

EXHIBIT NO. 9

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)

PACIFIC GAS AND ELECTRIC)
COMPANY)

(Diablo Canyon Nuclear Power)
Plant, Units 1 and 2))

Docket Nos. 50-275
50-323

(Construction Quality Assurance)

AFFIDAVIT OF DONALD R. GESKE

STATE OF CALIFORNIA)

COUNTY OF)

SAN LUIS OBISPO)

ss.

I, Donald R. Geske, being duly sworn, depose and say

I. I was employed by M. W. Kellogg, now known as Pullman Power Products, as a Non-Destructive Examination Technician from October 6, 1975 to January 14, 1983. One of my responsibilities during this time was as Ultrasonic Inspection Technician certified as ASNT-TC-1A Level II by examination.

8404040377 840319
PDR ADOCK 05000275
PDR
G

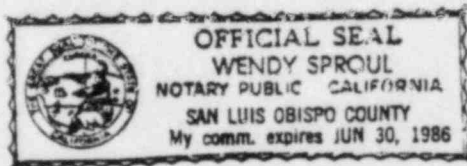
2. On February 25, 1976, I visited the Copes Vulcan valve manufacturing facilities in Erie, Pennsylvania, in order to examine two valve bodies using pulse echo ultrasonic sound techniques. The valves under test were both stainless steel cast material with PGandE identification PCV-455A and PCV-455B. The scope of this examination consisted of determining the wall thickness of the valve bodies in designated areas. After calibrating the Sonic Mark I Ultrasonic Unit for linearity through the required thickness range using the standard calibration block, a calibration "check" was made. This check consisted of obtaining a mechanical thickness measurement on the valve body under test and comparing that measurement to the ultrasonic thickness measurement of the same cross section. In both cases, PCV-455A and PCV-455B, the ultrasonic measurement was 0.020" greater than the mechanical measurement. After verifying the linearity calibration of the ultrasonic unit by repeating the standard calibration block measurements, the cathode ray tube (CRT) display was shifted 0.020". This transfer mechanism compensated for the difference in sound velocity between the standard step wedge block and the actual cast valve body under test. This sort of velocity difference is common among cast products and may be attributed to a number of inherent variables such as chemical composition, grain size, surface condition, temperature, etc. In this case, not only were these variables present but also the valves had undergone a repair by weld overlay to increase the thickness in the area of interest. Measurements were then taken and the dimensions as read on the CRT were recorded. These dimensions reflect actual wall thickness compared to the cast standard adjusted for the velocity differences in material. Copies of the measurement reports for these valves are attached as Exhibits 1 and 2.

DATED: March 17, 1984

Donald R. Geske
DONALD R. GESKE

Subscribed and sworn to
before me this 17th day
of March, 1984

Wendy Sproul
Wendy Sproul
Notary Public in and for the
County of San Luis Obispo,
State of California.
My commission expires
June 30, 1986



EXHIBITS

1. Wall thickness measurement report for valve PCV-455A
2. Wall thickness measurement report for valve PCV-455B

FIGURE 2

1. Valve Identification: Unit No. 2, Hfr. COPE3
 Location No. PCV 455A, Type 4R258RG
 Remarks: (S/N, R#, etc.) 46 W210
2. Test Equipment: Hfr. SONIC, Model MARK I
 S/N PGE 742101, Transducer: S/N FDU.25
 Frequency 5 MHz, HZ. Couplant GLYCERINE
3. Calibration: Step wedge material CAST SS 316 ASTM A351 CFB HT 1300
 Actual step thickness: A .258 B .507 C .757 D 1.007
 Ultrasonic readings: A .250 B .500 C .750 D 1.000
 Calibration check (when possible on valve): Mechanical .760 UT .780
 Performed by: Donald A. Kiske, Date: 2-25-76
4. Valve Body Measurement: (Refer to Step 7.3.1 for Grid Lay-out)

	1	2	3	4	5	6	7	8	9	10
A										
B	-	.950	.955	1.010	.910					
C	1.005	-	.905	1.000	.850	.815				
D	.810	.825	.980	.950	.975	-				
E	.825	.765	1.090	1.040	.840	.895				
F	.825	.790	1.000	1.000	.840	-				
G	.775	.810	.750	.800	.805	.870				
H	.920	.790	.825	.835	.845	.945				
I	.800	.900	.885	.875	.780	.765				
J	.840	.800	.800	.840	.840	.835				
K	-	.985	.950	.960	.930	-				
L										
M										

Note: If additional space is required, attach pages as required.

