANKEE

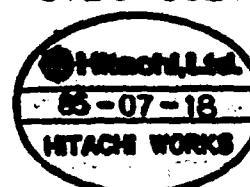
☒ APPROVED  
APPROVED WITH COMMENTS  
FAB. MAY BE PROCEEDED. RE-SUBMIT THE REVISED DOC.  
☐ NOT APPROVED

DATE: 8/7/85

YANKEE ATOMIC ELECTRIC CO.

VERMONT YANKEE NUCLEAR POWER CORP.

5920-6624



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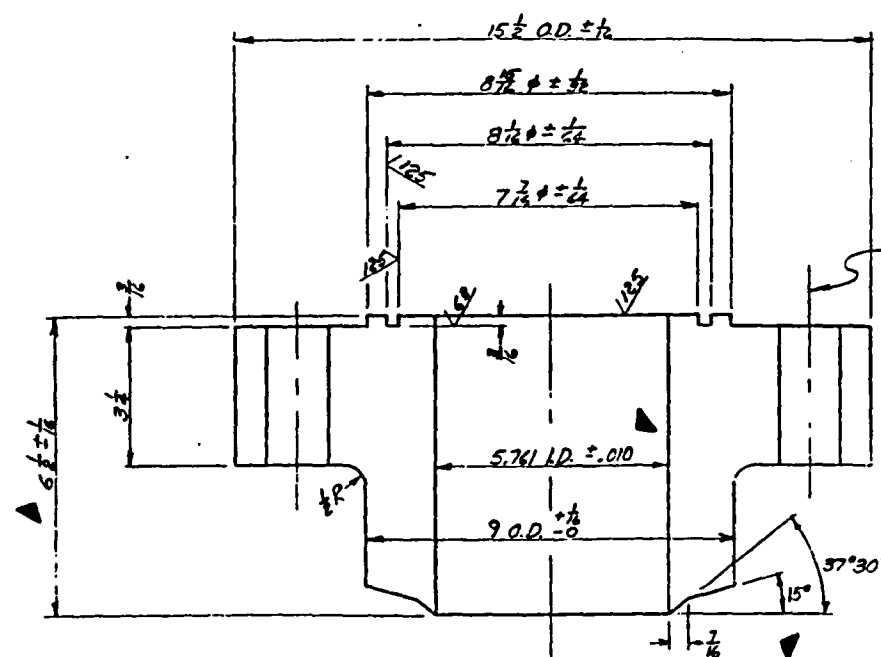
UNCL.	CHD.	APPD.	THIRD	RECD.	DATE	TITLE
						RECIRC. INLET
						SAFE END
						N2

Hitachi, Ltd.  
Tokyo Japan

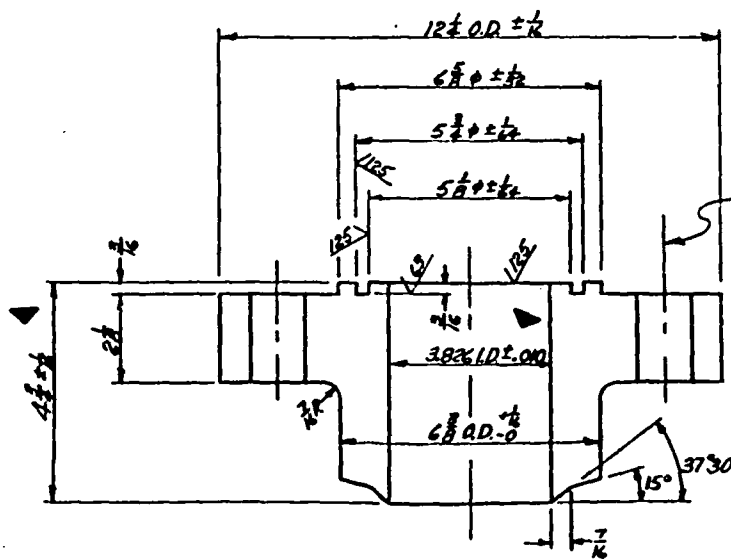
HITACHI WORKS DWG. NO. 10R290-126

5 271160 (A2 DWG. PAPER)





(1-1) SPECIAL 1500# LONG WELD NECK FLG (2-Req'd)  
(NOZZLE N6 A/B)



(1-3) SPECIAL 1500# LONG WELD NECK FLG (1-Req'd)  
(NOZZLE N7)

12-1 1/2" HOLES EQUALLY  
SPACED ON 12 1/2" B.C.  
(STRADDLE ES)

8-1 3/8" HOLES EQUALLY  
SPACED ON 9 1/2" B.C.  
(STRADDLE ES)

# INFORMATION ONLY

NOTE:  
MATERIAL SPEC - CB1I SPEC MS-6 (SA536 Q. FB)

GENERAL ELECTRIC CO.  
APED-SAN JOSE  
VPF #  
2934-21-1

DESIGN ENGINE & IRON CO. UPDATED  
CERTIFIED DRAWING  
4/10/70

CHICAGO BRIDGE & IRON COMPANY

NOZZLE N6 1/2 (INSTR) &  
NOZZLE N7 (VENT) WELD  
NECK FLG FORINGS

PROCESSED BY 205 H 5442 CONTRACT NO.  
DRAWN BY BJR DATE 5/11/70  
CHECKED BY CHYD DATE 5/11/70  
70-6259  
L.F. SCS  
H1 1

DIST.	DESIGN	M.C.	C
1	MECH.	0	✓
	CONC. HYD.		
	ARCH. STR.		
	SMYTH STR.		
	ELEC.		
	HVAC		
	PLUMBING		
	HYMAN		✓
	ENGINEERING		
4	ARCH.	0	✓
	CONC. HYD.		
	ARCH. STR.		
	ELEC.		
	HVAC		
	BLDG. ENG.		
	INSTR.		
	WTR. T		
	STRESS		
	SMELTING		
	WASTE		
	STD DIST		
	FOR INFO ONLY		

5920-5263 R C

VERMONT YANKEE NUCL. PWI  
VERMONT YANKEE NUCL. PWI  
VERNON, VERMONT

P.O. NY 706102 IT

A	DESIGN REVIEW	REVIEWED WITHOUT COMMENTS	
		REVIEWED WITH COMMENTS AS IN	
		NOT APPLICABLE	
		NO COMMENTS, NO PRINT RETURN	
B	PROCESS WITH FABRICATION	NO FURTHER REPRODUCIBLE REQUIRED.	
		REWORK REVISED REPRODUCIBLE	SEE ME IF ONE HERE
		REWORK CLOTH OR BYLAR	
		REPRODUCIBLE AS SHIPPED	
		DO NOT PROCEED WITH FABRICATION	REWORK REVISED REPRODUCIBLE

\* PRINT INCLUDES NOTE:

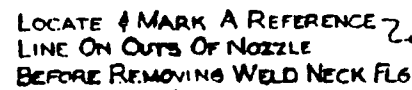
WELD NECK FLG FOR  
REPLACEMENT NOZ:  
N6 A/B & N7

REVIEWED BY	DATE	Q.M.
S.R.	4/10/70	M

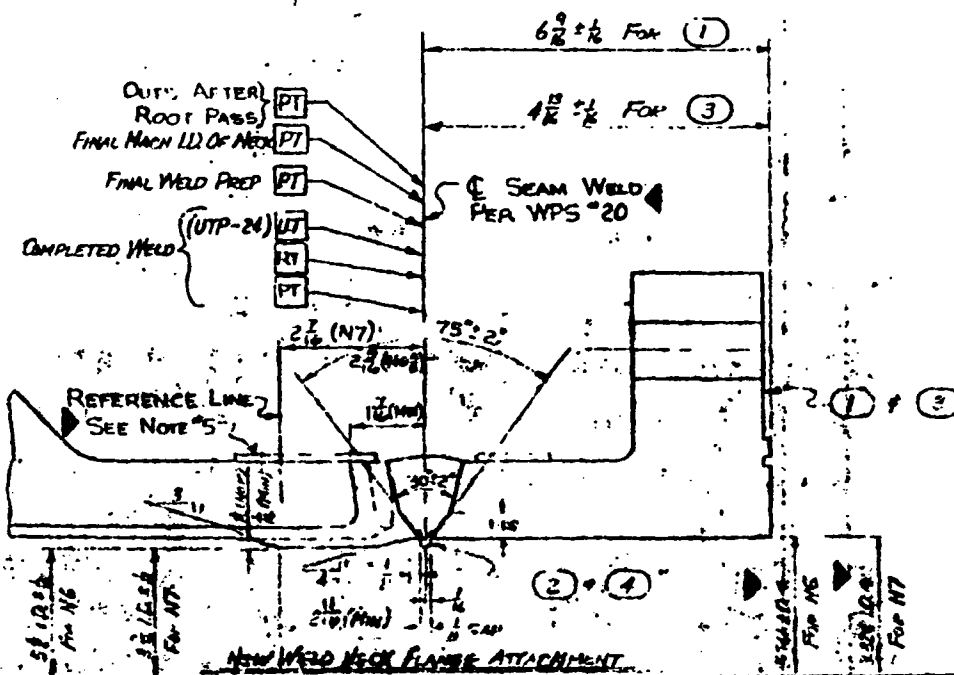
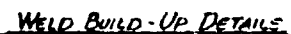
THE FOREGOING SHALL IN NO WAY RELIEVE FROM ENTIRE RESPONSIBILITY FOR ENGINEERING, WORKMANSHIP, MATERIAL AND ALL OTHERS THE CONTRACT.

EBASCO SERVICES INCORP  
AGENT  
2 RECTOR ST., NEW YORK, N





- REMOVE WELD NECK FLG & MACH OR GRIND NOZZLE BACK TO THIS LINE (SEE NOTE #1)



**CERTIFIED**  
by **VENDOR**  
**APPROVED**  
By MR. Haring  
Date 9-16-70  
**FOR**  
.....  
**ATOMIC POWER EQUIP. DEPT.**  
**SAN JOSE, CALIFORNIA**  
**ENGINEERING PLANNING**  
**ENGINEERING SECTION**

NOTES.

