



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

November 15, 1983

MEMORANDUM FOR: Ida M. Alexander, Chief, Administrative Services Branch
Region V

FROM: Stewart D. Ebner, Chief, Engineering Programs Branch,
Region I

SUBJECT: FOIA DOCUMENTATION LIST REQUESTED FOR PALO VERDE
CONSTRUCTION ASSESSMENT TEAM (CAT) INSPECTION

In accordance with your FOIA request to Region I, the following non-destructive examination (NDE) reports are available from our inspection activities completed with the NRC Mobile NDE Van at Palo Verde plant.

I. Radiographic Examination Reports

<u>Line No.</u>	<u>Weld No</u>
HPSI F375	VW-D VW-B
HPSI F422	SW-5 VW-A
HPSI F423	VW-B
SI-099-4 F149	VW-A, B, E
SI-099-4 F149	FW-1
SI-106-3 Line A	FW 3, 4
SI-100-04 F156	VW-A, B, 3 FW 2
SI-106-3	FW-301 W-018
RC-030-1	FW-1
RC-073-2	FW-1
RC-031 Pump 1B	FW-1

B402140043 B31220
PDR FOIA
BERNABE83-598 PDR

REGION V-103

1983 NOV 22 AM 8 07

RECEIVED
FBI

#144 - #156

Ida M. Alexander

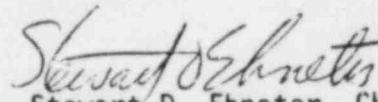
2

II. Liquid Penetrant Examination Reports

<u>Line No.</u>	<u>Weld No.</u>
HPSI F375	VW A, B, D
HPSI F422	VW A SW-5
HPSI F423	VW A, B, r

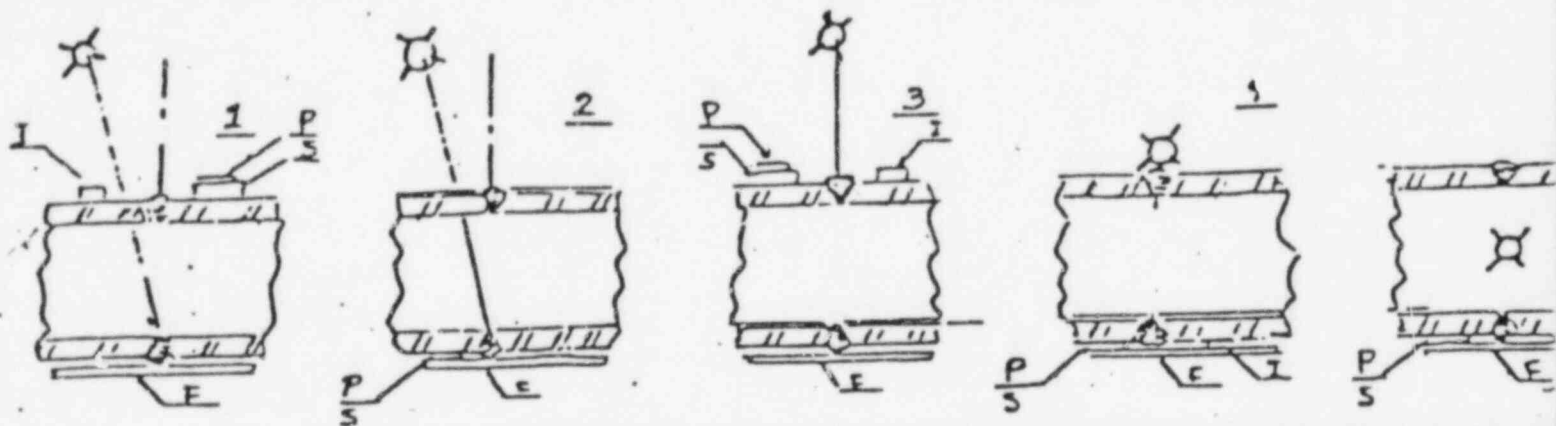
Also included in the itemized documentation is a copy of Region I Inspection Report with an inspection matrix of work completed during the subject inspection period.

Should any further documentation or assistance be required, please contact Harry Kerch (FTS: 488-1264).


Stewart D. Ebnetter, Chief
Engineering Programs Branch

Enclosure: as stated, for public disclosure

cc:
J. Durr
R. Campbell
H. Kerch
R. Harris



Examiner: Ken Grevenot

Date: 8-13-6

Date: _____

9-1183

Description

150 / Drawing

Acceptance Criteria

PIPE TO PIPE

SIÁ-106-3

ASME sect III

Source	Size
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Curries

S.F.P.

Film

Screens:-

Pene. / No.