5. Measurement and Post Calibration by: Donald A. Kiske, Date: 2-25-76
 Actual step thickness: A .258 B .507 C .757 D 1.007
 Ultrasonic readings: A .250 B .500 C .750 D 1.000
 Calibration check (when possible on valve): Mechanical .760 UT .780
6. Wall Thickness: Min. allowed .750, Min. obtained .750
7. Valve Identified per Step 7.3.5 by: NIA, Date: _____
8. Valve Protection restored by: NIA, Date: _____
9. Remarks: _____

VALVE CHECKED AT COPE3 FACILITIES IN
ERIE, PENN.

 _____ NIA

Donald A. Kiske Date: 2-25-76

Page 2

1. Valve Identified as: 2, COPE
 Location No. PCV 455B, 4RA582GA
 Remarks: (S/N, etc., etc.) 26 N86
2. Test Equipment: SONIC Model MARK I
 S/N PGE 742101 Transducer: S/N EDU 25
 Frequency 5 MHZ Hz. Couplant GLYCERINE
3. Calibration: Step wedge material Cast SS316 ASTM A351 CFB HT 1300
 Actual step thickness: A .258 B .507 C .757 D 1.007
 Ultrasonic readings: A .250 B .500 C .750 D 1.000
 Calibration check (when possible on valve): Mechanical .760 UT .780
 Performed by: Donald A. Burke Date: 2-25-76
4. Valve Body Measurement: (Refer to Step 7.3.1) for Grid Lay-out)

	1	2	3	4	5	6	7	8	9	10
A	-	8.40	.870	.920	.970	-				
B	.970	.950	.930	.880	.900	1.050				
C	.750	.890	-	-	-	.970				
D	.820	.795	.770	.820	.810	.800				
E	.865	.835	.805	.800	.810	.830				
F	.935	.935	1.010	1.010	.990	.925				
G	.900	.990	-	-	1.000	.970				
H	.995	1.150	1.170	-	1.035	-				
I	.980	-	-	1.230	-	1.050				
J	-	1.095	-	1.150	1.140	1.040				
K										
L										
M										

Note: If additional space is required, attach pages as required.

5. Measurement and Post Calibration by: Donald A. Burke Date: 2-25-76
 Actual step thickness: A .258 B .507 C .757 D 1.007
 Ultrasonic readings: A .250 B .500 C .750 D 1.000
 Calibration check (when possible on valve): Mechanical .760 UT .780
6. Wall Thickness: Min. allowed .750 Min. obtained .750
7. Valve Identified per Step 7.3.5 by: N/A Date:
8. Valve Protection restored by: N/A Date:
9. Remarks:

VALVE CHECKED AT COPE FACILITIES IN
ERIE, PENN.

Serial No. of Microscope: N/A

Report by: Donald A. Burke Date: 2-25-76

INTEROFFICE CORRESPONDENCE

EXHIBIT NO. 10

DATE 11-22-82

TO QA/QC Manager

FROM Internal Auditor

SUBJECT Comments on Proposed DR of ESD 241 UT Inspection
of Safety Valve Yoke Rods

Item #3 I agree that the P.6+E memo of 3-27-73 states the rods will be threaded which is the reason for the addition of inspection requirement of P.T. My concern is that ESD 241 is based on the D series instruction. The Dresser instruction is for the detection of defects prior to threading of the rods. What effect does threading the rods have on the parameters of the inspection procedure ESD 241 is used to inspect threaded rods while the parent procedure was established for unthreaded rods. Could this have an effect on the results of the inspection? The parent procedure was established for a different condition of the material. I feel this should be identified on the DR in case it does have an effect and then P.6+E can review and disposition.