1. INSTRUCTIONS FOR REMOVAL OF EXISTING SAFE ENDS:
  - A. DETERMINE LOW ALLOY - STAINLESS INTERFACE WITH THE FOLLOWING METHODS:
    1. AS BUILT DIMENSIONS FROM ORIGINAL PARTS
    2. POLISH AND OXIDIZE SURFACE
    3. VISUAL LOCATION OF INTERIOR ROOT BEAD
    4. SEVERN GAGE
  - B. MAKE INITIAL CUT  $\frac{3}{4}$  FROM ESTABLISHED  $\phi$  OF WELD.
  - C. RECHECK  $\phi$  OF WELD BY INSPECTING EXISTING ROOT BEAD
  - D. REMOVE MATL. TO FINAL CUT LINE
2. FINISH ON ALL MACHINED SURFACES TO BE 250 RMS
3. INSPECT SURFACES TO BE OVERLAYED PER O'LAY INSPECTION PROCEDURE POI-1
4. G E. TO CHECK THICKNESS OF EXISTING O'LAY IF REQUIRED BY POI-1
- ▶ 5. SEE DWG K1 FOR ARC STRIKE SHIELD MATERIAL AND DIMENSIONS
- ▶ \* 6 MACH ID OF WELD PREP TO WITHIN  $\pm .010$  OF MEASURED ID OF SAFE END

VERMONT YANKEE NUCL. PI  
VERMONT YANKEE NUCL. PI  
VERNON. VERMONT

PO NY 706102

A	DRAWING REVIEW	REVIEWED WITHOUT COMMENT	
		REVIEWED WITH COMMENTS AT	
		NOT APPLICABLE	
		NO COMMENTS NO PRINT RE	
		NOT FOR INSTALLATION	
B	PROCEED WITH FABRICATION	NO FURTHER REPRODUCIBLE REQUIRED	
		RESUBMIT REVISED REPRODUCIBLE	88 IF H
		RESUBMIT CLOTH OR MYLAR REPRODUCIBLE AS SHIPPED	
		DO NOT PROCEED WITH FABRICATION RESUBMIT REVISED REPRODUCIBLE	

* PRINT INCLUDED	NOTE.
------------------	-------

REPLACEMENT O  
FORGING LUR  
N6 & N7

REVIEWED BY S.R	DATE 10/19/70
--------------------	------------------

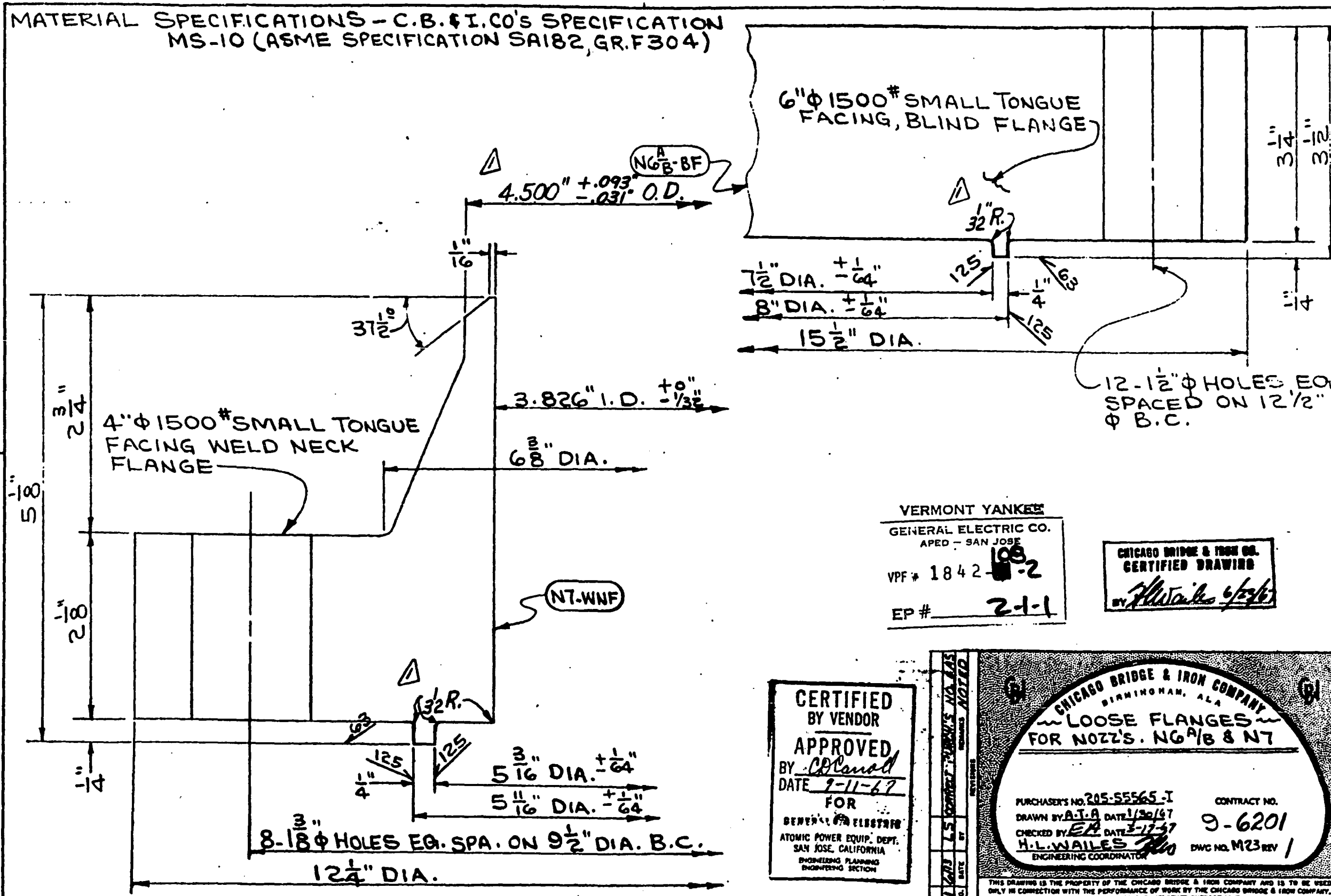
THE FOREGOING SHALL IN NO WAY  
FROM ENTIRE RESPONSIBILITY FOR  
WORKMANSHIP, MATERIAL AND ALL  
THE CONTRACT.

EBASCO SERVICES  
AGENT  
2 RECTOR ST.. NEW Y

DIST	DESIGN
1	MECH
	CONC. HYD.
	ARCH. STR.
	SWYD STR
	ELEC
	HVAC
	PLUMBING
1	HYMAN
	ENGINEERING
4	MECH
	CONC. HYD.
1	ARCH. STR
	ELEC
	HVAC
	BLOG. ENG
	INSTR
	WTR T
	STRESS
	SMELTING
	RADWASTE
	STD DIST
	FOR INFO ONLY



MATERIAL SPECIFICATIONS - C.B. & I. CO.'S SPECIFICATION  
MS-10 (ASME SPECIFICATION SA182, GR. F304)



VERMONT YANKEE  
GENERAL ELECTRIC CO.  
APED - SAN JOSE  
VPF # 1842-109-2  
EP # 2-1-1

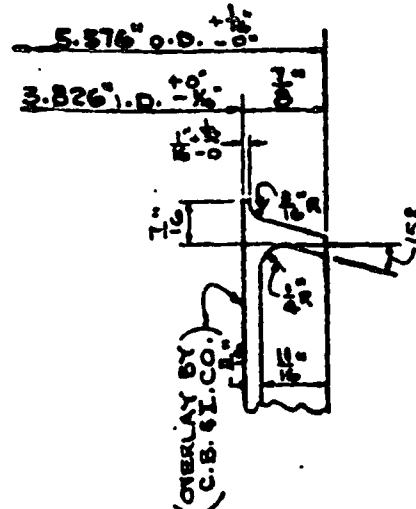
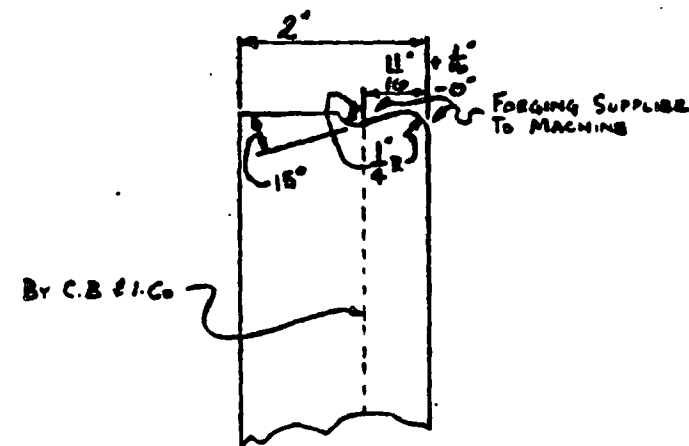
CHICAGO BRIDGE & IRON CO.  
CERTIFIED DRAWING  
BY H.L. WAILES 6/2/67

CERTIFIED  
BY VENDOR  
APPROVED  
BY C. O'Connell  
DATE 9-11-67  
FOR  
GENERAL ELECTRIC  
ATOMIC POWER EQUIP. DEPT.  
SAN JOSE, CALIFORNIA  
ENGINEERING PLANNING  
ENGINEERING SECTION

CHICAGO BRIDGE & IRON COMPANY  
BIRMINGHAM, ALA.  
LOOSE FLANGES  
FOR NOZZ'S. NG6/B & N7  
PURCHASER'S NO. 205-55565-I  
DRAWN BY A.T.A. DATE 1/30/67  
CHECKED BY E.A. DATE 3-17-67  
H.L. WAILES  
ENGINEERING COORDINATOR  
CONTRACT NO. 9-6201  
DWG NO. M23 REV 1  
THIS DRAWING IS THE PROPERTY OF THE CHICAGO BRIDGE & IRON COMPANY AND IS TO BE USED ONLY IN CONNECTION WITH THE PERFORMANCE OF WORK BY THE CHICAGO BRIDGE & IRON COMPANY. REPRODUCTION IN WHOLE OR IN PART FOR ANY OTHER PURPOSE IS EXPRESSLY PROHIBITED.

5920-240 R 1  
VERMONT YANKEE NUCL. PWR. (V)  
VERMONT YANKEE NUCL. PWR. (V)  
VERMONT, VERMONT  
P.O. 04-706 102 ITEM  
REVIEWED WITHOUT COMMENTS  
REVIEWED WITH COMMENTS AS NOTED  
NOT APPLICABLE  
NO COMMENTS, NO PRINT RETURNED  
NOT FOR INSTALLATION  
NO FURTHER REPRODUCIBLE REQUIRED  
REQUIREMENT REVISED BY CHECKER  
REQUIREMENT REVISED BY CHECKER  
REQUIREMENT REVISED BY CHECKER  
DO NOT PROCEED WITH FABRICATION  
REQUIREMENT REVISED REPRODUCIBLE  
\* PRINT INCLUDED  
NOTE:  
LOOSE FLANGES  
NOZZLES NG6/B  
N7  
REVIEWED BY S.R. DATE 9/6/67  
THE PURCHASER SHALL BE SOLELY RESPONSIBLE FOR THE PERFORMANCE OF THE WORK BY THE CHICAGO BRIDGE & IRON COMPANY. THE PURCHASER SHALL BE SOLELY RESPONSIBLE FOR THE PERFORMANCE OF THE WORK BY THE CHICAGO BRIDGE & IRON COMPANY. THE PURCHASER SHALL BE SOLELY RESPONSIBLE FOR THE PERFORMANCE OF THE WORK BY THE CHICAGO BRIDGE & IRON COMPANY.  
EASCO SERVICES INCORPORATED  
2 HECTOR ST., NEW YORK, N.Y. 10014





ENLARGED END OF FORGING AFTER  
OVERLAY & MACHINING BY C.B. & I. CO.  
(TYPICAL)

5920- 72 R1		DATE REC. 8-21-67
VERMONT YANKEE NUCL. PWR. CORP. VERMONT YANKEE NUCL. PWR. STA. VERNON, VERMONT		
P.O. NY 706102		ITEM
A DRAWING APPROVAL	APP'D WITHOUT COMMENTS	1 X
	APP'D WITH COMMENTS AS NOTED	2
	NOT APPROVED	3
B PROCEED WITH FABRICATION	NO FURTHER REPRODUCIBLE REQUIRED	4 X
	RESUBMIT REVISED REPRODUCIBLE	5
	RESUBMIT CLOTH OR MYLAR REPRODUCIBLE AS SHIPPED	6
	DO NOT PROCEED WITH FABRICATION RESUBMIT REVISED REPRODUCIBLE	7
SPECIAL FORGING NOZZLES N8 A+B  (60)		
CHECKED BY MHL	DATE 5-15-67	ORIG. DIV. N
EASCO SERVICES INCORPORATED AGENT 2 RECTOR ST., NEW YORK 6, N.Y.		DAYS TO COMMENT 21

