EXHIBIT 4 TO ATTACHMENT 1

DIABLO CANYON NUCLEAR PROJECT
JOB # 7177
SPEC # 8711

QUALITY ASSURANCE REPORT

OF

Crack in Steam Generator Feedwater
Nozzle to pipe weld
(Generator No. 1-2)

THE M.W. KELLOGG CO.
Avila Beach, Ca.

PREPARED BY _____
J. P. RUNYAN
Field Q.A./Q.C. Manager

DATE April 12, 1977

QUALITY ASSURANCE REPORT

OF

CRACK IN STEAM GENERATOR FEEDWATER NOZZLE TO PIPE WELD (GENERATOR NO. 1-2)

PURPOSE

To document events from the time of discovery of the leak until the completion of the repair.

SCOPE

This report covers the on site findings, the review of documentation including preheat and postheat charts, radiographs from the defective weld, the subsequent procedures for removing the defective area and performing the repair.

FINDINGS

On Thursday, March 17, 1977 a leak was observed in field weld 212, line K16-555, by P.G.& E. We were advised of the leak on that date.

The weld in question is where the 16" feedwater pipe ties into nozzle #4 on Steam Gererator 1-2.

Visual observation revealed a weep type leak which occasionally sprayed a fine stream of water. When observed with a 10X magnifing glass there appeared to be a small intermittant linear indication approxiately 3/8" in length in the center of the weld running around the pipe. Magnetic particle examination of the area with a D.C. converted yoke did not show evidence of a linear defect.

P.G.& E. requested that we grind the area. As grinding proceeded, the indication opened to reveal a linear defect approximately 2" long when the weld crown was flush with the pipe surface. At this point the grinding was stopped. We were requested to perform an Ultrasonic examination to determine the extent of the indication. The pipe temperature was approximately 180° F which made it impossible to perform U.T. with the standard transducers on site.

We were then instructed to "hold" until P.G.& E. Engineering Research arrived with their U.T. equipment and high temperature transducers. The weld was radiographed at this time. The radiograph revealed evidence of a linear indication which appeared to be approximately 6" in length.

On Friday, March 18, 1977 P.G.& E. Engineering Research arrived and performed Ultrasonic examination of the weld. They reported that there was a crack which appeared to extend approximately 2/3 of the distance around the weld. Based on there findings it was determined that the weld would be cut out and replaced.

WELD REMOVAL

The weld was cut by grinding approximately 1/2" from the center line on the nozzle side and at F.W. 503 on the pipe side. The end of the pipe was then cut to remove a ring which included most of the weld and approximately 4" of pipe.

The piece was examined visually and by liquid penetrant on the O.D. and I.D. and a sketch made to reflect the observations. (Sketch Attached)

The piece was shipped to P.G.& E. research lab on March 20 for analysis.

REPAIR

A piece of 16" pipe was removed from stores to replace the piece which was cut out. The pipe end preps, gamma hole and vent were machined in the P.G.& E. machine shop on March 19, 1977. The nozzle end prep at F.W. 212 and pipe end at F.W. 503 were ground in place on March 20. A liquid Penetrant examination was performed at that time to assure complete removal of any indications.

The new piece was moved into place and fit up on March 20. Preheat was applied prior to tack-up,(Ref. Chart # 547). After the fit up was approved by M.W. Kellogg Q.C. both roots were welded. Magnetic particle inspection was performed. Following magnetic particle acceptance two additional passes were welded in each weld.

Radiography was performed on March 21, 1977. The radiographs of F.W. 503 pipe to pipe wereacceptable. F.W. 212, pipe to nozzle, had excessive porosity at the window closures. These areas were ground, rewelded and re-radiographed. One area had excessive porosity, the other had a linear indication approximately 1/2" long and an area which appeared to be suck back.

At this time, March 21, 1977, P.G.& E. Q.A. placed a "hold" on all work until their Engineering could review the total program and process appropriate paperwork. "This hold was not because of the difficulty in welding the window closures".

No work was performed on March 22, 1977.

On March 23, 1977 an on site meeting was held to review findings, work to date, and procedures for completion of the repair. Attending the meeting were representatives from P.G.& E. Engineering, Q.A., General Construction, Division, Westinghouse, M.W. Kellogg site Manager, Corporate Q.A. Manager, and the writer.

A. It was determined that the procedure as outlined by D.R. 3366 was acceptable except that the preheat would be raised to 300° Min. for completion of the welding.

B. The problem of making an acceptable closure weld was discussed. It was determined that the positive pressure maintained in the system was to high and that water remaining in the generator caused vapor to be carried out the window openings.

C. P.G.& E. Division agreed to drain the generator and reduce the purge pressure until the closure welds could be made.

On March 24, 1977 the defective areas at the closures were ground out and Magnetic particle performed to assure complete removal. No welding was performed since P.G.& E. had not removed the Hold. Preheat was being maintained through the "hold" period.

On March 25, 1977 the hold was released. The windows were closed and radiograph made. Both areas were acceptable and welding continued. The weld was completed on the afternoon of the 25th. Radiographs were shot in the hot as welded condition. No rejectable indications were noted. Post weld heat treatment was then performed.

On March 26, 1977 following post weld heat treatment, the weld was ground, re-radiographed, liquid penetrant inspected and ultrasonically examined. No rejectable indications were noted. The vent line and gamma plug were completed, inspected and the system turned over to division for resumption of testing.

SUBSECUENT INVESTIGATION

Because of the unknown origin of the crack it was determined that other welds of the same type and welded using the same procedure should be reviewed to determine if the defect could be a generic nature.

Each of the remaining three feedwater nozzle welds and the four Main Steam nozzle welds were ultrasonically examined. The original radiographs were reviewed and the feedwater nozzle welds were re-radiographed. There was no evidence of like indications in any of the welds and no evidence of change in any of the noted, acceptable, indications since the original inspections.