Item #4 A and B

The form used to document inspection results was not referenced in ESD 241. The form referenced in ESD 241 was not used. I agree that the

TO: GA/GC Manager

DATE 11-22-82

SUBJECT: Proposed DR of ESD 241

PAGE NO. 2

nods are a round surface and in that case there can only be one surface to examine from. But both procedures require that the surface from which the test shall be performed shall be recorded. This has not been done nor an explanation provided as to why the procedure was deviated from. The procedure requirement is not pertinent to the type examination required and should be so identified on the DR.

Item #5

There is no evidence in the correspondence files to indicate that inspection information was transferred from the required exam report to another report form prior to going to P.G. & E. or at any other time.

Item #4 C

Agreed. The calibration frequencies used during the inspections are most adequate. But they are not per the requirements of the procedures (ESD 241 and Dresser). The problem is the procedure requirements have no valid relationship to the type work being done. Procedures are supposed to establish the methods necessary to achieve valid inspection results. But this is not the case with ESD 241. My intent is to identify on the DR the inadequacy of the procedure and then show that corrective action was initiated at the time of the inspection.

TO: QA/QC Manager

DATE 11-22-82

SUBJECT: Proposed DR of ESD 241

PAGE NO. 3

Item #6 The language is not the same concerning sensitivity and acceptance criteria. But I am not knowledgeable in the techniques to know if the results are the same. I am agreeable to whatever the UT level III feels on this area.

Item #7 How is P.P.P. to know if indications exist in the yoke rod ends unless a P.T. is performed? The P.G+E memo of 3-27-73 states "in addition to the UT inspection". I interpret this to mean two inspections will be performed, U.T. and P.T., to check yoke rods for indications. One of MacRae's recommendations is to P.T. and I concur. I feel we should identify the problem on the DR and let P.G+E decide if they want us to P.T. the rod ends.

There is no evidence in the correspondence files to indicate that the inspection results were submitted to P.G+E.

Harold Hudson
Internal Auditor
Diablo Canyon Nuclear Plant

Item

- 1 read 8711 Sec. 4.3.23 ^{required (also ASME III ~~NA-5254~~)} §4.3.29 ESD 241 has no PQR
- does Dresser have an approved PQR?
- 2 → check issue date and writing date if possible (see below)
check UT status report dates 12/17 - 12/20
3. read Dresser Instruction para. 12 # SP-52-166 para. 12.1
* - weren't yoke rods inspected prior to threading by the vendor?
→ This item is not relevant per ASME III NA-3310.1 & NA-3361
4. - read ESD 241.18 (form) see UT reports vs approved form
- a) 241.15.3.g & Dr. #SP-52-166 para. 21.3.g (surfaces of insp.) ^{not on F-66 cit}
b) 241.15.3.L " 21.3.i (cal. block descr.) TRUE
c) 241.8.1 7.1 (cal. freq.) what's wrong?
* - seems to me, actual re-calib. times exceeded those required avg. insp. time for ea. rod < 1/2 hr. ← all done by 1 guy
→ - do procedures meet needs of type of exam being performed? Yes - except form F-66 for items 4A & 4B
5. same as 4 wrong form used. - form used appears to be a copy of the form used by Dresser. (see 2 below)
6. a) 241.11.4 thru 7 are more detailed and exceed in quality the info. in SP-52-166 Para. 12.4
b) 241.11.6 & 7 say the same thing as SP-52-166 para. 17.1
7. a) does U.T. Status rpt. have block to indicate PT? Yes - none recorded!
b) J. Sales memo is not a spec. but a request or recommendation!
Regardless of what 241.17.1 says or how it is said, the procedure does not have to conform to a memo but it does have to conform to a spec.
* - 241.17.1 goes beyond memo request to PT ends and relevant indications via U.T.
8. Although ESD-241 had not been issued by M.W.K. til 12-26-74 nor approved by P.G. & E til 2-12-74, a written procedure was existent as early as ~~2-8-73~~ 2-8-73 as referenced in J. Sales memo. [This is still a deficiency]

Recommended Disposition:

Accept-as-is pending

- a) documenting procedure qualification and keeping it on file.
- b) revising form F-66 as necessary, transferring info. from original UT Exam. Reports and co-signing for Ed Martindale.
- c) P.T. of ends of Yoke Rods and documentation of such.