. 1x. 12

98

 $3\frac{1}{2}''$

m

. 010

#12f

Part	Thickness
1	0.005
2	0.005
3	0.005
4	0.005
5	0.005
6	0.005
7	0.005
8	0.005
9	0.005
10	0.005
11	0.005
12	0.005
13	0.005
14	0.005
15	0.005
16	0.005
17	0.005
18	0.005
19	0.005
20	0.005
21	0.005
22	0.005
23	0.005
24	0.005
25	0.005
26	0.005
27	0.005
28	0.005
29	0.005
30	0.005
31	0.005
32	0.005
33	0.005
34	0.005
35	0.005
36	0.005
37	0.005
38	0.005
39	0.005
40	0.005
41	0.005
42	0.005
43	0.005
44	0.005
45	0.005
46	0.005
47	0.005
48	0.005
49	0.005
50	0.005
51	0.005
52	0.005
53	0.005
54	0.005
55	0.005
56	0.005
57	0.005
58	0.005
59	0.005
60	0.005
61	0.005
62	0.005
63	0.005
64	0.005
65	0.005
66	0.005
67	0.005
68	0.005
69	0.005
70	0.005
71	0.005
72	0.005
73	0.005
74	0.005
75	0.005
76	0.005
77	0.005
78	0.005
79	0.005
80	0.005
81	0.005
82	0.005
83	0.005
84	0.005
85	0.005
86	0.005
87	0.005
88	0.005
89	0.005
90	0.005
91	0.005
92	0.005
93	0.005
94	0.005
95	0.005
96	0.005
97	0.005
98	0.005
99	0.005
100	0.005

Film Size _____

Loaded

Viewing

SHIM

Exp. Time

450

4 1/2" x 10"

DOUBLE

SINGLE

.06

25 sec

technique No.

4

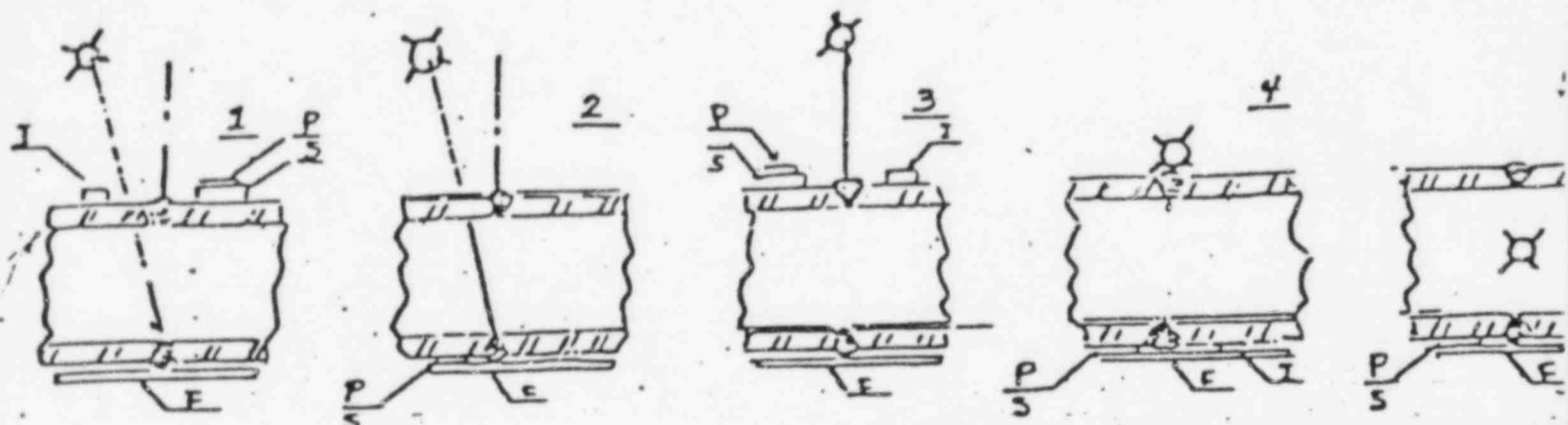
 - Source

F - Film

P - Penetrometer

S - Shim

1 - Identification

[illegible]

Examiner:

Ken Grawert

Asnt Level: II

Date: 7-13-81

Dati

9-11-53

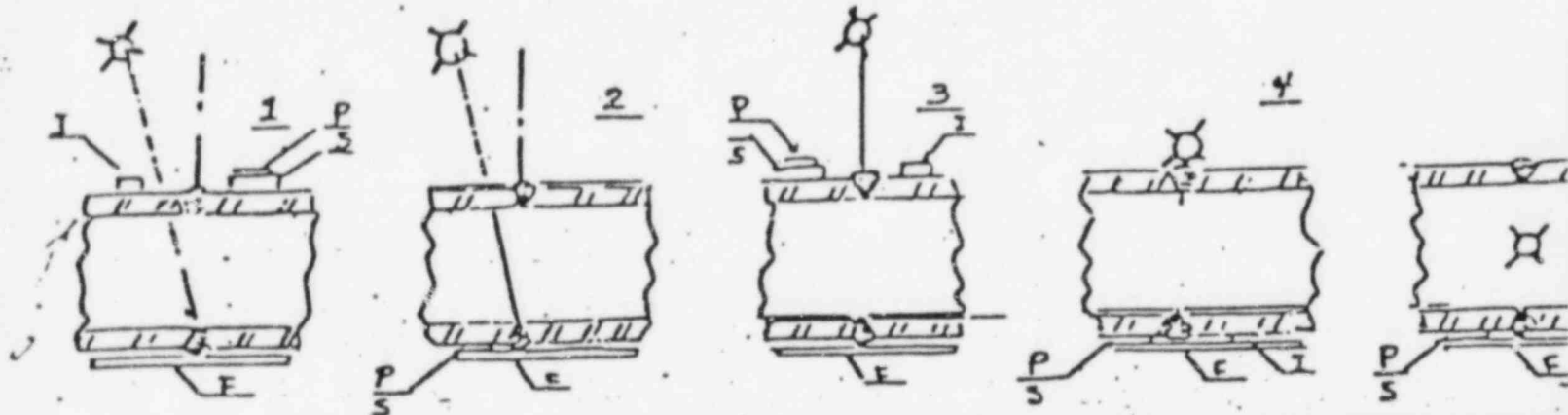
Acceptance Criteria

ASME sect. III

Pene. / No.
* 48 F

Exp. Time
25 sec

F - Film P - Penetrameter
S - Shim I - Identification

[illegible]

Ken Shivers

Asnt Level: II

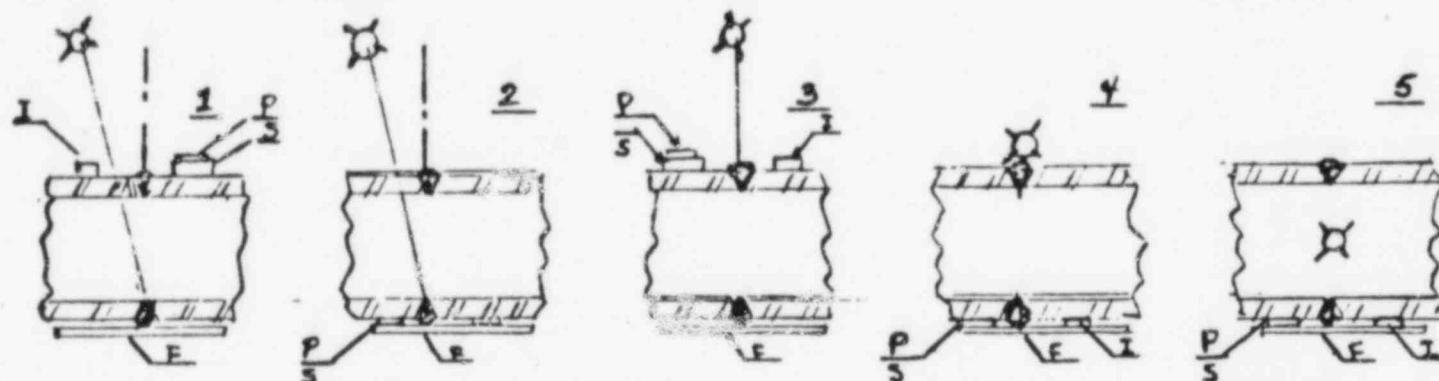
Date: 9-13-64

Acnt Level: _____

Date: _____

Project Palo Verde Unit I		Procedure NDE-5		Rev.	Date 9-11-83	U.S.NRC - RI	
Description PIPE WELDS		ISO Drawing SI-A-106-4		Acceptance Criteria ASME Sect II			
Source Size .1X.12	Curies 98	S.F.D. 3"	Film M	Screens .010	Pen. No. 10F-12	UG.	
Matl. Thickness .375	Film Size 4 1/2 X 10"	Loaded DOUBLE	Viewing SINGLE	SHIM .125	Exp. Time 20 secs.		

Technique No. 4 * - Source F - Film P - Penetrant
S - Shim I - Identification



Weld I.D.	Read Points	FILM QUALITY					WELD QUALITY			REMARKS
		PENE	LT	DARK	ACC	REJ	ACC	REJ	DEFECT	
FW-301										No interpretation due to poor film quality H. Campbell

Examiner:

L. Campbell
US NRC

Asnt Level:

II

Date:

9-11-83

Asnt Level:

Date:

PALD-VERDE-UNIT I

NDES

9-10-63

Description

ISO / Drawing

Acceptance Criteria

HPS I - Pump A

SI-A-099-4

ASME Sect III

Source / Size

Curies

S.F.D.

Film

Screens

Pene. / No.

UG

.1 x .12

99

4"

m

.010

#10 F

Matl. Thickness

Film Size

Loaded

Viewing

SHIM

Exp. Time

.375

4 1/2 x 10"

DOUBLE

SINGLE

.125

25 sec

Technique No.