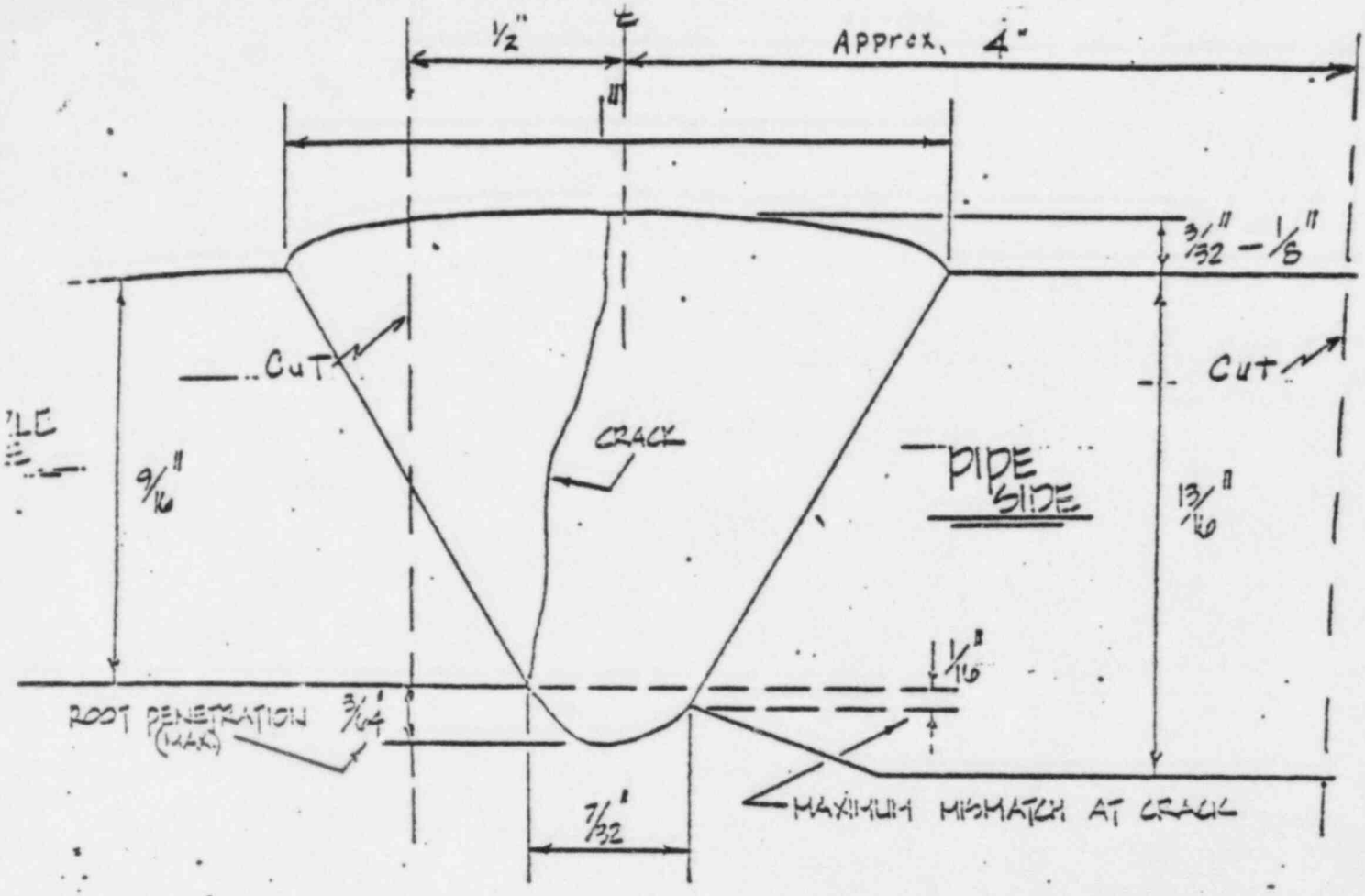
There was, however, an indication noted in F.W. 197 on generator 1-1. The indication was present on the original radiographs but had not been noted on the radiographs report. A second set of radiographs were on file for F.W. 197. This set also exhibited the same indication, however, the radiographic report did reflect the condition as being a drop thru. The indication had apparently been evaluated and determined acceptable at the time.

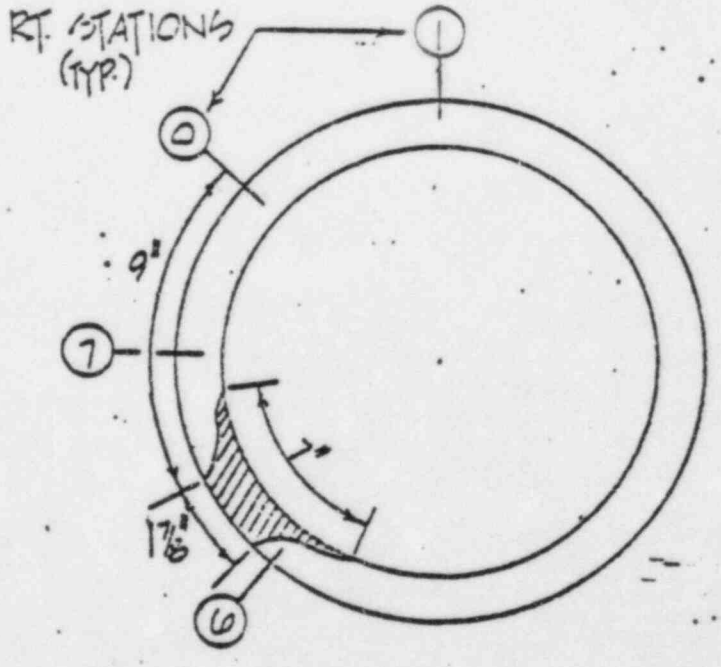
Because of the problem with F.W. 212 it was determined that any questionable situation should be resolved. It was therefore determined that the drop thru should be removed. A D.R. was initiated and the repair was made. The indication was removed by grinding. No welding was required. (See D.R. 3370 Attached)

SUMMARY

To date the metallurgical analysis has not been completed of the crack sample. We had requested, from P.G.& E., a piece of the defective material for our own analysis. This was received on Thursday, April 7, 1977 and forwarded to E. F. Gerwin in Williamsport.