or

Reject UT's & Re-Examine ^{as requested} pending

- a) procedure qualification
- b) revision of Form F-66

REPORT OF ULTRASONIC EXAMINATION

1. PROCEDURE M.W. Kellogg ESD 240 DATE 12-17-73
2. EQUIPMENT MAKE BRANSON SONORAY 301
- (A) TRANSDUCER TYPE & SIZE (INCLUDE WEDGE SHOES OR SADDLES IF USED)
2.25 MHZ 3/4" L Wave & 2.25 MHZ 45° SHEAR
- (B) TEST FREQUENCY 2.25 MHZ
- (C) COUPLANT USED GLYCERINE
- (D) METHOD OF TEST USED CONTACT
- (E) TECHNIQUE USED LONG. & SHEAR
- (F) CALIBRATION - INITIAL PRIOR TO START OF TEST EACH DAY.

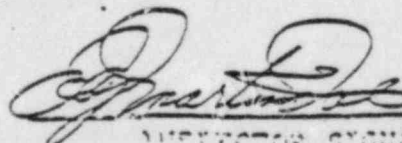
SUBSEQUENT CALIBRATIONS BEFORE AND AFTER EACH
ROD APPROX 15 MIN. PRIOR TO EACH
TECHNIQUE AND AT ANY TIME A
DISCONTINUITY WAS SUSPECTED.

3. MATERIAL TESTED CASTING NA
- FORGING OR BAR RODS FROM BAR STOCK
- WELDMENT NA
4. CONDITION OF MATERIAL - ROUGH MATERIAL ---
- SEMI-FINISHED ---
- FINISHED MACHINED

5. RESULTS OF EXAMINATION:
NOTE: USE DETAIL DRAWING OR SKETCH IF REQUIRED TO INDICATE
LOCATION OF DEFECTS.

ALL RODS ARE ACCEPTABLE TO ESD 240 SEE ATTACHED
STATUS REPORT. VALVE SN. 8M7862 ROD "A" CONTAINS
ONE DISCONTINUITY APPROX 14" LONG WITHIN ACCEPTABLE LIMITS.
SEE ATTACHED DRAWING.

POST CLEANING METHOD GLYCERINE WAS WIPED AS DRY
AS POSSIBLE WITH CLEAN CLOTH, THEN WIPED WITH
CLOTH DAMPED WITH ACETONE, THEN WITH CLEAN
CLOTH DAMPED WITH DEIONIZED WATER.



EXAMINER'S SIGNATURE

CONTRACT 22-0-8711-0
 ULTRASONIC STATUS REPORT

YOKE RODS EXAMINED TO M.W.K. PROCEDURE

IT O.	YOKE ROD NO.	SERIAL NO.	MISC. INFO.	TAG NO.	LPT RESULT	ULTRASONIC RESULT		TEST DATE	PERFORMED BY
						ACC.	REJ.		
	A	BM 7867	VALVE STOP RAX 2-11	NONE		X		12-18-73	Edmunds
	B	BM 7867	"	NONE		X		12-18-73	Edmunds
	A	BM 7848	"	NONE		X		12-18-73	Edmunds
	B	BM 7848	"	NONE		X		12-18-73	Edmunds
	A	BM 7850	"	NONE		X		12-18-73	Edmunds
	B	BM 7850	"	NONE		X		12-18-73	Edmunds
	A	BM 7869	"	NONE		X		12-18-73	Edmunds
	B	BM 7869	"	NONE		X		12-18-73	Edmunds
	A	BM 7860	"	NONE		X		12-18-73	Edmunds
	B	BM 7860	"	NONE		X		12-18-73	Edmunds
	A	BM 7855	"	NONE		X		12-18-73	Edmunds
2	B	BM 7855	"	NONE		X		12-18-73	Edmunds
3	A	BM 7849	"	NONE		X		12-19-73	Edmunds
4	B	BM 7849	"	NONE		X		12-19-73	Edmunds
5	A	BM 7851	"	NONE		X		12-19-73	Edmunds
6	B	BM 7851	"	NONE		X		12-19-73	Edmunds
7	A	BM 7857	"	NONE		X		12-19-73	Edmunds
8	B	BM 7857	"	NONE		X		12-19-73	Edmunds
9	A	BM 7856	"	NONE		X		12-19-73	Edmunds
0	B	BM 7856	"	NONE		X		12-19-73	Edmunds
1	A	BM 7859	"	NONE		X		12-19-73	Edmunds
2	B	BM 7859	"	NONE		X		12-19-73	Edmunds
	A	BM 7865	"	NONE		X		12-19-73	Edmunds
4	B	BM 7865	"	NONE		X		12-19-73	Edmunds
5	A	BM 7858	"	NONE		X		12-19-73	Edmunds
6	B	BM 7858	"	NONE		X		12-19-73	Edmunds