4

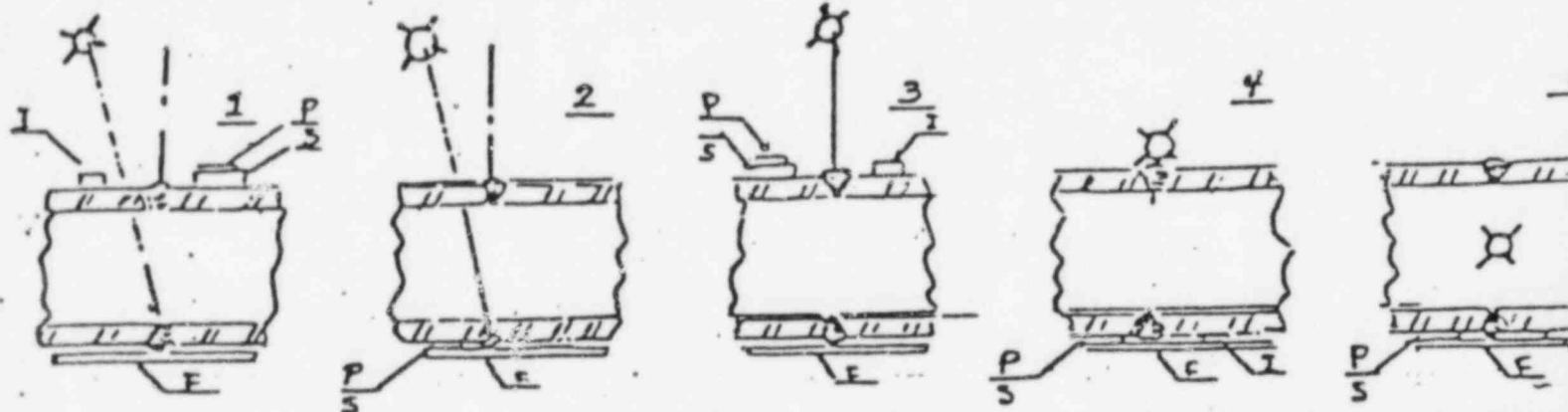
☉ - Source

F - Film

P - Penetrometer

S - Shim

I - Identification

Weld
I.D.Read
Points

FILM QUALITY

WELD QUALITY

REMARKS

PENE

LT

DARK

ACC

REJ

ACC

REJ

DEFECT

0-3 1/2

2.8

2.3

3.6

X

X

3 1/2-7

3.6

2.5

3.6

X

X

7-10 1/2

3.4

3.2

3.7

X

X

10 1/2-0

2.6

2.8

3.7

X

X

Examiner:

Ken Greenow

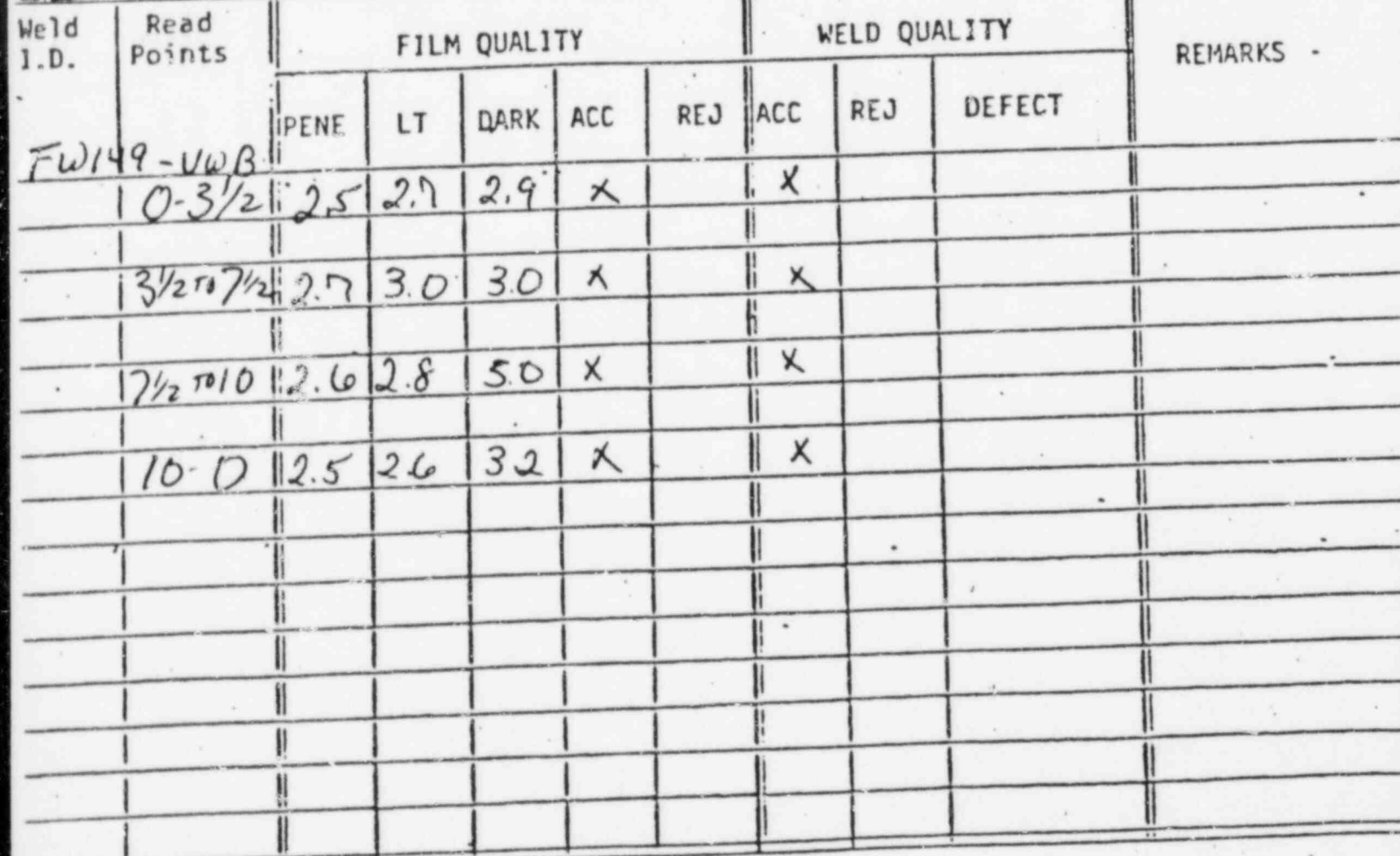
Asnt Level: II

Date: 9-10-63

Asnt Level: _____

Date: _____

Technique No.



Ken Givenow

Asnt Level: _____

Date: _____

9-9-83

description

ISO / Drawing

Acceptance Criteria

F149 VW A

SIA-099-CCPC-4

ASME III

Source	Size
118.12	

Curjes
98c

S.F.D.
4"

Film

Screens:-

Pene. / No.
10

UG.

at. thickness
385

Film Size
4 1/2 x 7 1/2

Loaded
Double

Viewing
Single

SHIM
125

Exp. Time
18 sec

technique No.

4.

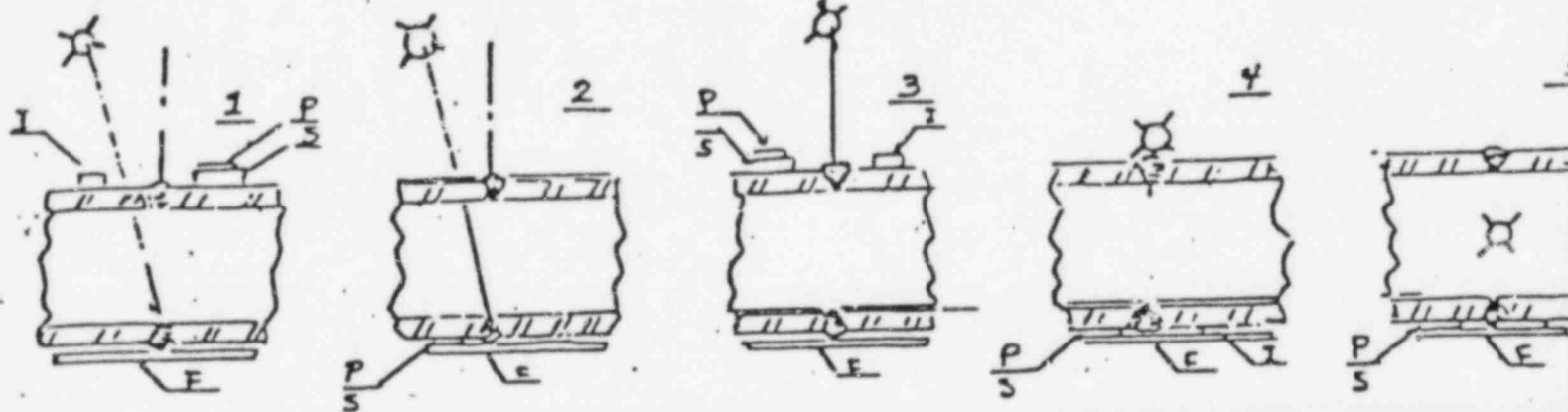
 -- Source

F - Film

P - Penetrameter

S - Shim

1 - Identification

[illegible]

xaminer:

Ken Gravenor

Asnt Level:

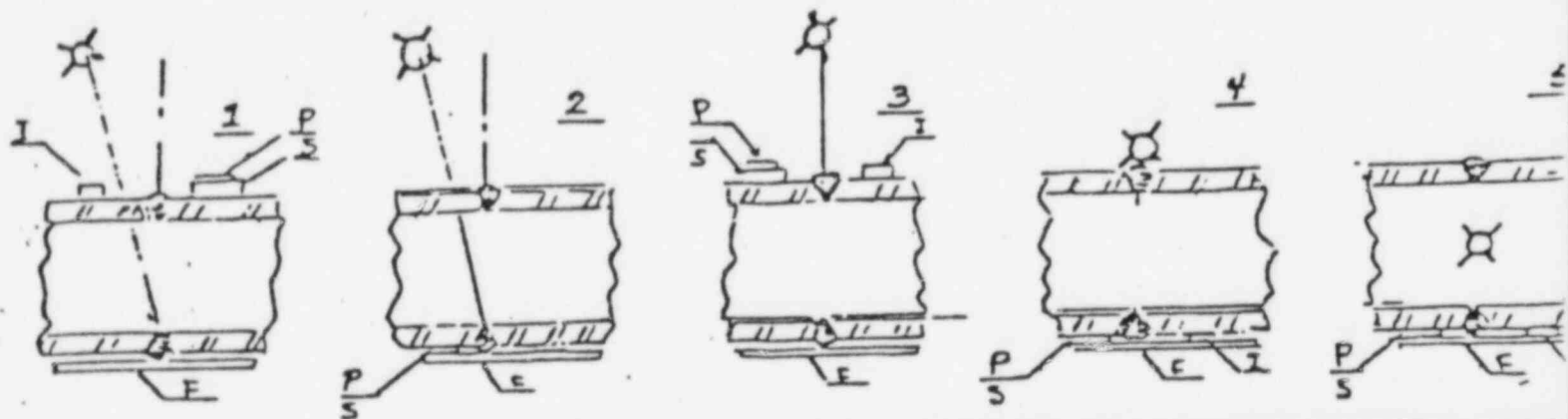
II

Date: 9-10-83

Asnt Level:

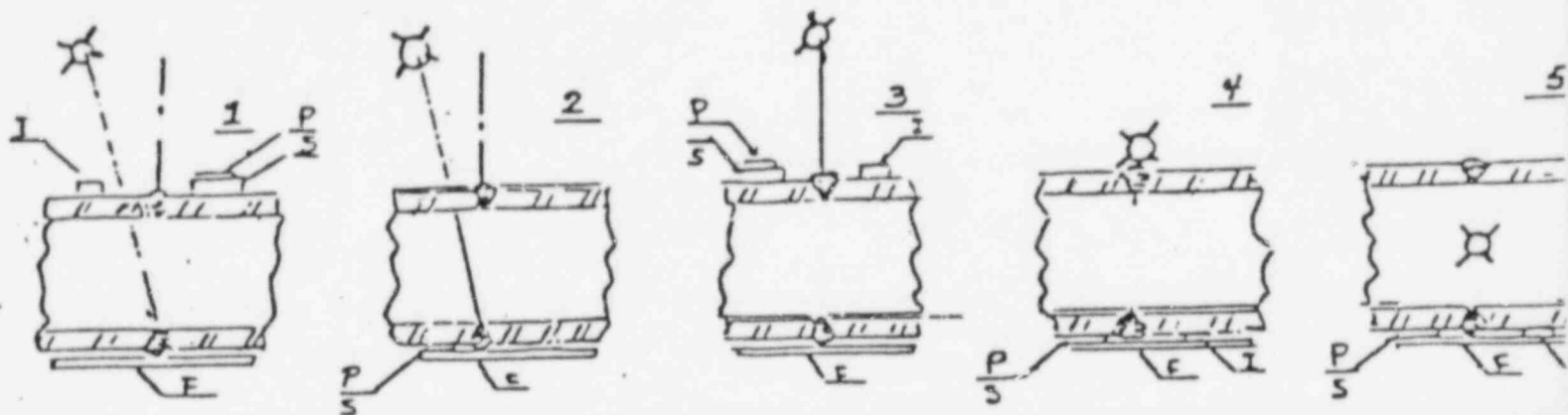
Date:

Technique No. 4  - Source F - Film P - Penetrameter
S - Shim I - Identification

[illegible]

ate: _____

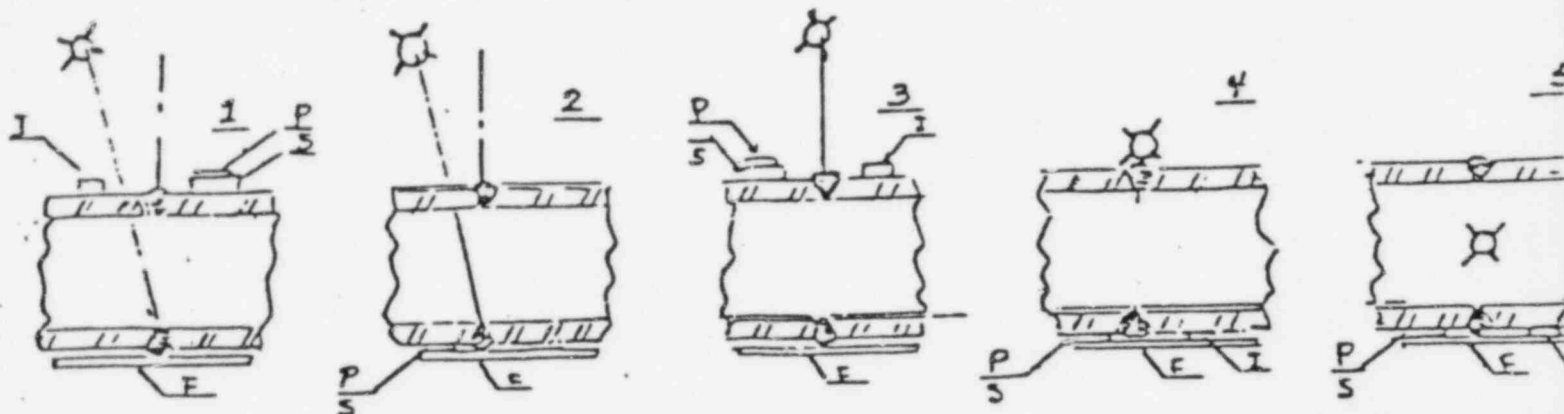
Technique No. 4  - Source F - Film P - Penetrameter
S - Shim I - Identification