It is my belief that the crack was peculiar to F.W. 212 only and not of a generic nature. Therefore, at this time we are assuming that no further repair will be required and that when the disposition of D.R. 3370 is completed the subject will be closed.





NOTE:

1. WALL THICKNESS MEAS'R. ARE APPROXIMATE
2. REF. TO D.R. 3366 REV. A
3. STEAM GENERATOR 1-2
   F.W. # 212
   P.O. 500145
   LINE # RC-SGS-16"-IV

DR 3366 Rev. 1
ATTACHMENT # 2

THE M.W. KELLOGG COMPANY

REWRITTEN 3-23-77 Rev. II

A DIVISION OF PULLMAN INCORPORATED

D.R. NO. 3366 Rev. 1
ISO. NO. 500146
UNIT NO. 1
CODE NO. N/A

DISCREPANCY REPORT

OWNER Pacific Gas & Electric — SPEC. NO: 8711 — DATE: 3/21/77
UNIT Diablo Canyon — JOB NO.: 7177 — INSPECTOR: J. P. Runyan

DISCREPANT ITEM: F.W. #212, Line K16-555-16-IV, Steam Generator 1-2, Nozzle to pipe

EXPLANATION OF DISCREPANCY:

A leak was detected by P.G.&E. in F.W. #212 (Pipe--Steam Gen. 1-2 Nozzle).

Leak occurred during Hot Functional Testing March 17, 1977. Line pressure was approximately 90psi, temperature approximately 330°F.

See Attachments 1, 2 and 3.

RECOMMENDED DISPOSITION:

A. Cut out weld and reweld.

B. Prior to weld cut-out:
1. Map weld area with U.T. to determine size and location of indication.
2. X-ray for an analysis.
3. Remove weld material with indication for further analysis.
4. Cut out spool 58D (F.W. #503 to 212).

C. Reweld procedure: (Rewritten)
1. Weld F.W. #503 using procedure 4/5 and 88/89
2. Weld F.W. #212 using procedure 200 or 204 (See Attached Sheet #2 for additional requirements).
3. Install soc-o-let on new spool using F.W. #411 so vent can be reinstalled.

Approved By, M.W.K. Field Q.A. Mgr. [signature] Date 3/23/77 Customer [signature] MHR M-3369 Date 3-18-77

FINAL DISPOSITION: ☐ In Accordance With Above
Work Completed Insp: _____ Date: _____

☐ Other (Explanation and approval required))
Work Completed Insp: [signature] Date: 3/31/77

EXPLANATION (IF NECESSARY):

Revision I - D.R. rewritten for clarity.
Revision II See page 2

M.W.K. Field Q.A. Manager [signature] Date 3/29/77 Customer [signature] NO REVISION TO MHR REQ'D Date 3-29-77

M.W.K. Field Q.A. Manager [signature] Date 3/23/77 Customer [signature] NO REVISION TO MHR REQ'D Date 3-23-77

STEPS TO PREVENT RECURRENCE ☐ Not Applicable

1) Maintain preheat as indicated on Sheet 2.
2) Perform Post Weld Heat Treat immediately following completion of weld.

Field Q.A. Manager [signature]

DISTRIBUTION: ☒ Master Q.A. File ☒ Auth. Insp. ☒ Engineering Dept. ☐ Other _____
☒ Customer ☐ Receiving ☐ Field Inspector _____

ATTACH SKETCH IF NECESSARY

THE M.W. KELLOGG COMPANY

REWRITTEN Rev II

A DIVISION OF PULLMAN INCORPORATED

D.R. NO. 3366 Rev 1
ISO. NO. 500146
UNIT NO. 1
CODE NO. N/A

DISCREPANCY REPORT

CLIENT Pacific Gas & Electric SPEC. NO: 8711 DATE: 3/21/77
Diablo Canyon JOB NO.: 7177 INSPECTOR: J. P. Runyan

REPAIR ITEM: F.W. #212, Line K16-555-16-IV, Steam Generator 1-2, Nozzle to pipe

Recommended Disposition:

4. Drill and tap X-ray port in new spool. Install X-ray plug using seal weld F.W. #298.
5. Add all information to Iso and Process Sheets.

Additional Requirements for F.W. #212 (See Paragraph C-2):