3M221 1 OF 1

YUKE RODS EXAMINED TO M.W.K. PROCEDURE

[illegible]

REPORT OF ULTRASONIC EXAMINATION1. PROCEDURE ESD 241 DATE Dec 17-19732. EQUIPMENT MAKE BRANSON - SONOARY 301


(A) TRANSDUCER TYPE & SIZE (INCLUDE WEDGE SHOES OR SADDLES IF USED)

1/2" with curved shoe 45° SHEAR & LONGITUDINAL(B) TEST FREQUENCY 2.25 MHZ.(C) COUPLANT USED GLYCERINE(D) METHOD OF TEST USED LONG & SHEAR(E) TECHNIQUE USED MANUAL - CONTACT(F) CALIBRATION - INITIAL PRIOR TO TEST OF EACH ROD.SUBSEQUENT CALIBRATIONS AT THE END OF EACHROD EXAMINATION AND AT ANY TIMEAN INDICATION WAS DETECTED IN EXCESS
OF 5% OF SCANNING GAIN.3. MATERIAL TESTED CASTING —FORGING OR BAR RODS FROM BAR STOCKWELDMENT —4. CONDITION OF MATERIAL - ROUGH MATERIAL —SEMI-FINISHED —FINISHED GOOD CLEAN SURFACE

5. RESULTS OF EXAMINATION:

NOTE: USE DETAIL DRAWING OR SKETCH IF REQUIRED TO INDICATE
LOCATION OF DEFECTS.THIS REPORT COVERS SERIAL NOS 7854, 7852, 7863,
NO REPORTABLE INDICATIONS OF 7857, 7868, 7866,
DEFECTS DETECTED. 7861, 7864

6. POST CLEANING METHOD

PARTS WERE CLEANED WITH
ACETONE FOLLOWED BY
DEMINERALIZED WATER
INSPECTOR SIGNATURE

REPORT OF ULTRASONIC EXAMINATION1. PROCEDURE ESD 241 DATE DEC 18, 1973EQUIPMENT MAKE BRANSON - SONORAY 301

(A) TRANSDUCER TYPE & SIZE (INCLUDE WEDGE SHOES OR SADDLES IF USED)

1/2" with curved shoe 45° SHEAR & LONGITUDINAL(B) TEST FREQUENCY 2.25 MHZ(C) COUPLANT USED GLYCERINE(D) METHOD OF TEST USED LONG & SHEAR(E) TECHNIQUE USED MANUAL - CONTACT(F) CALIBRATION - INITIAL PRIOR TO TEST OF EACH ROD

SUBSEQUENT CALIBRATIONS AT THE END OF EACH
ROD EXAMINATION AND AT ANY TIME
AN INDICATION WAS DETECTED IN EXCESS
OF 5% OF SCANNING GAIN.

3. MATERIAL TESTED CASTING —FORGING OR BAR RODS FROM BAR STOCKWELDMENT —4. CONDITION OF MATERIAL - ROUGH MATERIAL —SEMI-FINISHED —FINISHED ROD CLEAN SURFACE

5. RESULTS OF EXAMINATION:

NOTE: USE DETAIL DRAWING OR SKETCH IF REQUIRED TO INDICATE
LOCATION OF DEFECTS.