CERTIFIED  
BY VENDOR  
APPROVED  
BY C. Olanoff  
DATE 3 April 67  
FOR  
ATOMIC POWER EQUIP. DEPT.  
SAN JOSE, CALIFORNIA  
POWER RECTOR ENGINEERING  
ENGINEERING SECTION

GENERAL ELECTRIC CO.  
APED - SAN JOSE  
VERMONT YANKEE  
VPF # 1842-25-2  
EP # 2-1-1

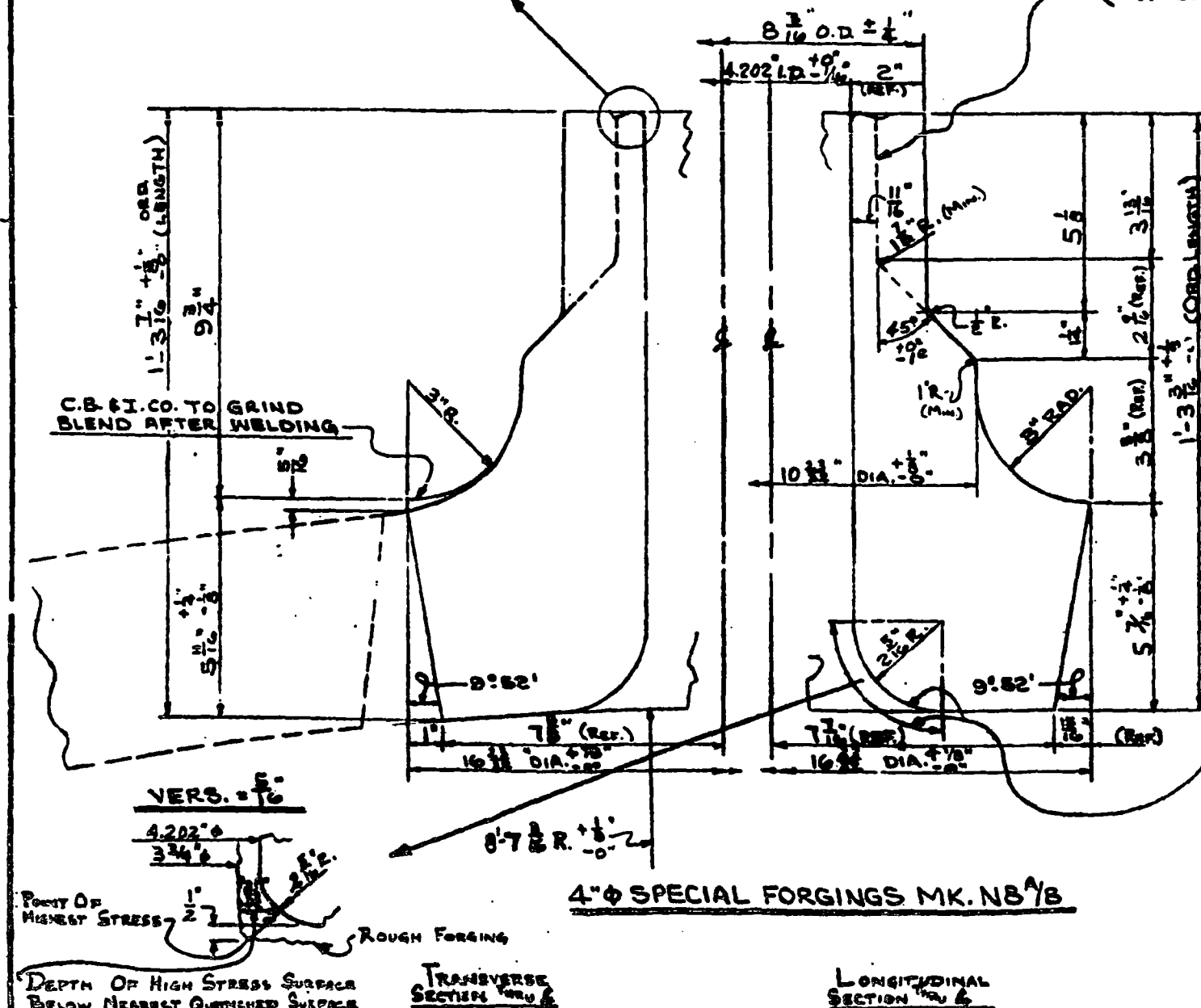
MATERIAL SPECIFICATION - C.B. & I. Co. SPECIFICATION  
MS-2 (ASME - CLASS II)

FIN. S - TO BE 250 RMS ALL OVER

FORGING SUPPLIER NOTE:  
THIS AREA MAY BE GROUND TO APPROX.  
250 RMS IN LIEU OF MACHINING (TYPICAL)

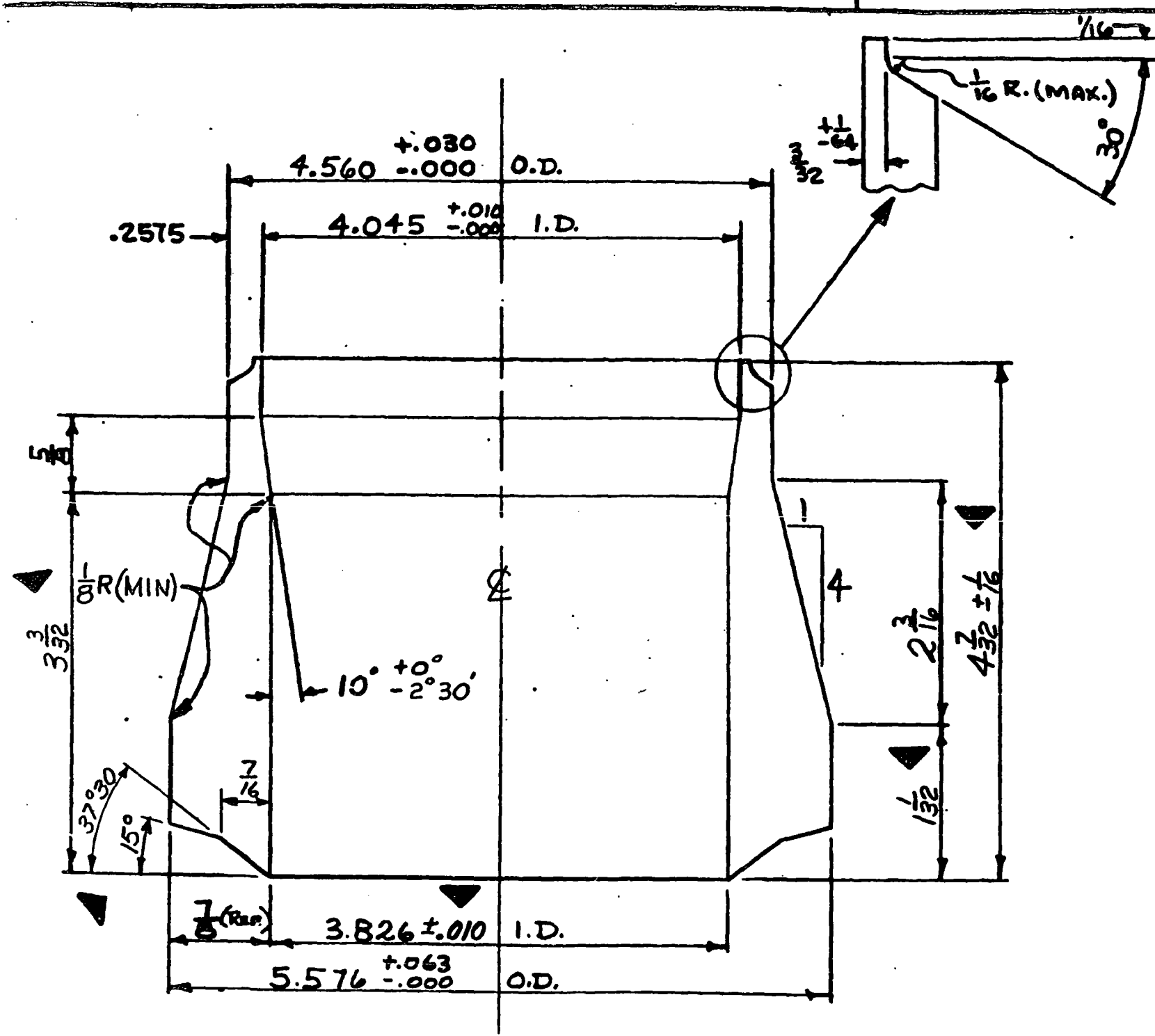
NOTE: SEE DWG. # M-22  
FOR LOCATION OF TEST SPECIMENS

REVIEWED BY R.F.R. DESIGN ENGINEER  
REVIEWED BY R.E.C. WELD. ENGINEER



CHICAGO BRIDGE & IRON COMPANY  
BIRMINGHAM, ALA.  
SPECIAL FORGING  
NOZZLE N8 A+B  
(JET PUMP INSTRUMENTATION)  
PURCHASE NO. 208-88845-1 CONTRACT NO.  
DRAWN BY: M.L. DATE: 1-18-67  
CHECKED BY: R.E.C. DATE: 1-18-67  
H.L. WALES - 300 DWG. NO. M10 REV. 0  
ENGINEERING COORDINATOR

2 RECTOR ST., NEW YORK, N.Y. 10001



TOLERANCES (EXCEPT AS NOTED)		
FRACTIONS	DECIMALS	ANGLES
± 1/32	(AS NOTED)	± 1°

INFORMATION ONLY

GENERAL ELECTRIC CO.  
APED-SAN JOSE  
VPF #  
2934-22-1

SUPERS:  
5920-235

CHICAGO BRIDGE & IRON CO.  
CERTIFIED DRAWING  
6-1-70  
BY: *[Signature]*

CHICAGO BRIDGE & IRON COMPANY

SAFE END DETAILS

FOR NOZ. # N8A/B

PURCHASER NO. 205H 5442

CONTRACT NO. 70-6259

DRAWN BY: *EVR* DATE: 5/7/70

CHECKED BY: *J.E. SIMS* DATE: 5/18/70

ENGINEERING COORDINATOR

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DIST.	DESIGN	D.C.	C
1	MECH.	0	✓
	CONC. HYD.		
	ARCH. STR.		
	SWYD. STR.		
	ELEC.		
	HVAC		
	PLUMBING		
	HYDRAV		✓
	ENGINEERING		
4	MECH.	0	✓
	CONC. HYD.		
	ARCH. STR.		
	ELEC.		
	HVAC		
	BLDG. ENG.		
	WSTR.		
	WTR. T		
	STRESS		
	SMELTING		
	RADWASTE		
	STD DIST		
	FOR INFO ONLY		

5920-5264 R 0

VERMONT YANKEE NUCL. PWR. C  
VERMONT YANKEE NUCL. PWR. S  
VERNON, VERMONT

P.O. 114 786102 ITEM

A	REVIEWED WITHOUT COMMENTS	
	REVIEWED WITH COMMENTS AS NOTED	
	NOT APPLICABLE	
	NO COMMENTS, NO PRINT RETURNED	
B	NOT FOR INSTALLATION	
	NO FURTHER REPRODUCIBLE REQUIRED	
	REQUIREMENT REVISED	SEE NOTE 1 IF CHECKED HERE
	REQUIREMENT CLOTH OR NYLON REPRODUCIBLE AS SHIPPED	