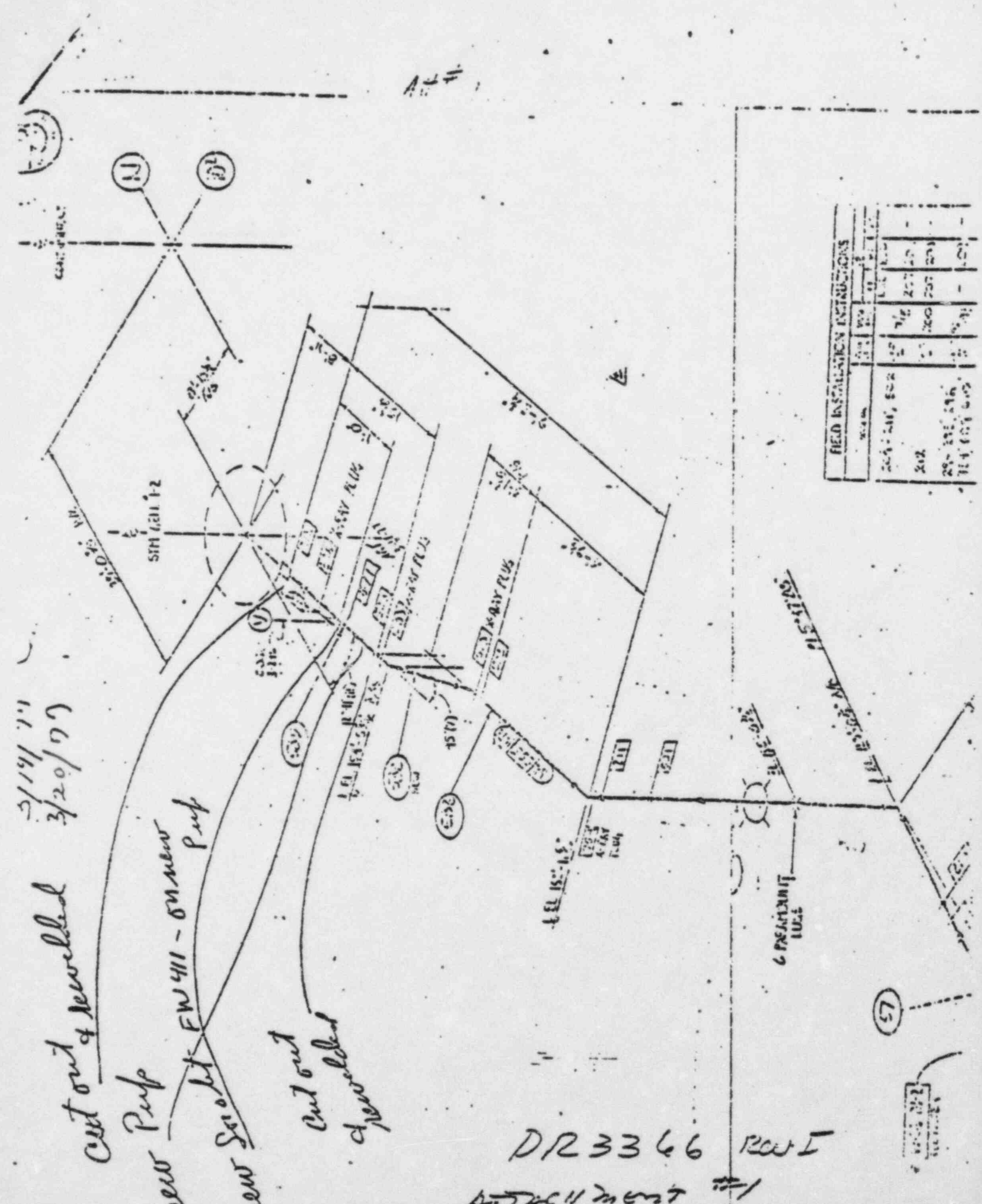
1. Preheat to 250°F minimum.
2. Maintain interpass at 250°F minimum, 500°F maximum until weld is complete and post weld heat treatment begins.
3. M.T. root pass; Esd-250.
4. R.T. after root and 2 layers weld added ESD-207. Repair if required and re-R.T. before completing weld.
5. Post weld heat treat at 1100°F minimum, 1150° maximum hold for 1 hour minimum, AT temperature..
6. Following post weld heat treatment, perform R.T.; ESD-207 and M.T.; ESD-209.
7. P.G.&E. will perform U.T. of final weld and maintain records.
8. △

Revision II

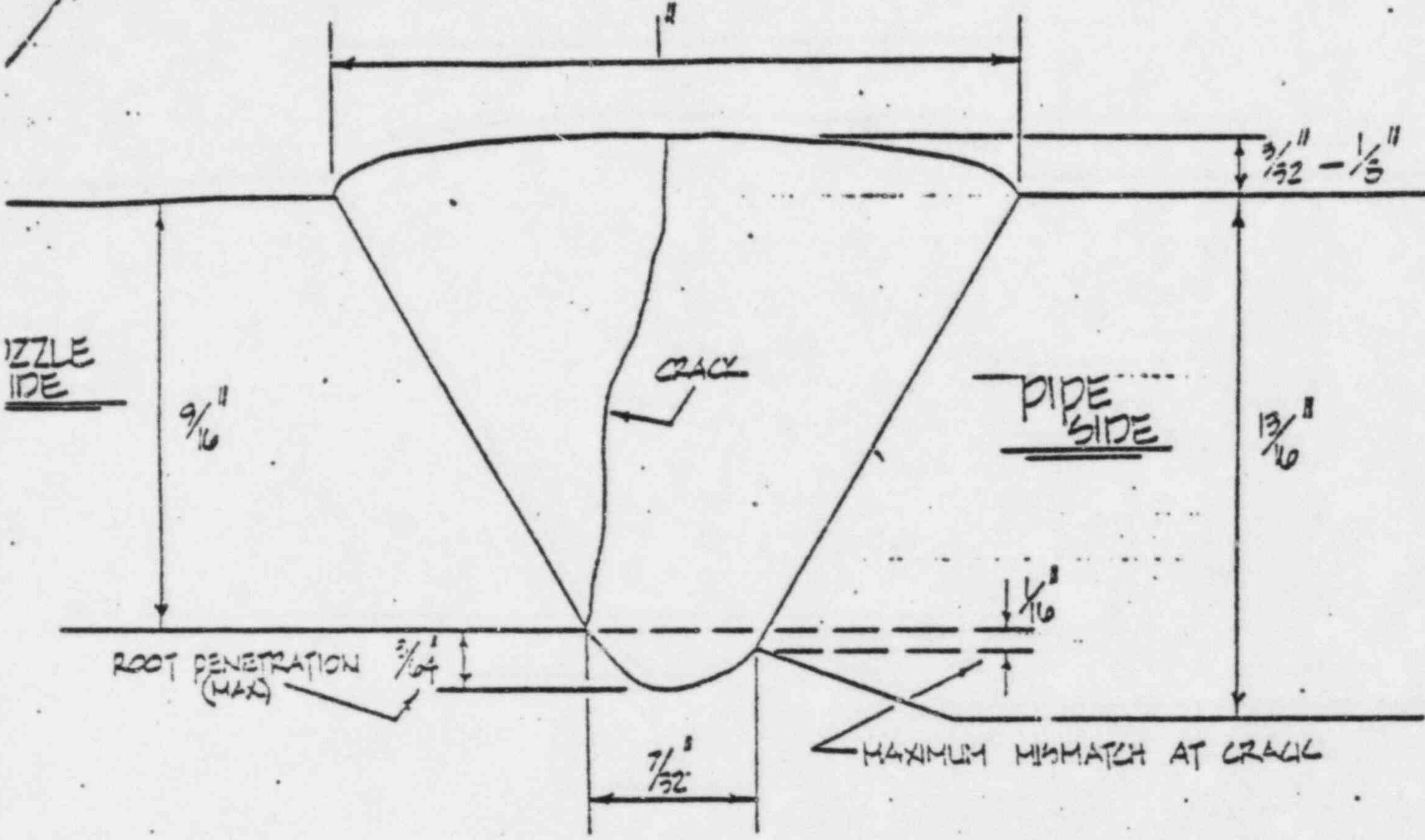
Change para B , sub I to read "U.T. of weld performed by P.G.& E. personnel".