[illegible]

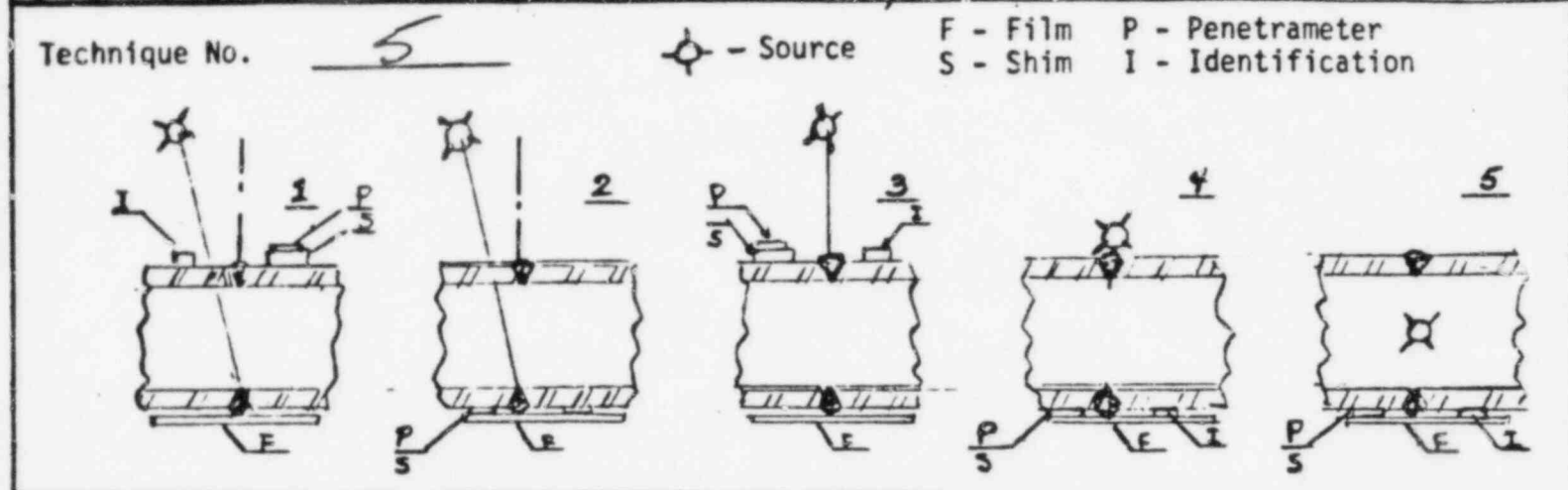
Date: _____

Examiner: Ken Liveness Asnt Level: II Date: 9-10-83

Technique No. 4  - Source F - Film P - Penetrameter
S - Shim I - Identification



Examiner: Ken Grevenow Asnt Level: II Date: 9-10-83

[illegible]

Examiner: LM Campbell

As it Level: II Date: 9-14-83
Asnt Level: Date:

9-10-83

Acceptance Criteria

ASME sect III

Pene. No. # 10 F

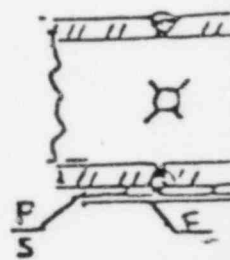
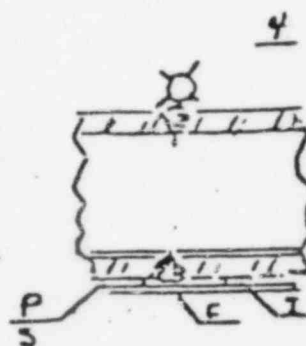
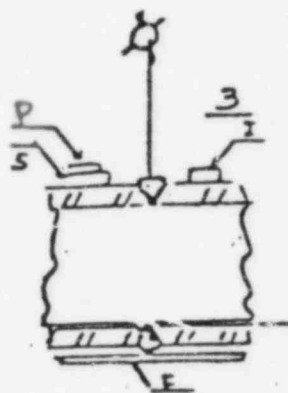
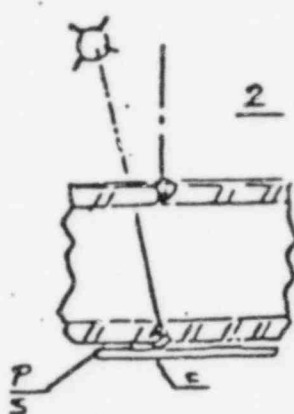
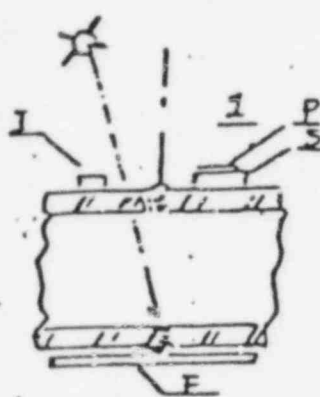
Exp. Time
25 sec