DO NOT PROCEED WITH FABRICATION  
REQUIREMENT REVISED REPRODUCIBLE

PRINT INCLUDED

NOTE:  
**SAFE END REPLACE FOR NOZZLE N8A/B**

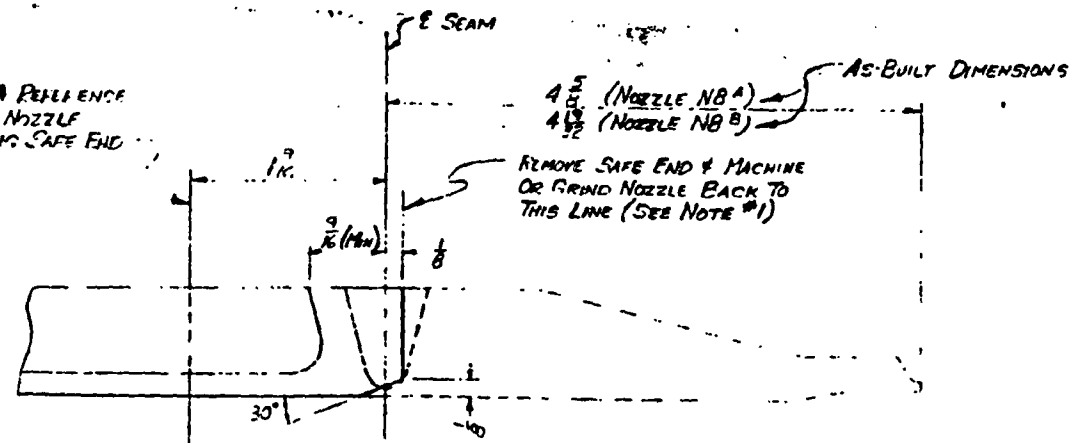
REVIEWED BY	DATE	ORIG. DIV.
S.R.	8/10/70	M

THE FOREGOING SHALL IN NO WAY RELIEVE THE CONTRACTOR FROM ENTIRE RESPONSIBILITY FOR ENGINEER WORKMANSHIP, MATERIAL AND ALL OTHER LIAISON THE CONTRACT.

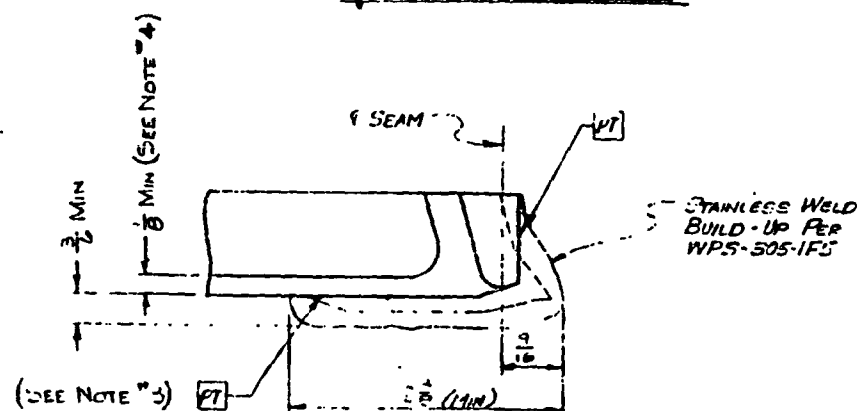
EBASCO SERVICES INCORPORATED  
AGENT  
2 RECTOR ST., NEW YORK, N.Y.

(2-1) N8A/B SAFE END FORGINGS (2~REQ'D)  
MATERIAL - C.B. & I CO. SPEC. MS-6 (ASME SA336 CLASS F8)

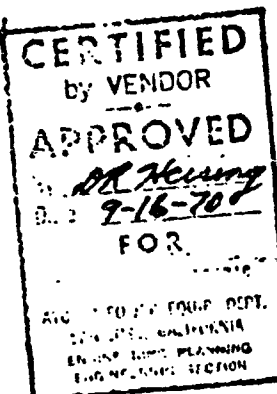
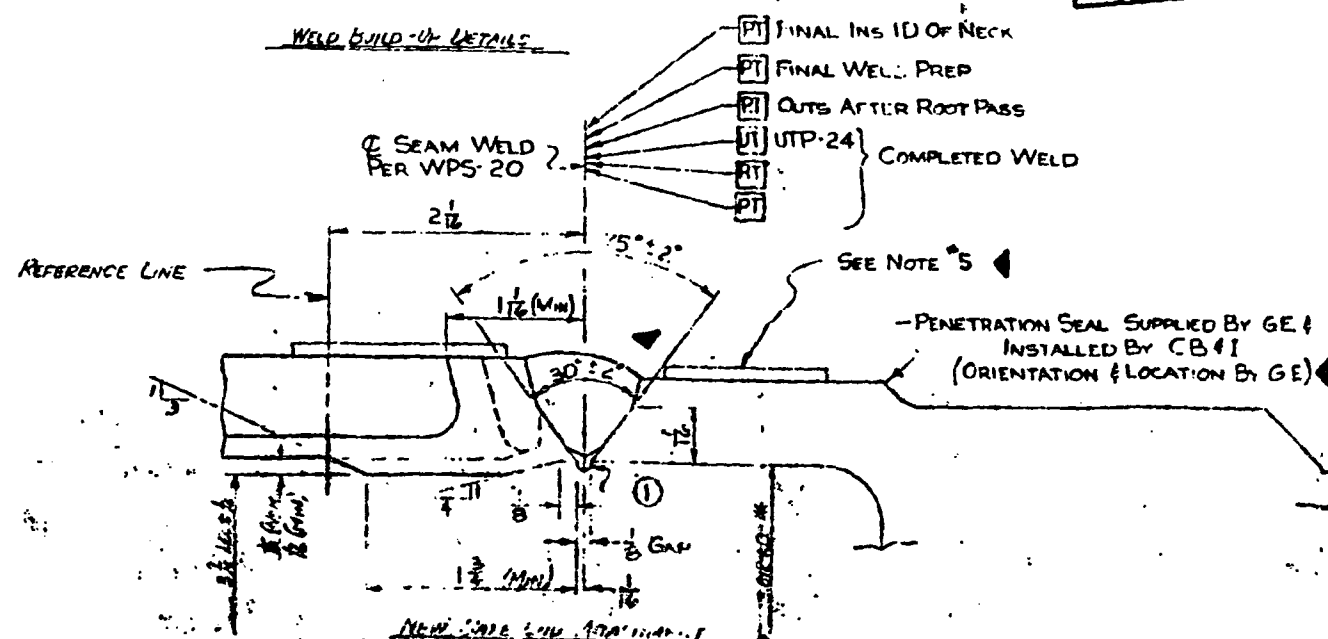
LOCATE & MARK A REFERENCE LINE ON OUTS OF NOZZLE BEFORE REMOVING SAFE END



SAFE END REMOVAL DETAIL



WELD BUILD-UP DETAILS

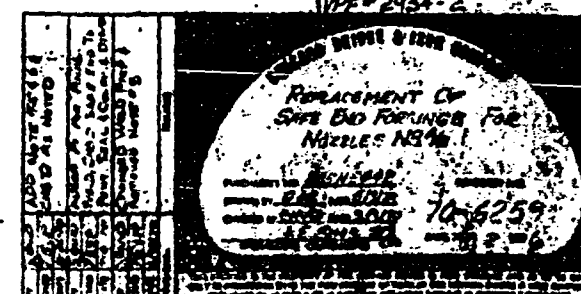
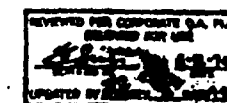


NO.	DATE	DESCRIPTION	BY	CHKD.	UT.
2	2-1	WELDING GROOVE INSERT			
		APPROVED EQ FOR 3" ID			
		TUBING			

# NOTES:

- INSTRUCTIONS FOR REMOVAL OF EXISTING SAFE ENDS:
  - DETERMINE LOW ALLOY-STAINLESS STEEL INTERFACE WITH THE FOLLOWING METHODS:
    - AS-BUILT DIMENSIONS FROM ORIGINAL PARTS.
    - POLISH & OXIDIZE SURFACE.
    - VISUAL LOCATION OF INTERIOR ROOT BEAD.
    - SEVERN GAGE.
  - MAKE INITIAL CUT 3/4\"/>
- FINISH ON ALL MACHINED SURFACES TO BE 250 RMS.
- INSPECT SURFACES TO BE OVERLAYED PER OVERLAY INSPECTION PROCEDURE POI-1.
- G.E. TO CHECK THICKNESS OF EXISTING OVERLAY IF REQUIRED BY POI-1.
- SEE DWG K1 FOR ARC STRIKE SHIELD MATERIAL AND DIMENSIONS
- MACH ID OF WELD PREP TO WITHIN ±.010 OF MEASURED ID OF SAFE END

2934-2-5



DISC	DESIGN	N.C.	C
1	MECH.		
	CONC. HYD.		
	ARCH. STR.		
	SWYD STR.		
	ELEC.		
	HVAC		
	PLUMBING		
1	HYMAN		
	ENGINEERING		
4	MECH.		
	CONC. HYD.		
1	ARCH. STR.		
	ELEC.		
	HVAC		
	BLDG. ENG.		
	WTR. T.		
	STRESS		
	WELDING		
	RADIATION		
	STD. DIST.		
	FOR INFO ONLY		

5920-5531 R0 4-2

VERMONT YANKEE NUCL. PWR. CORP.  
VERMONT YANKEE NUCL. PWR. STA.  
VERNON, VERMONT

P.O. 44 706 108 ITEM

A	REVIEWED WITHOUT COMMENTS	
	REVIEWED WITH COMMENTS AS NOTED	
	NOT APPLICABLE	
	NO COMMENTS NO PRINT RETURNED	
B	NO FURTHER REPRODUCIBLE REQUIRED	
	RESUBMIT REVISED REPRODUCIBLE	SEE NOTE BELOW IF CHECKED HERE
	RESUBMIT CLON OR MYLAR REPRODUCIBLE AS SHIPPED	
	DO NOT PROCEED WITH FABRICATION RESUBMIT REVISED REPRODUCIBLE	