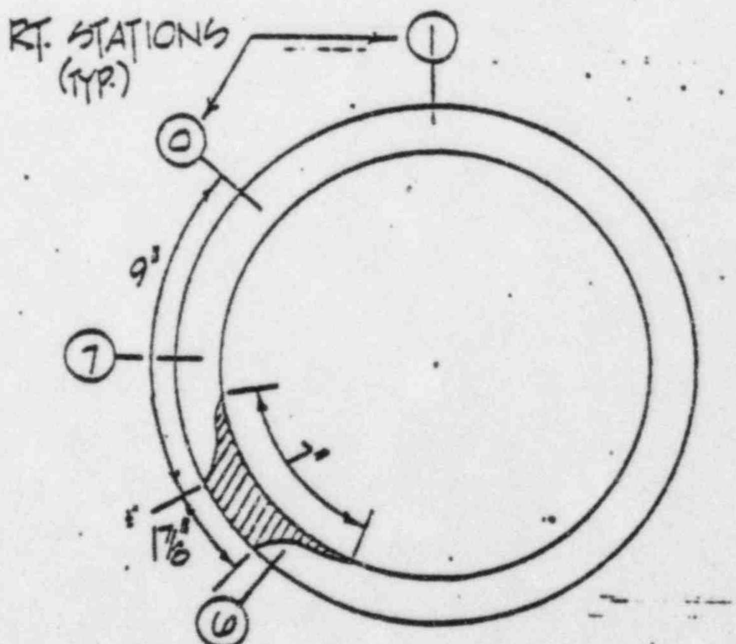
Add line 8 to additional Requirements. " M.W.Kellogg will perform U.T. of final weld and incorporate results into Iso package".

DISTRIBUTION: ☒ Master Q.A. File ☒ Auth. Insp. ☒ Engineering Dept. ☐ Other
☒ Customer ☐ Receiving ☐ Field Inspector



Cut out & bevelled
new Pup
new Sockolet EW411 - on new Pup
Cut out & bevelled
3/14/77
3/20/77
DR3366 Rev I
Attachment #1
DWG 500146





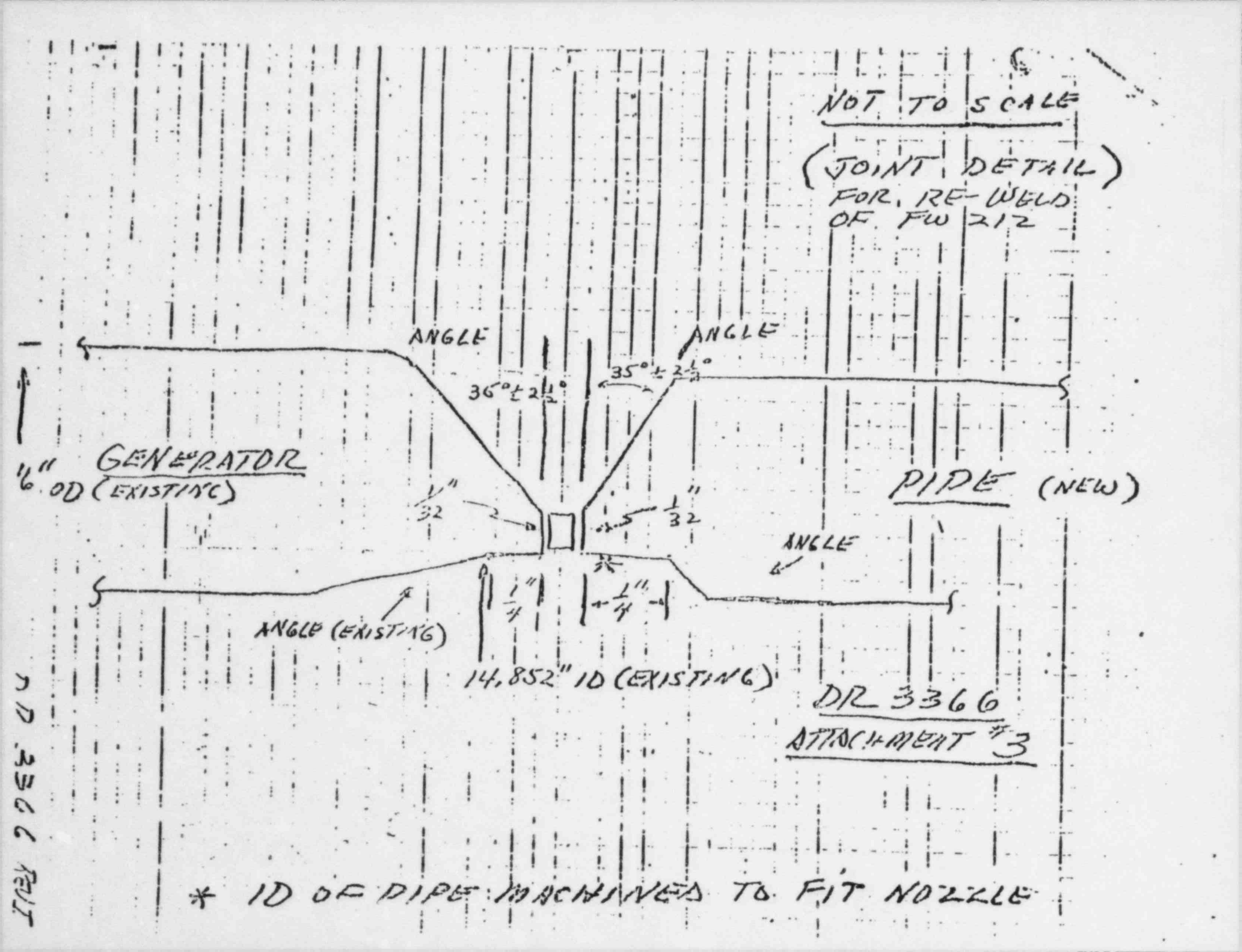
NOTE:

1. WALL THICKNESS MEAS'R. ARE APPROXIMATE
2. REF. TO D.R. 3366 REV. A
3. STEAM GENERATOR 1-2
   F.W. #212
   W.O. 300146
   -LINE # K16-553-16 IV

DR 3366 Rev I

ATTACHMENT # 2

DJD 3-21-77


NOT TO SCALE
(JOINT DETAIL)
FOR RE-WELD
OF FW 212
ANGLE
ANGLE
36° ± 2½°
35° ± 2½°
16" OD (EXISTING)
GENERATOR
PIPE (NEW)
1/32"
1/32"
ANGLE
ANGLE (EXISTING)
1/4"
1/4"
14.852" ID (EXISTING)
DR 3366
ATTACHMENT #3
* ID OF PIPE: MACHINED TO FIT NOZZLE
DR 3366 REV 2

THE M.W. KELLOGG COMPANY

A DIVISION OF PULLMAN INCORPORATED

DISCREPANCY REPORT

D.R. NO. 3370 Rev 1
ISO. NO. 500146
UNIT NO. 1
CODE NO. N/A

CUSTOMER: Pacific Gas & Electric SPEC. NO: 8711 DATE: 3/23/77
PROJECT: Diablo Canyon JOB NO.: 7177 INSPECTOR: J. P. Runyan

DISCREPANT ITEM: F.W. #197, Line K16-554-16-1V, Steam Generator 1-1 Nozzle to pipe

EXPLANATION OF DISCREPANCY:

As the result of a crack in F.W. #212 at the Feedwater nozzle on Steam Generator 1-2 (Ref. D.R. 3366), a review of the radiographs of the same welds on the remaining three (3) generators was performed by the N.R.C. In addition, the nozzle to pipe welds on the main steam leads were reviewed:

The review revealed a questionable indication in F.W. #197 on the feedwater lead to Steam Generator 1-1. The indication appears to be a burn through which contains linearly oriented voids. The accompanying radiographic report accepted the weld but did not indicate the presence of the burn through. Further investigation revealed that a second set of radiographs, shot at a later date, exist. This set also shows the burn through which was recorded on the radiographic report as acceptable (see copies attached).

(Continued on Page 2)

RECOMMENDED DISPOSITION:

See Page 2

Approved By: M.W.K. Field Q.A. Mgr. [signature] Date 3/23/77 Customer R.D. Etzler REF. PGE DR 256 Date 3/23/77

FINAL DISPOSITION: ☐ In Accordance With Above
Work Completed Insp: _____ Date: _____

☐ Other (explanation and approval required))
Work Completed Insp: _____ Date: _____

EXPLANATION (IF NECESSARY):

Revision I See page 3

M.W.K. Field Q.A. Manager D.L. Wolf Date 3.30.77 Customer R.D. Etzler Date 3/31/77

STEPS TO PREVENT RECURRENCE ☐ Not Applicable

To be provided after further review.

⚠ See Page 3

Field Q.A. Manager [signature]

DISTRIBUTION: ☒ Master Q.A. File ☒ Auth. Insp. ☒ Engineering Dept. ☐ Other _____
☒ Customer ☐ Receiving ☐ Field Inspector (_____

THE M.W. KELLOGG COMPANY

A DIVISION OF PULLMAN INCORPORATED

DISCREPANCY REPORT

D.R. NO. 3370 Rev I
ISO. NO. 500146
UNIT NO. 1
CODE NO. N/A

TOMER: Pacific Gas & Electric SPEC. NO: 8711 DATE: 3/23/77
JECT: Diablo Canyon JOB NO.: 7177 INSPECTOR: J. P. Runyan

REPANT ITEM: F.W. #197, Line K16-554-16-1V, Steam Generator 1-1 Nozzle to pipe

lanation Of Discrepancy:

To determine the severity of the indications in the burn through, we have made additional radiographs of the burn through area. These radiographs indicate that the voids are probably contained within the burn through and do not extend into the weld. There is no indication of propagation of the indications.

U.T. of the weld by P.G.&E. does not indicate any indication within the weld which is outside the acceptance criteria.

Attachments 1, 2 & 3

mmended Disposition:

To eliminate the possibility of a potential problem at a later date, it is recommended that the burn through be removed.

The following procedure is to be followed for removal and reinspection:

1. Weld a 2" threaded coupling to the pipe as shown on the attached sketch using weld procedure 88/89 or 92/93. (FW # 827).
2. M.T. per ESD-209.
3. Post weld heat treat the weld - ESD-218.
4. Perform a hydrotest on the weld prior to drilling into the pipe.
5. Following satisfactory completion of the hydrotest, cut the hole through the pipe wall with a hole saw (Ref. ESD-230) NOTE: Additional reinforcement of 2" opening is not required per P.G.& E. calculations
6. Using an extended shaft grinder with a cone shaped rock, grind the burn through flush with the pipe surface.
7. Radiograph the area to assure complete removal of unacceptable indications.
8. Install threaded plug and seal weld (F.W. #828).

This installation is to be made in accordance with the National Board Inspection Code and ASME Section I

Reviewed by A.N.I. R.E. Sanderson 3/24/77

BUTION: ☒ Master Q.A. File ☒ Auth. Insp. ☒ Engineering Dept. ☐ Other
☒ Customer ☐ Receiving ☐ Field Inspector

THE M.W. KELLOGG COMPANY

A DIVISION OF PULLMAN INCORPORATED

D.R. NO. 3370
ISO. NO. 500146
UNIT NO. ONE
CODE NO. N/A

DISCREPANCY REPORT

STOMER: Pacific Gas & Electric SPEC. NO: 8711 DATE: 3/23/77
OJECT: Diablo Canyon JOB NO.: 7177 INSPECTOR: J.P. Runyan

CREPANT ITEM: F.W. #197, Line K16-554-16-IV, Steam Generator 1-1 Nozzle ot pipe

REVISION I

The following action was taken.