THIS REPORT COVERS SERIAL NOS 7867, 7848, 7850,
7869, 7860, 7855,

6. POST CLEANING METHOD


INSPECTOR SIGNATURE

REPORT OF ULTRASONIC EXAMINATION

1. PROCEDURE ESD 241 DATE Dec 19, 1973

2. EQUIPMENT MAKE BRANSON - SONORAY 301

(A) TRANSDUCER TYPE & SIZE (INCLUDE WEDGE SHOES OR SADDLES IF USED)
1/2" with curved shoe 45° SHEAR & LONGITUDINAL

(B) TEST FREQUENCY 2.25 MHZ

(C) COUPLANT USED GLYCERINE

(D) METHOD OF TEST USED LONG & SHEAR

(E) TECHNIQUE USED MANUAL - CONTACT

(F) CALIBRATION - INITIAL PRIOR TO TEST OF EACH ROD

SUBSEQUENT CALIBRATIONS AT THE END OF EACH
ROD EXAMINATION AND ANY TIME AN
INDICATION WAS DETECTED IN EXCESS
OF 5% OF SCANNING GAIN.

3. MATERIAL TESTED CASTING —

FORGING OR BAR RODS FROM BAR STOCK

WELDMENT —

4. CONDITION OF MATERIAL - ROUGH MATERIAL —

SEMI-FINISHED —

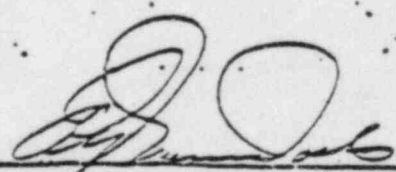
FINISHED GOOD CLEAN SURFACE

5. RESULTS OF EXAMINATION:

NOTE: USE DETAIL DRAWING OR SKETCH IF REQUIRED TO INDICATE
LOCATION OF DEFECTS.