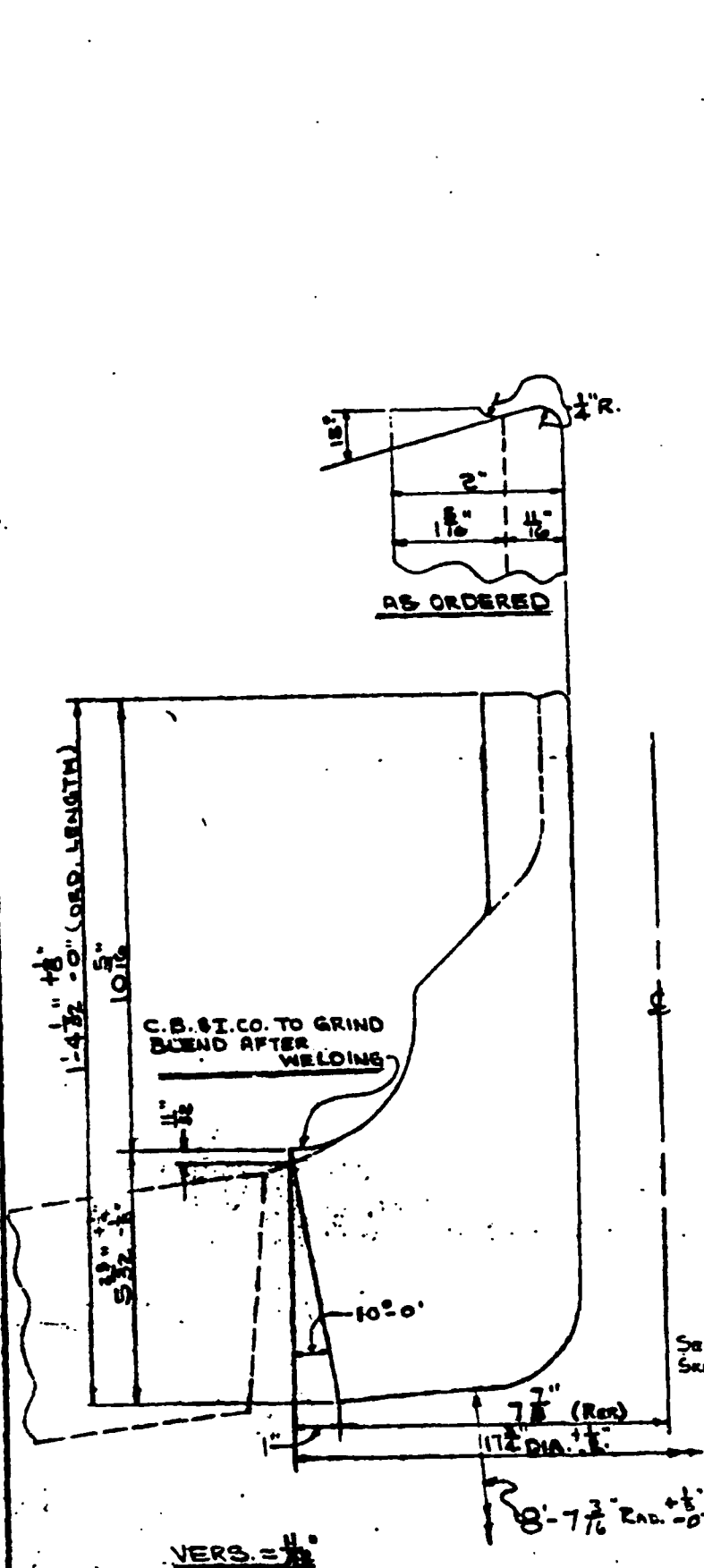
\* PRINT INCLUDED NOTE

REPLACEMENT OF SAFE  
FORGING FOR NOZZLE NB

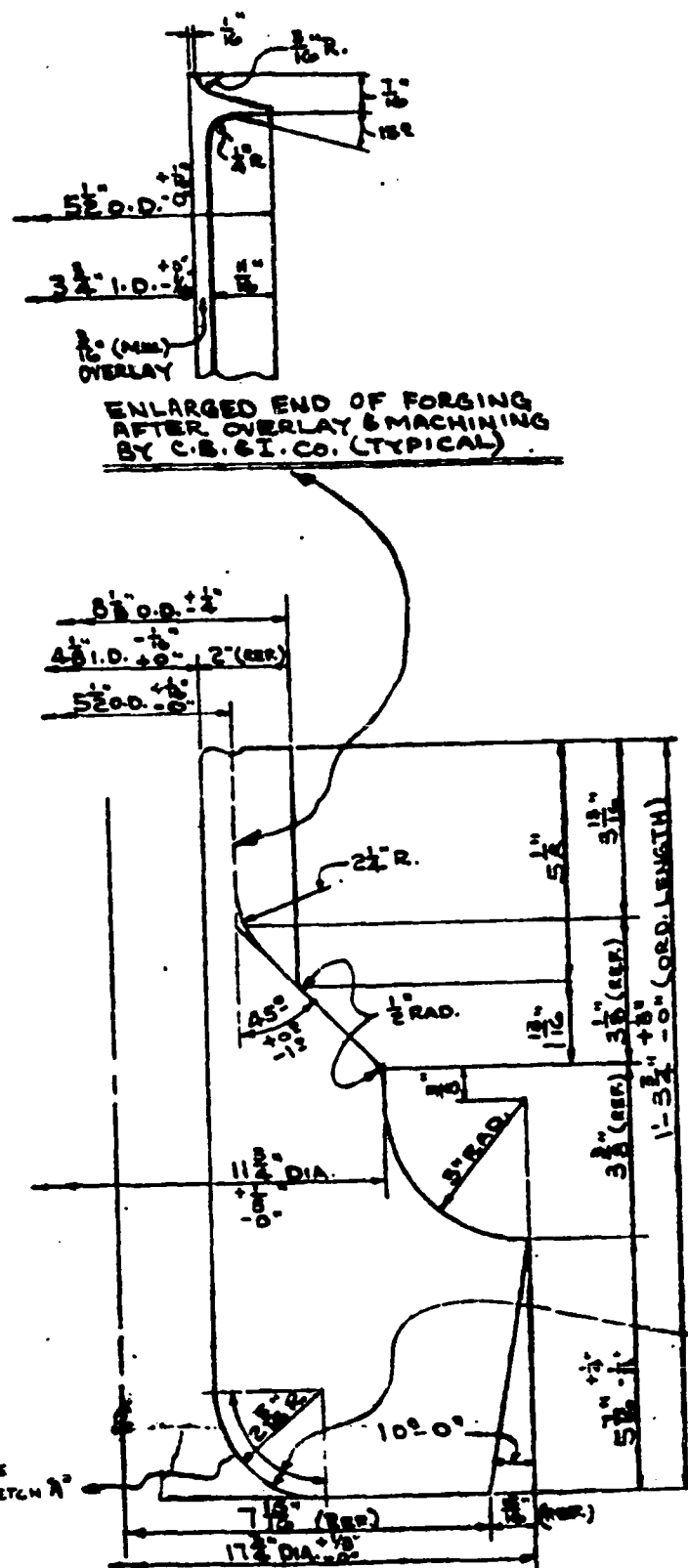
REVIEWED BY	DATE	ORIG. DIV.	C
S.R.	10/17/70	M	

THE FOREGOING SHALL IN NO WAY RELIEVE COM FROM ENTIRE RESPONSIBILITY FOR ENGINEERING, WORKMANSHIP, MATERIAL AND ALL OTHER LIABILITY THE CONTRACT.

EBASCO SERVICES INCORPORATED  
AGENT  
2 RECTOR ST., NEW YORK, N.Y. 100



TRANSVERSE SECTION



LONGITUDINAL SECTION

5920- 73 R1		DATE REC. 4-21-67
VERMONT YANKEE NUCL. PWR. CORP. VERMONT YANKEE NUCL. PWR. STA. VERNON, VERMONT		
P.O. NY 706102		ITEM
A DRAWING APPROVAL	APP'D WITHOUT COMMENTS	1 X
	APP'D WITH COMMENTS AS NOTED	2
	NOT APPROVED	3
B PROCEED WITH FABRICATION	NO FURTHER REPRODUCIBLE REQUIRED	4 X
	RESUBMIT REVISED REPRODUCIBLE	5
	RESUBMIT CLOTH OR MYLAR REPRODUCIBLE AS SHIPPED	6
	DO NOT PROCEED WITH FABRICATION RESUBMIT REVISED REPRODUCIBLE	7
SPECIAL FORGINGS NOZZLES N 9  (60)		
CHECKED BY MWH	DATE 5-15-67	ORIG. DIV. N
		DAYS TO COMMENT 21
EBASCO SERVICES INCORPORATED AGENT 2 RECTOR ST., NEW YORK 6, N.Y.		

FORGING SUPPLIER NOTE:  
THIS AREA MAY BE GRIND TO  
APPROX. 250 RMS IN LIEU OF  
MACHINING (TYPICAL)

3" SPECIAL FORGING MK. N9  
MATERIAL SPECIFICATION - C.B. & I. CO. SPECIFICATION MS-2  
(A508 CLASS II)  
FINISH TO BE 250 RMS ALL OVER

REVIEWED BY R.F.R. DESIGN ENGINEER  
REVIEWED BY R.E.C. WELD. ENGINEER

CERTIFIED  
BY VENDOR  
APPROVED  
BY C. B. & I.  
DATE 3 April 67  
FOR  
ATOMIC POWER EQUIP. DEPT.  
SAN JOSE, CALIFORNIA  
POWER RECTOR ENGINEERING  
1000 GARDEN STREET

GENERAL ELECTRIC CO.  
APED - SAN JOSE  
VERMONT YANKEE  
VPF # 1842-27-2

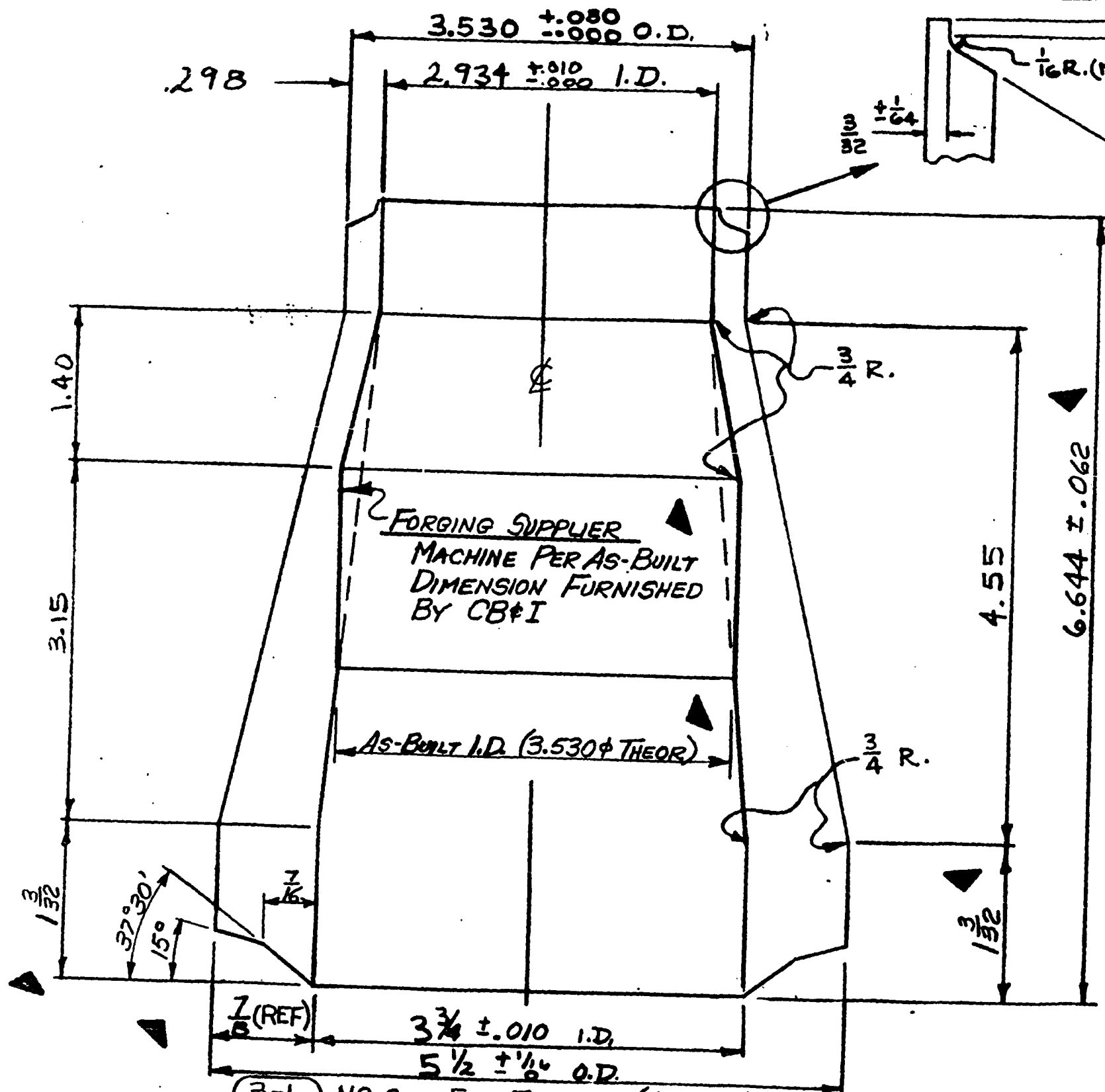
EP # 2-1-1

ROUGH FORGING  
POINT OF HIGHEST STRESS  
SKETCH A'- DEPTH OF HIGH STRESS SURFACE  
BELOW NEAREST QUENCHED SURFACE

NOTE: SEE DWG. # M-22  
FOR LOCATION OF TEST SPECIMENS.