Add to "Recommended Disposition" the following steps.

A. To determine if there exists an ambiguity with other welds accepted by the M.K. Kellogg film interpreter who accepted F.W. 197, the following action was taken:

1. Review qualification records of this individual to assure compliance with SNT-TC-1A.
2. Review all radiographs which were accepted by the individual.

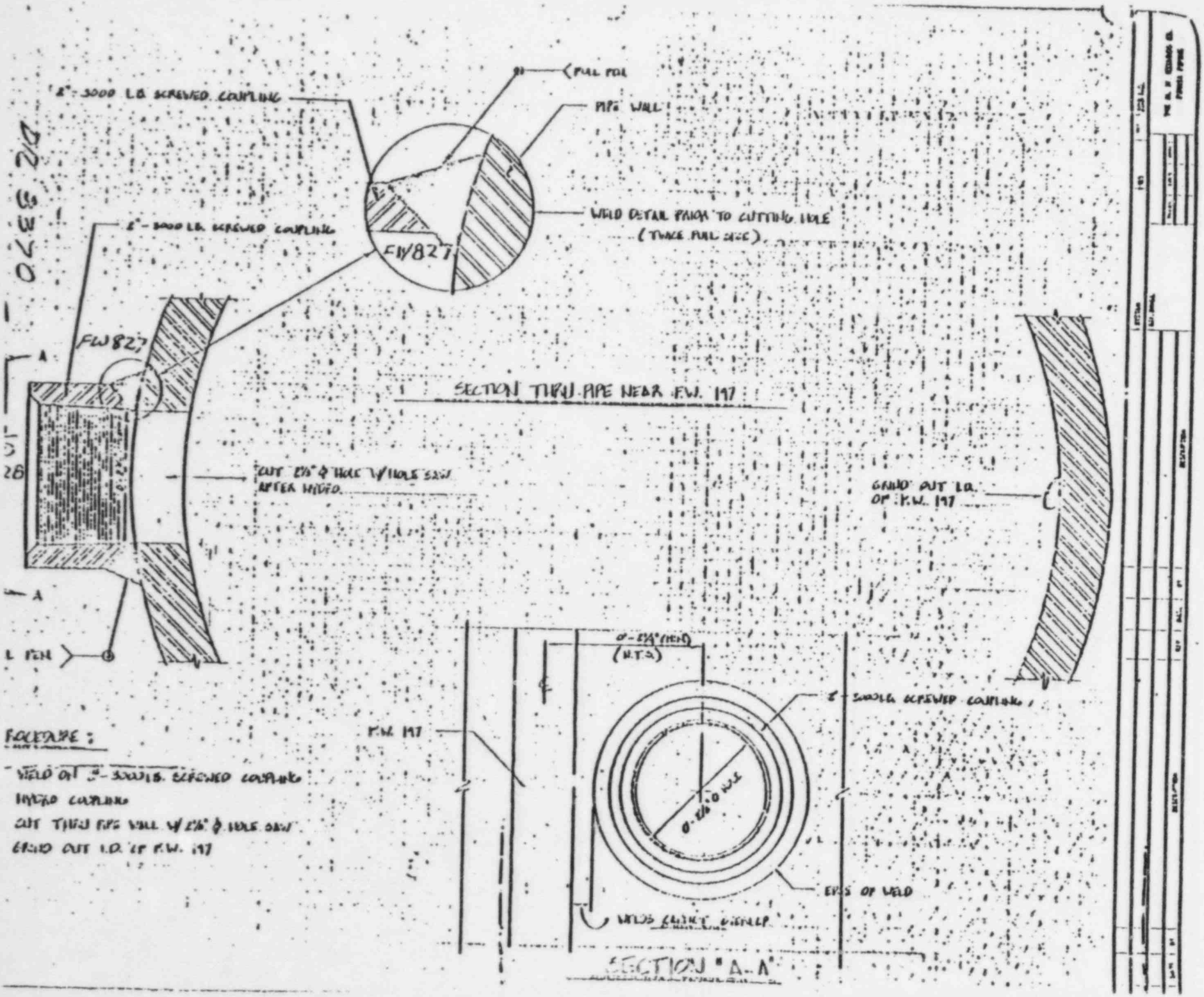
NOTE: The findings of the review will be reported as a separate report and attached to this D.R. before the D.R. is closed. No revision will be required to the D.R.

Summary:

Steps to prevent recurrence:

It has been determined that no further steps are required to avoid recurrence of a similar nature. The interpretation of radiographs is always subject to be questioned after the fact. The review as required above will assure that if any problimatic questions with existing installations are present, they will be corrected.

NOTE: The individual mentioned above is no longer employed by M. W. Kellogg.


2" - 3000 LB SCREWED COUPLING
FULL PEN
PIPE WALL
WELD DETAIL PRIOR TO CUTTING HOLE
(TRACE FULL SIZE)
FW827
2" - 3000 LB SCREWED COUPLING
FW827
A
A
FULL PEN
CUT 1 1/8" ϕ HOLE W/HOLE SAW
AFTER WELD.
SECTION THRU PIPE NEAR F.W. 197
GRIND OUT I.D.
OF F.W. 197
0'-1 1/4" FILLET
(N.T.S.)
2" 3000 LB SCREWED COUPLING
F.W. 197
0'-1 1/8" HOLE
EDGE OF WELD
WELDS SLIGHTLY OVERLAP
SECTION "A-A"
PROCEDURE :
- WELD ON 2" - 3000 LB. SCREWED COUPLING
INSIDE CAVITY
CUT THRU PIPE WALL W/ 1 1/8" ϕ HOLE SAW
GRIND OUT I.D. AT F.W. 197

P. G. & E.

844 1-p	16	3-50116 FEEDWATER SYS			K16-554
12 192	10 x 10	55	3/32"	90 SEC	B31.7
					ESD-206 KRT-2
					BUTT
					KM
					4½x17
					☐ SINGLE ☒ DOUBLE
					HAND TANK @ 68°
					KIMMICK ASNT Level II