THIS REPORT COVERS SERIAL NOS 7849, 7851, 7857
7854, 7859, 7865
7858,

6. POST CLEANING METHOD


INSPECTOR SIGNATURE

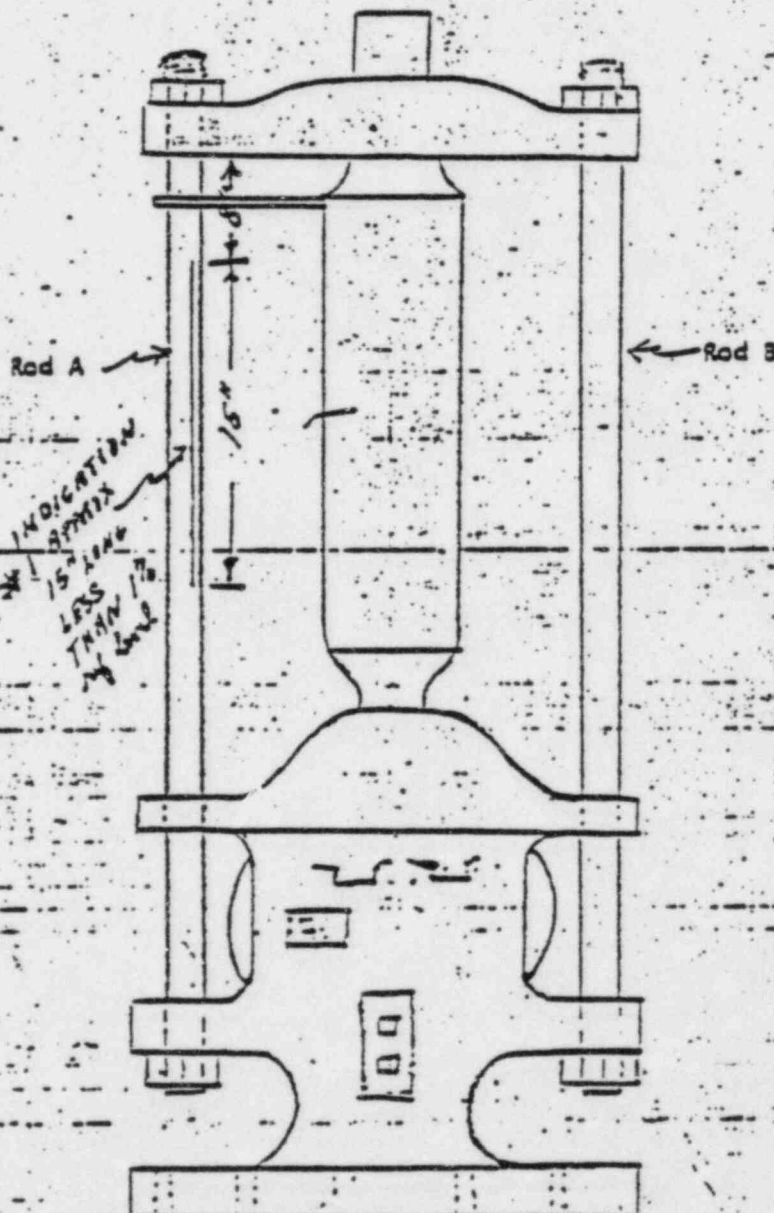
REPORT OF ULTRASONIC EXAMINATION

1. PROCEDURE ESD 241 DATE 1-20-74
2. EQUIPMENT MAKE BRANSON SONORA 301
- (A) TRANSDUCER TYPE & SIZE (INCLUDE WEDGE SHOES OR SADDLES IF USED)
1/2" with curved shoe 45° SHEAR & LONGITUDINAL
- (B) TEST FREQUENCY 2.25 MHZ
- (C) COUPLANT USED GLYCERINE
- (D) METHOD OF TEST USED LONG & SHEAR
- (E) TECHNIQUE USED MANUAL - CONTACT
- (F) CALIBRATION - INITIAL PRIOR TO TEST OF EACH ROD
-SUBSEQUENT CALIBRATIONS AT THE END OF EACH ROD EXAMINATION AND AT ANY TIME AN INDICATION WAS DETECTED IN EXCESS OF 5% OF SCANNING GAIN
3. MATERIAL TESTED CASTING —
FORGING OR BAR RODS FROM BAR STOCK
WELDMENT —
4. CONDITION OF MATERIAL - ROUGH MATERIAL —
SEMI-FINISHED —
FINISHED GOOD CLEAN SURFACE
5. RESULTS OF EXAMINATION:
NOTE: USE DETAIL DRAWING OR SKETCH IF REQUIRED TO INDICATE LOCATION OF DEFECTS.
ONE LONGITUDINAL INDICATION LESS THAN 1% OF REFERENCE LEVEL.
THIS REPORT COVERS SERIAL NO 7862 ONLY
6. POST CLEANING METHOD
CLEANED WITH ACETONE FOLLOWED BY DE MINERALIZED WATER.



INSPECTOR SIGNATURE

SER 7862



P G and E
MEMORANDUM

EXHIBIT NO. 12

Date 2-5-74

TO M.H. CHANDLER / R.S. BAIN Location 77 BEALE ST. S.F. Ext. _____

FROM C.K. MAXFIELD / H.R. TRESLER Location D.C.P. Ext. _____

SUBJECT U.T. OF MAIN STEAM SAFETY YOKE RODS File No. _____

ATTN. JOHN SALE :

ATTACHED FIND COPIES OF TEST REPORTS
BY M.W. KELLOCH CO. ON MAIN STEAM SAFETY
YOKE RODS, TOTAL 22 RODS.

AS SHOWN ROD "A" ON VALVE SERIAL NO. 7862 HAS
AN INDICATION WHICH DOES NOT EXCEED
THE REJECTABLE LEVEL. BASED ON THESE
REPORTS THE FIELD WOULD LIKE TO ACCEPT THESE
RESULTS & DELETE THE REQUIREMENT FOR A DYE
PENETRANT EXAMINATION OF THE THREADED
AREA OF THE RODS.

Also find Procedure ESD-241 attached
which was used for inspection.

R.K. Rhodes
May we have your release of these
values by 2/15/74 JMR

REPLY

2/12/74

Date _____

JBG :

The yoke rods look satisfactory in light
of the UT inspection. The indication on Rod "A"
on Valve No. 7862 is reported as a surface
seam. This type of defect should not
interfere with the safe operation of the
Safety Valve. I have attached the Engineering
release to this memo for your review.

[Handwritten signature/initials]

I have *[initials]* the Eng Release + sent

it on to H.H.

✓ McLean

REPLY BY: CC HJB, JBG, JWS, IFH, FILE 119.81

P G and E EXT. NO.