CHICAGO BRIDGE & IRON COMPANY  
BIRMINGHAM, ALA.  
SPECIAL FORGING  
NOZZLE N9  
(CONTROL ROD DRIVE HYDRAULIC  
SYSTEM RETURN)  
PURCHASE NO. 205-31665-1  
DRAWN BY M.Y. DATE 1-18-67  
CHECKED BY R.E.C. DATE 1-18-67  
H.L. WATKINS  
DESIGNING COORDINATOR





TOLERANCE (EXCEPT AS NOTED)		
FRACTIONS	DECIMALS	ANGLES
$\pm \frac{1}{32}$	(AS NOTED)	$\pm 1^\circ$

INFORMATION ONLY

GENERAL ELECTRIC CO.  
APED-SAN JOSE  
VPF #  
**2934-23-1**

SUPERSEDES  
5920-236

6-1-70  
J.E. SIMS  
ENGINEERING COORDINATOR  
UPDATED

CHICAGO BRIDGE & IRON COMPANY  
SAFE END DETAILS  
FOR NOZ. # N9

PURCHASER NO. 205H5442 CONTRACT NO. 70-6259  
DRAWN BY GWR DATE 6/2/70  
CHECKED BY GWD DATE 5/9/70  
J.E. SIMS  
ENGINEERING COORDINATOR  
DWG NO. M3 REV 1

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DIST.	DESIGN	N.C.	C
1	MECH.		0
	CONC. HYD.		
	ARCH. STR.		
	SWYD. STR.		
	ELEC.		
	HVAC		
	PLUMBING		
	HYMAN		1
	ENGINEERING		
4	MECH.		0
	CONC. HYD.		
	ARCH. STR.		
	ELEC.		
	HVAC		
	BLDG. ENG.		
	INSTR.		
	WTR. T		
	STRESS		
	SHIELDING		
	RADWASTE		
	STD DIST		
	FOR INFO ONLY		

5920-5265R0

VERMONT YANKEE NUCL. PWR.  
VERMONT YANKEE NUCL. PWR.  
VERNON, VERMONT

P.O. # 706102 ITEM

A	REVIEWED WITHOUT COMMENTS	
	REVIEWED WITH COMMENTS AS NOT	
	NOT APPLICABLE	
	NO COMMENTS, NO PRINT RETURNS	
B	NO FURTHER REPRODUCIBLE REQUIRED.	
	RESUBMIT REVISED REPRODUCIBLE	SEE NO. 17 OF CHG. HERE
	RESUBMIT CLOTH OR MYLAR REPRODUCIBLE AS SHIPPED	
	DO NOT PROCEED WITH FABRICATION RESUBMIT REVISED REPRODUCIBLE	

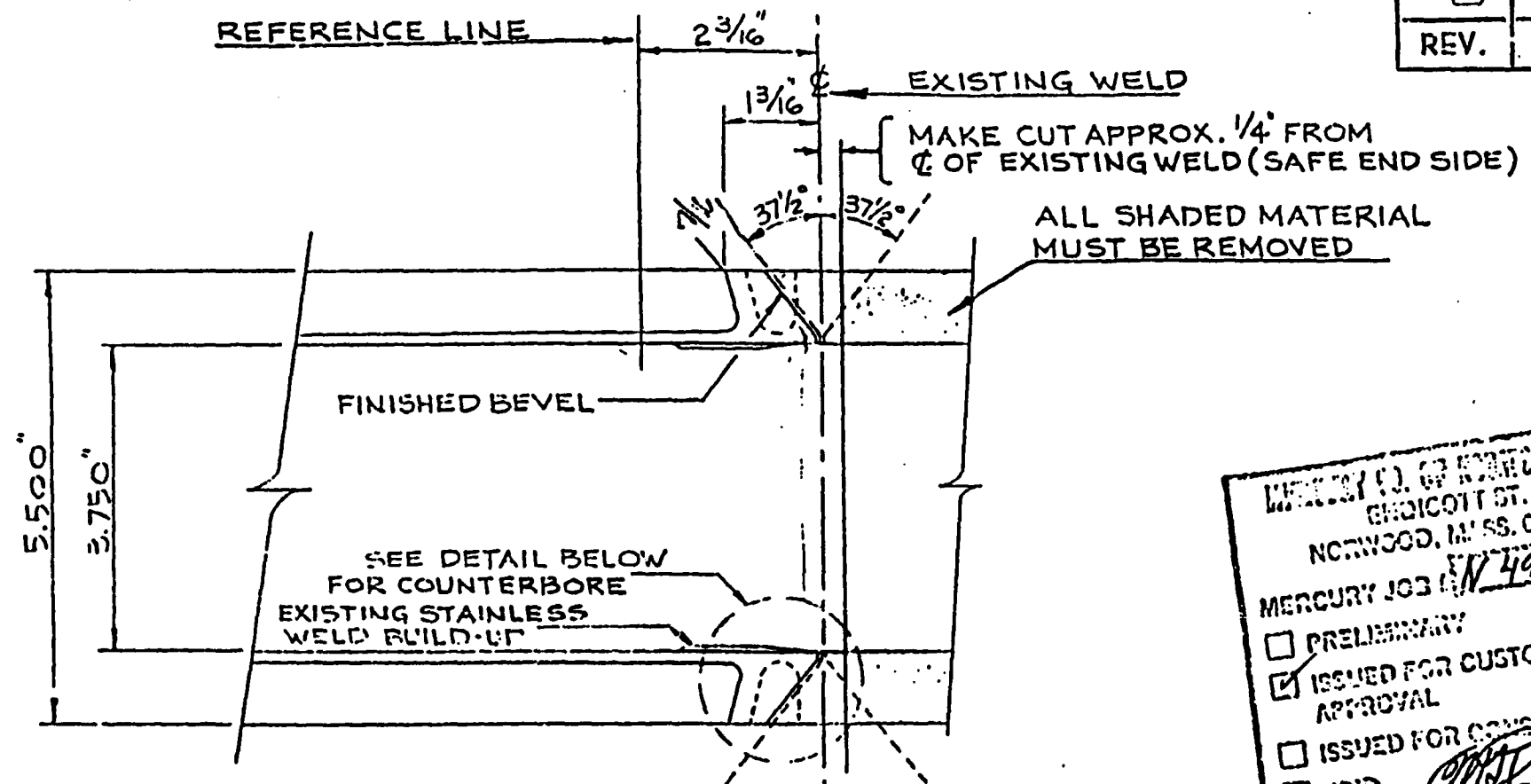
PRINT INCLUDED NOTE:  
SAFE END REPLAC FOR NOZZLE N9

REVIEWED BY	DATE	ORIG.
S.R.	8/10/70	1

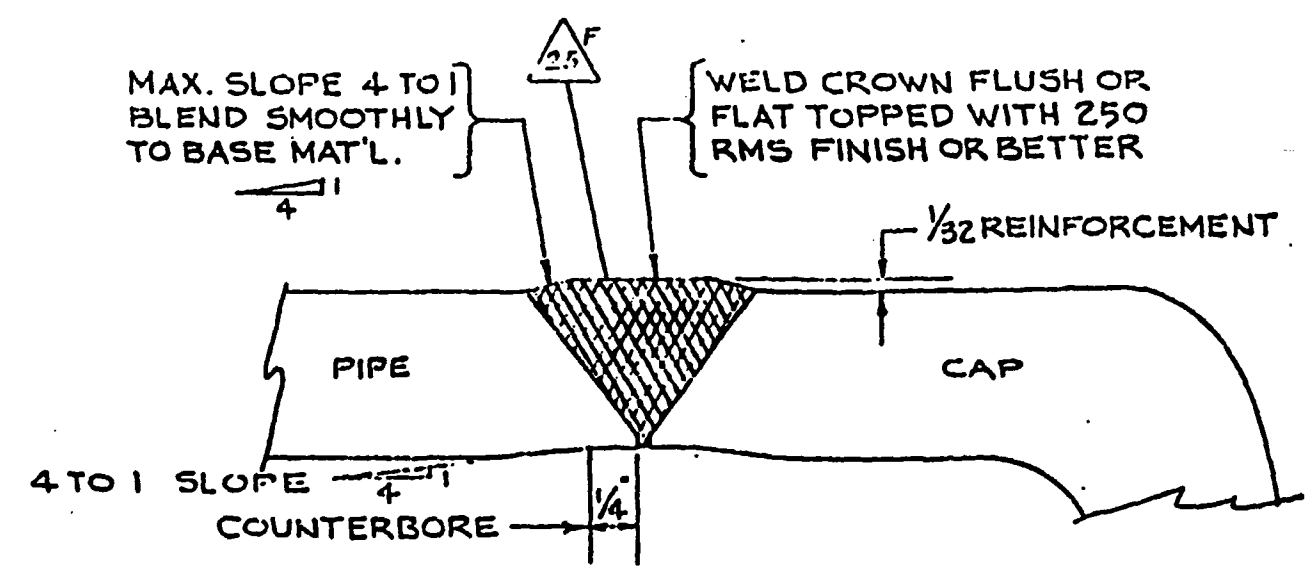
THE FOREGOING SHALL IN NO WAY REL FROM ENTIRE RESPONSIBILITY FOR ENG WORKMANSHIP, MATERIAL AND ALL OTHER THE CONTRACT.

EBASCO SERVICES INCO  
AGENT  
2 RECTOR ST., NEW YORK.

(3-1) N9 SAFE END FORGING (1-REQ'D)  
MATERIAL ~ C.B. & I. Co SPEC. MS-6 (ASME SA336 CLASS F8)



**CUTTING & BEVELING DETAIL**  
SCALE: 1/2" = 1"



**WELD FINISH FOR ULTRASONIC INSPECTION**  
FULL SCALE

REV.	DESCRIPTION	BY	CHKD	APP'D	QCAD
0	ORIGINAL ISSUE EDC12 79-14	11/19/80 KLS	11/25/80 KLS	1-29-81 11/25/80	2-5-81 11/25/80

MERCURY CO. OF NORWOOD, INC.  
NORWOOD, MASS. 02062  
MERCURY JOB # **N49762**  
☐ PRELIMINARY  
☒ ISSUED FOR CUSTOMER APPROVAL  
☐ ISSUED FOR CONSTRUCTION  
☐ VOID  
MERCURY PROJECT # **9-23-79**  
DATE **11/25/80**

**APPROVED FOR CONSTRUCTION**

V.V. SAFETY CLASS I  
FABRICATION & INSTALLATION  
IN ACCORDANCE WITH ASME  
SECTION III SUBSECTION NB.