FITTING, SEAM OR JOINT NUMBER	FILM INTERPRETATION NUMBER	PENETRAMETER	ACCEPT.	REJECT	SLAG	POROSITY	CRACK	LACK OF PEN.	LACK FUSION	UNDERCUT	SURFACE	SHRINK	HOT TEAR	BAND	INCOMPLETE	DATE FILM EXPOSED	REMARKS	FILM INTERPRETATION BY
197	1-1-2	20F	X													1/29/75		
GX	2-3-4	|	X			½										|		K. Beck
	4-5-6	|	X		½	½												ASNT II
	6-7-0	|	X			½												
		(SINGLE VIEWING)																

REPORTED BY	COST	AUTH. NO.
RS		
1/28/75		2-4-75
		OK

P. G. & E.

1-SL-TWELD	16"		B 31.1	1-03-500146 FEEDWATER			K15-554-
IR 192	10x.10	86 ci.	16.5	8 min.	--------	ESD-207 KRT-	BUTT
						M	7x17	☐ SINGLE ☒ DOUBLE
						HAND TANK @ 68°	SEARS	ASNT Level II

FITTING, SLAB OR IDENT NUMBER	FILM INTERVAL NUMBER	PENETRAMETER	ACCEPT.	REJECT	SLAG	POROSITY	CRACK	LACK OF PEN.	LACK FUSION	UNDERCUT	SURFACE	SHRINK	HOT TEAR	SAND	CHAPLETS	DATE FILM EXPOSED	REMARKS	FILM INTERPRETATION BY
Ex 197	0-1-2	ASME 17/20	X															
W	2-3-4	(	X			[illegible]				✓						2/10/75	[illegible]	
E EX	4-5-6	(	X			[illegible]				✓								M. Shore
L	6-7-0	(	X			[illegible]				✓						(	[illegible]	ASNT II
D										✓								2/11/75
E																		
R		— [illegible] —																

NOTE: THIS SIZE FILM WAS USED SO WE COULD COVER REPAIR AREA OF STEAM GENERATOR NOZZLE. [illegible]

NOTE: STA. #2 MISSING ON (0-1-2) BUT OVERLAP ON (2-3-4) IS GOOD. [illegible]

APPROVED BY:

MFR.	CUST.	AUTH. INS.
[illegible] 3/11/75	[illegible] 2/11/75	2-11-75 [illegible]

A R W W V C

COPY TO PULLMAN KELLOGG

DISCREPANCY REPORT

No. [illegible]

TO: Kellogg From: Dcn

Page 1 of 1

Cont./Supp. Pullman Kellogg Cont./Supp. I.D. No. D.R. 3270 FOLD No. 225

INSPECTION SECTION

Discrepant Item: Unit 1, System 3, Steam Generator 1-1 Feedwater Nozzle Field Weld No. 127.

Explanation of Discrepancy: Radiography Review revealed "drop through" with questionable indications. This was found after the radiograph and weld had been final accepted. For further details, see attached Pullman Kellogg D.R. No. 3270.

Field Engr./Inspector 3-23-77 Date

CLASSIFICATION & DISPOSITION

Minor Variation ☐ Deviation ☒

Disposition: Reject. Repair in field in accordance with P-K D.R. 3270.

The following members of the Material Review Board concur with the above Disposition:
(For Minor Variations, only Resident Engineer's signature required.)

Resident Engineer 3-23-77 Date

Name Date

Name Date

Responsible Engineer 3/24/77 Date

Supervising Engineer 3/24/77 Date

DISPOSITION ACCOMPLISHED

Remarks:

Field Engineer/Inspector Date

STEPS TO PREVENT RECURRENCE (Deviations Only)

Resident Engineer Date

Copies Attachments Report Completed

(1) JK cc MRT - Hotline
(2) GSB
RECD 4/15/77
AT 1700 HRS

April 15, 1977

EXHIBIT 5 TO ATTACHMENT 1

Mr. R. H. Engelken, Director
Office of Inspection and Enforcement
Region V
U.S. Nuclear Regulatory Commission
1990 N. California Boulevard
Suite 202
Walnut Creek, California 94596

Docket No. 50-275
Unit I
Diablo Canyon Site

Dear Mr. Engelken:

On March 18, 1977 we notified the Office of Inspection and Enforcement, Region V, of a defect in a pipe discovered during testing at Diablo Canyon, which is reportable under Paragraph (e)(iii) of 10 CFR 50.55. This letter is a preliminary written report of the situation.

On March 17, 1977, during heatup for hot functional testing, a small leak was discovered in the weld joining steam generator 1-2 feedwater nozzle to the feedwater pipe. Testing was stopped to investigate the cause and to repair the leak.

The area of the leak was examined by nondestructive methods which revealed that there was a through-the-wall crack and that it was confined to the leakage area. A 16" long piece of pipe, which included that portion of the steam generator nozzle weld containing the crack, was removed from the line. A 4 1/2" long section containing the crack was cut from this pipe and delivered to PGandE's Department of Engineering Research to be analyzed to determine the failure mechanism. The investigation is still in progress.

A comprehensive review of the weld history has been performed including the weld procedure, welder qualifications, heat treatment

records, material certifications, nondestructive examinations, and water chemistry associated with the functional testing of this equipment. The results of these investigations are still under analysis.

Repair of the feedwater pipe was made by replacing a 16" length of pipe having the same specification and physical properties as the original piece. The original weld procedure was used with minor changes to preheat and postheat requirements.

Ultrasonic examinations conforming to ASME Section XI were performed on the four main steam and the other three feedwater to steam generator nozzle welds. These examinations revealed that there were no rejectable indications.

We will submit, as soon as possible, a final report documenting the failure mechanism and our intended corrective action if such action is determined to be necessary.

Very truly yours,

Philip A. Crane, Jr.

PAC/

cc: (3) Director of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

EXHIBIT 6 TO
ATTACHMENT 1

PG and E
Pacific Gas and Electric Company

FAILURE ANALYSIS OF CRACKED FIELD WELD NO. 212
DIABLO CANYON UNIT 1, STEAM GENERATOR 1-2
NOZZLE-TO-PIPE WELD

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