5920-246 Sh.2

REV.	DATE	DESCRIPTION	APP.
0	11/25/80	ISSUED FOR APPROVAL	MT

**MERCURY COMPANY**  
OF NORWOOD, INC.

A SUBSIDIARY OF FISCHBACH AND MOORE, INCORPORATED

**CAPPING DETAIL**  
**CRD NOZZLE (N9)**  
**2 1/2" CRD-2 REROUTE**  
**VERMONT YANKEE**  
**VERNON, VERMONT**

DR. BY <b>DCH</b>	DATE <b>2-11-72</b>	APP. BY <b>MT</b>	REV.
CHK. BY <b>UJJ</b>	DRWG. NO. <b>MD-49762-600</b>		0

FIELD NOTE: TIGHTEN NUT  
ON STUD AFTER TIGHTENING  
WASHER. TACK WELD  
NUT TO STUD TO PREVENT  
LOOSENING. TRIM AS  
SHOWN

QTY	DATE	DESCRIPTION	UNIT	WT.
1	3-1	N9 SAFE END FURRING	MS2	
1	3-2	ORDEE DWG #M3	STAINLESS	
1	3-3	WELDING GROOVE INSERT 9"	STAINLESS	
3	3-4	APPROVED E2 FOR 5/16" ID TUBING	STAINLESS	
3	3-5	1/4" FIN HEX NUT UNC-2B	STAINLESS	
3	3-6	STD 1/4" WASHER	STAINLESS	

NOTES:  
1. CUT OFF THE OLD TACK WELDED NUT & REMOVE THERMAL SLEEVE  
ASSY BEFORE REMOVING OLD SAFE END. REPLACEMENT STUDS  
& NUTS ARE FURNISHED & TO BE ATTACHED AS SHOWN. CARE  
MUST BE TAKEN NOT TO DAMAGE THE SPRING WASHERS.

- INSTRUCTIONS FOR REMOVAL OF EXISTING SAFE END:  
A. DETERMINE LOW ALLOY - STAINLESS INTERFACE  
WITH THE FOLLOWING METHODS:  
1. AS BUILT DIMENSIONS FROM ORIGINAL PARTS  
2. POLISH AND OXIDIZE SURFACE  
3. VISUAL LOCATION OF INTERIOR ROOT BEAD  
4. SEVERN GAGE  
B. MAKE INITIAL CUT 3/4" FROM ESTABLISHED  
C. OF WELD  
C. RECHECK C. OF WELD BY INSPECTING EXISTING  
ROOT BEAD  
D. REMOVE MAT'L TO FINAL CUT LINE
- FINISH ON ALL MACHINED SURFACES TO BE 250 RMS
- INSPECT SURFACES TO BE OVERLAYED PER O'LAY  
INSPECTION PROCEDURE POI-1
- GE. TO CHECK THICKNESS OF EXISTING O'LAY IF  
REQUIRED BY POI-1
- SEE DWG K1 FOR ARC STRIKE SHIELD MATERIAL  
AND DIMENSIONS
- MACH ID OF WELD PREP TO WITHIN ±.010 OF MEASURED  
ID OF SAFE END

**CERTIFIED**  
by VENDOR  
**APPROVED**  
By *SR*  
Date *9-16-70*  
FOR  
ATOMIC POWER EQUIP. DEPT.  
SAN JOSE, CALIFORNIA  
ENGINEERING PLANNING  
ENGINEERING SECTION

5920-5330R

VERMONT YANKEE NUCL.  
VERMONT YANKEE NUCL.  
VERNON, VERMONT

P.O. 149706/102

A	DRAWING REVIEW	REVIEWED WITHOUT COMMENT
		REVIEWED WITH COMMENTS
		NOT APPLICABLE
		NO COMMENTS NO PRINT N
B	PROCESSED WITH FABRICATION	NO FURTHER REPRODUCIBILITY REQUIRED
		RESUBMIT REVISED REPRODUCIBLE
		RESUBMIT CLOTH OR NYLA REPRODUCIBLE AS SHIPPED
		DO NOT PROCEED WITH FABRIC RESUBMIT REVISED REPRODUCIBLE

\* PRINT INCLUDED NOTE.

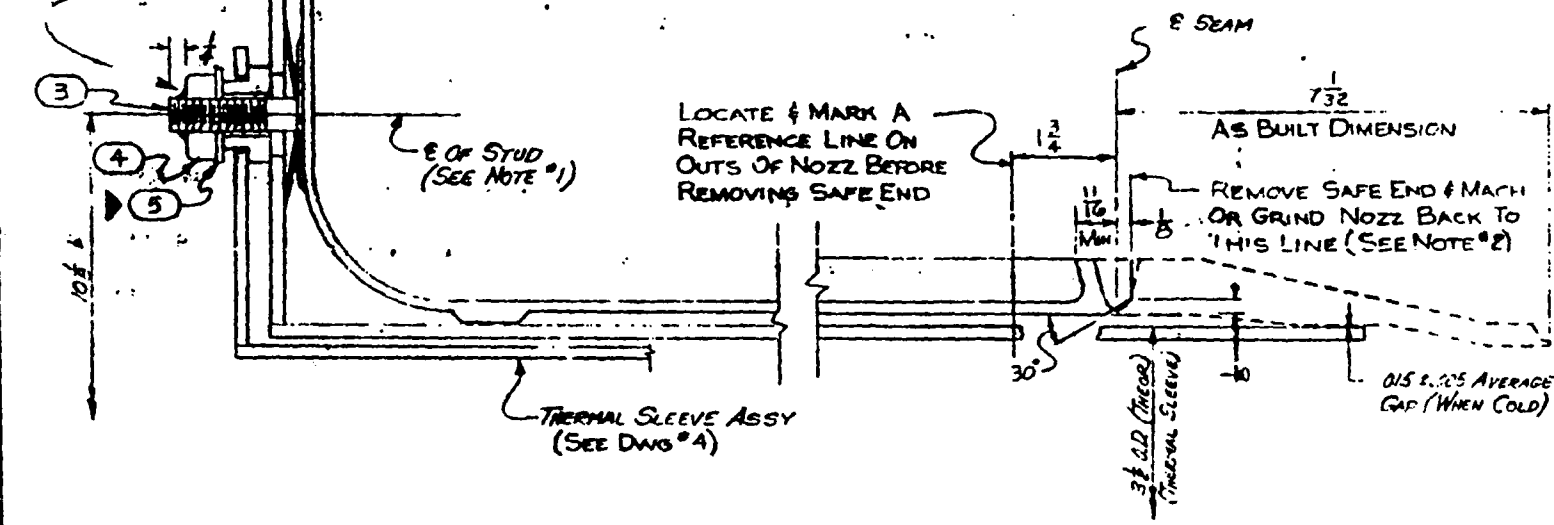
REPLACEMENT

FORGIVEN LDR

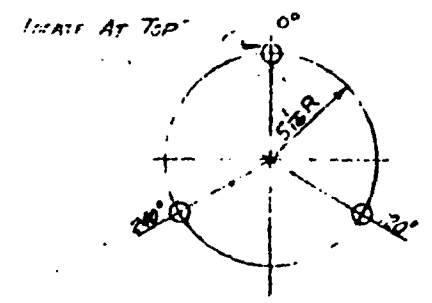
REVIEWED BY *S.R.* DATE *10/19/70*

THE FOREGOING SHALL IN NO WAY  
FROM ENTIRE RESPONSIBILITY TO  
WORKMANSHIP, MATERIAL AND ALL  
THE CONTRACT

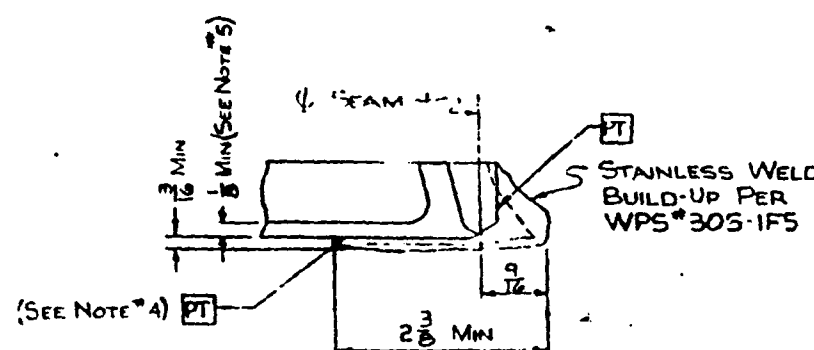
EBASCO SERVICES  
AGENT  
2 RECTOR ST. NEW Y



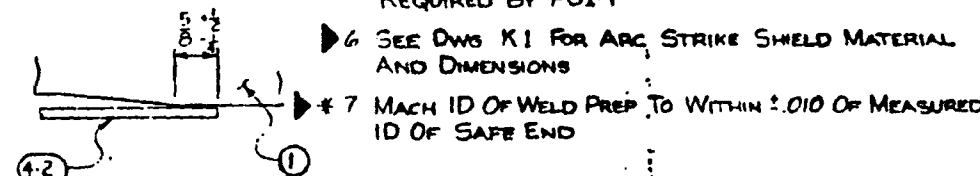
Thermal Sleeve Assy & Safe End Removal Detail



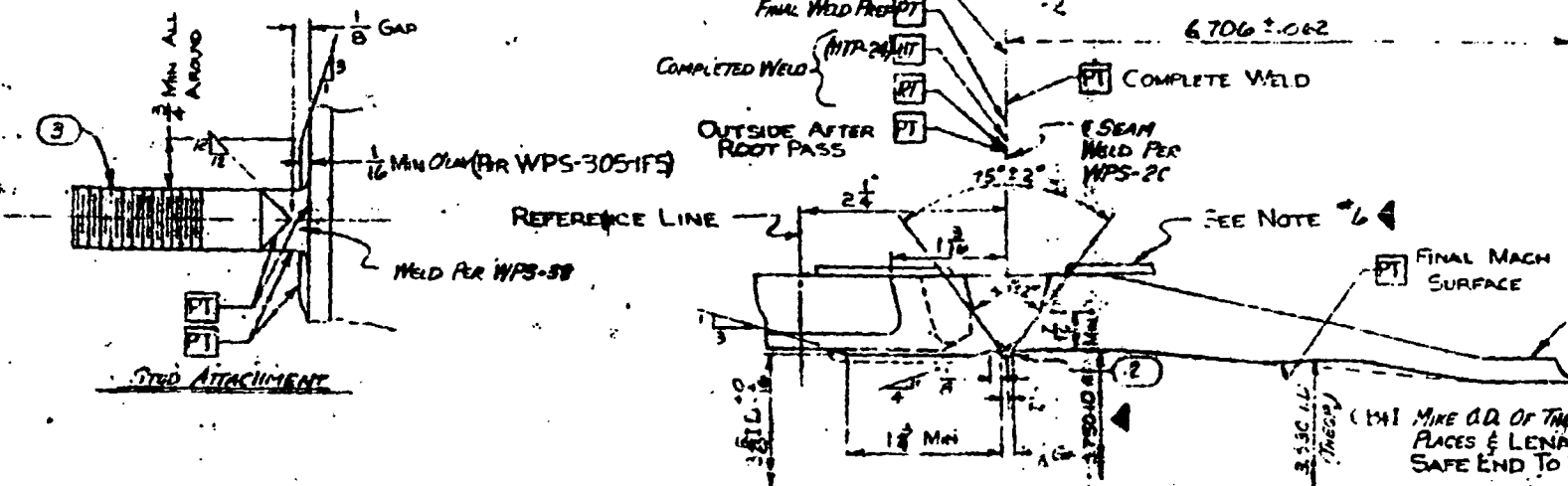
ORIENTATION OF (3) STUDS



Weld Build-Up Detail



Thermal Sleeve Overlap

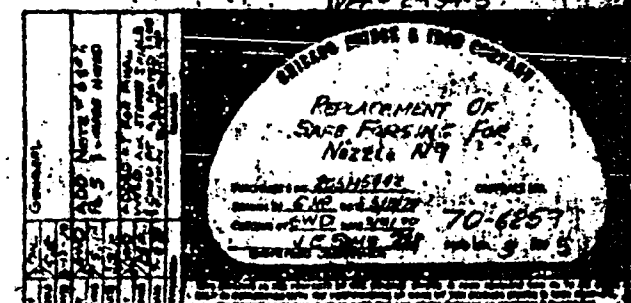


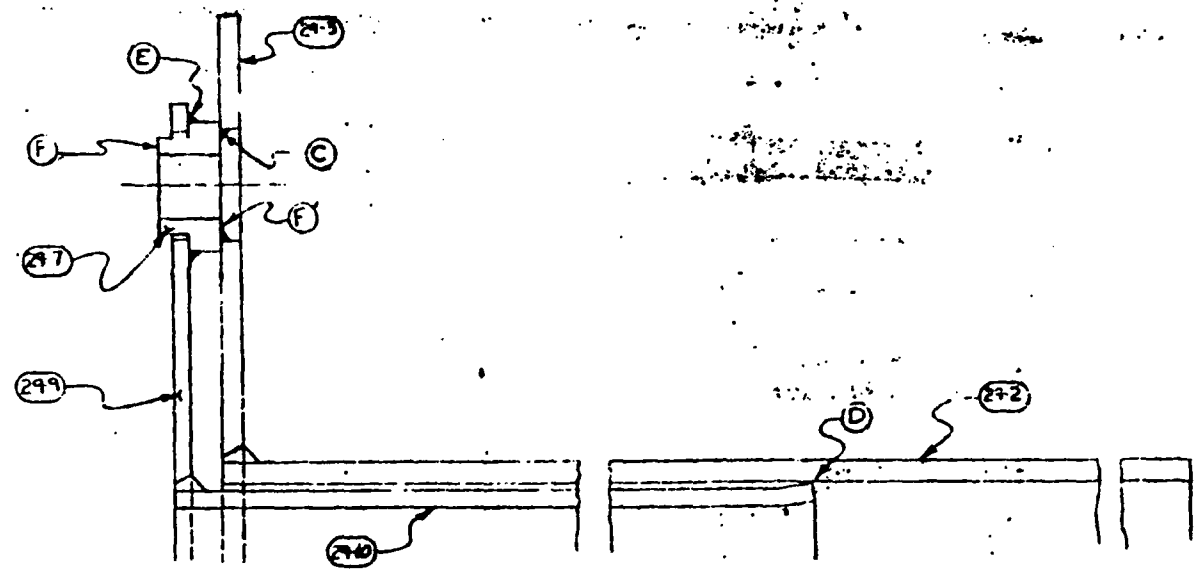
Stud Attachment

Final Mach Surface

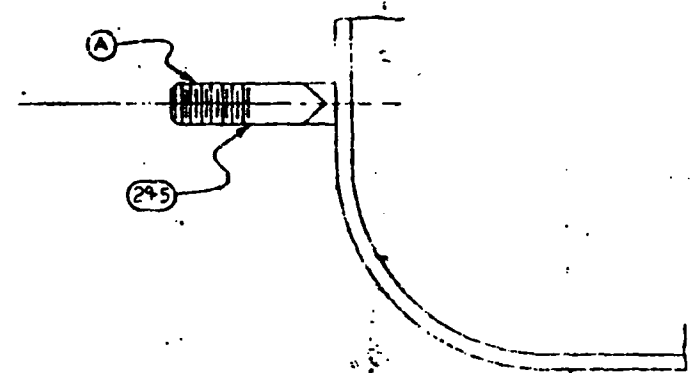
1. MAKE O.D. OF THERMAL SLEEVE IN SEVERAL  
PLACES & LENAPE IS TO MACH ID OF  
SAFE END TO MAINTAIN SPECIFIED GAP

2934-3-4

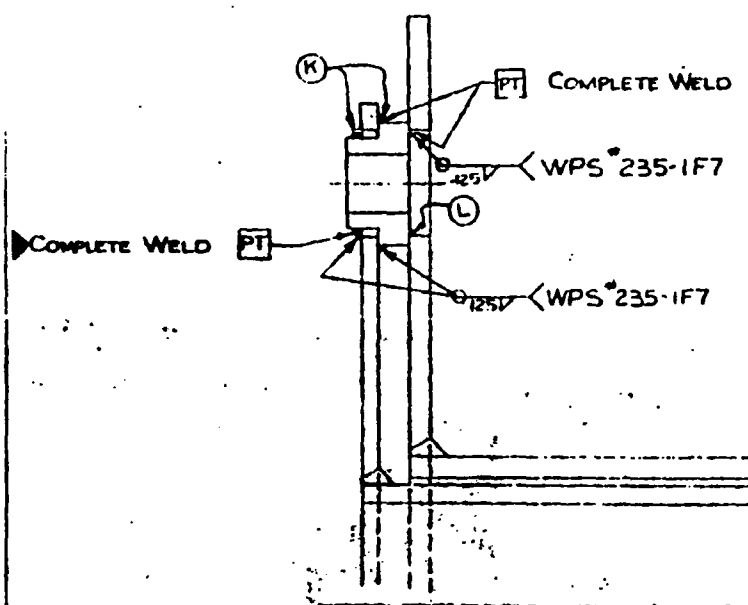




**THERMAL SLEEVE ASSY (29-A)**  
(FOR THERMAL SLEEVE DISASSEMBLY)



**THERMAL SLEEVE RETAINER STUD (29-5)**



**THERMAL SLEEVE ASSY (29-A)**  
(FOR THERMAL SLEEVE REASSEMBLY)

**SEQUENCE OF WORK**

- (A) REMOVE PL (29-5) PER CRG CD, DWG. P3.
- (B) REMOVE THERMAL SLEEVE ASSY. FROM POLY-ETHYLENE BAG WHEN READY TO REWORK.
- (C) CUT .125 INCH WELD BETWEEN PCS (29-3) & (29-7) (3 PLACES).
- (D) SEPARATE ASSY. INTO 2 SUB ASSEMBLIES NOTING INTERFERENCE FIT BETWEEN PCS (29-7) & (29-10) OUTER SLEEVE MAY BE HEATED TO 600°F. MAX. TO LOOSEN FIT.
- (E) GRIND OFF .125 INCH WELD BETWEEN PCS (29-9) & (29-7) (3 PLACES).
- (F) CHECK AND RECORD HARDNESS AT EACH END OF THREE PCS (29-7). IF ANY HARDNESS IS GREATER THAN RICHMOND B90, IT SHALL BE REPORTED TO GE/AFED DESIGN ENGINEER FOR POSSIBLE FURTHER INSTRUCTIONS.
- (G) ☐ ALL SURFACES OF PCS (29-2), (29-3), (29-7), (29-9) & (29-10) THAT WERE WITHIN 3 INCHES OF THE WELDS CUT IN STEP (C) & GRIND IN STEP (E), THE FULL PENETRATION WELD BETWEEN PCS (29-7) & (29-3) OR THE FULL PENETRATION WELD BETWEEN PCS (29-9) & (29-10) USE CRG PROCEDURE PTP-70-6259-11.
- (H) REMOVE THE SURFACE LAYER OF THE AREAS EXAMINED IN STEP (G) PER G.F. PROCEDURE 2248G21.
- (J) REPEAT STEP (G).
- (K) REMELD THE THREE PCS (29-7) TO (29-3) & TIG WELD AS SHOWN, ☐ WELD PER PTP-70-6259-11. CHECK ASSY. OVER 3 STUDS.
- (L) REASSEMBLE PCS (29-3) TO (29-7) AND TIG WELD 3 PLACES AS SHOWN, ☐ WELD PER PTP-70-6259-11. CHECK ASSY. OVER 3 STUDS.
- (R) PACKAGE AND SEAL THERMAL SLEEVE ASSY. (29-A) IN A POLY-ETHYLENE BAG AND MAINTAIN CLEANLINESS.

**CERTIFIED**  
by **VENDOR**  
**APPROVED**  
By *M. Keising*  
Date **9-16-70**  
FOR  
GENERAL SUPERVISOR  
ATOMIC POWER PLANT, DEPT.  
SAN JOSE, CALIFORNIA  
ENGINEERING PLANNING  
ENGINEERING SECTION

2934-28-3

REWORKED PER CRG CD, DWG. P3  
RELEASED FOR USE  
DATE 9-16-70  
BY *M. Keising*

**CHAS. BRIDGE & SON CORP.**  
**N9 THERMAL SLEEVE**  
**ASSY (OLD) REWORKING**  
20545442  
70-6259  
10-2

DIST	DESIGN	N.C.	C
1	MECH.	0	1
	CONC. HYD.		
	ARCH. STR.		
	SWYD STR.		
	ELEC		
	HVAC		
	PLUMBING		
1	HYMAN	0	1
	ENGINEERING		
1	MECH.	0	1
	CONC. HYD.		
1	ARCH. STR.	0	1
	ELEC		
	HVAC		
	BLDG. ENG.		
	INSTR.		
	WTR. T.		
	STRESS		
	SMELTING		
	RADWASTE		
	STD. DIST.		
	FOR INFO ONLY		

**5920-5422R 1** **8-2**

**VERMONT YANKEE NUCL. PWR. CORP.**  
**VERMONT YANKEE NUCL. PWR. STA**  
**VERNON, VERMONT**

**P.O. 79706102** **ITEM**

A	REVIEWED WITHOUT COMMENTS	1
	REVIEWED WITH COMMENTS AS NOTED	2
	NOT APPLICABLE	3
	NO COMMENTS. NO PRINT RETURNED	4
B	NO COMMENTS. NO PRINT RETURNED	4
	NO FOR INSTALLATION	1
	NO FURTHER REPRODUCIBLE REQUIRED.	
	RESUBMIT REVISED IF CHECKED HERE <input type="checkbox"/>	
C	RESUBMIT CLOTH OR NYLON REPRODUCIBLE AS SHIPPED	
	DO NOT PROCEED WITH FABRICATION RESUBMIT REVISED REPRODUCIBLE	

**\*PRINT INCLUDED** **NOTE:**

**N9 THERMAL SLEEVE**  
**ASSY - OLD - REWORKING**

(2 -

REVIEWED BY	DATE	ORIG. DIV.	DA
S.R.	10/17/70	M	2

THE FOREGOING SHALL IN NO WAY RELIEVE CONTR FROM ENTIRE RESPONSIBILITY FOR ENGINEERING, D WORKMANSHIP, MATERIAL AND ALL OTHER LIABILITY THE CONTRACT.

**EBASCO SERVICES INCORPORATE**  
**AGENT**  
**2 RECTOR ST., NEW YORK, N.Y. 1004**