 - Source

- Penetrometer

S - Shim

- Identification

[illegible]

Ken. Greenow

Asnt Level: II

Date: 9-10-83

Asnt Level: _____

Date: _____

PAU-VERDE I

NDES

9-10-83

Description

150 / Drawing

Acceptance Criteria

PIPE TO ELBOW

SIA-100-4F156

ASME SEC III

Source Size

Curies

S.F.D.

Film

Screens

Pene. / No.

1X.12

98

3 1/2"

M

1010

#10F

Matl. Thickness

Film Size

Loaded

Viewing

SHIM

Exp. Time

250

4 1/2" X 10"

DOUBLE

SINGLE

.06

20 sec

Technique No.

4

Source

F - Film

P - Penetrameter

S - Shim

I - Identification

1

2

3

4

5

Weld I.D.

Read Points

FILM QUALITY

WELD QUALITY

REMARKS

F156

PENE

LT

DARK

ACC

REJ

ACC

REJ

DEFECT

VW-3

0-3

3-6

6-9

9-0

260

319

327

X

ACC

288

308

328

X

ACC

314

309

323

X

ACC

362

386

393

X

ACC

Examiner: Ken Stevenson

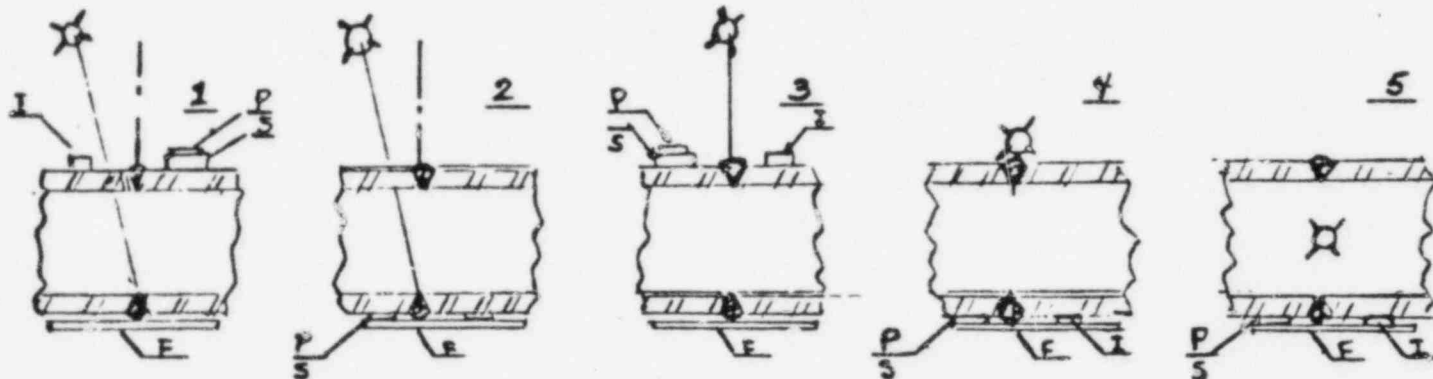
Asnt Level: II

Date: 9-13-83

Project PAID VERDE UNIT I		Procedure NDE-5		Rev. Date 9-13-83		U.S.NRC - RI	
Description Pump 1B		ISO Drawing RC-031		Acceptance Criteria ASME Sect III			
Source Size .1 X .12	Curies 99c	S.F.D. 18"	Film T	Screens -10	Pene. No. 40	UG. /	
Matl. Thickness 2 1/2 - 3 1/2"	Film Size 7 X 17	Loaded DOUBLE	Viewing Single	SHIM /	Exp. Time 80 mins.		

Technique No. 5

☼ - Source

F - Film P - Penetrameter
S - Shim I - Identification


Weld I.D.	Read Points	FILM QUALITY					WELD QUALITY			REMARKS
		PENE	LT	DARK	ACC	REJ	ACC	REJ	DEFECT	
RC-031										
FW-1										
No Interpretation due to poor film quality.										

Examiner:

Larry Campbell

Asnt Level:

II

Date:

9-14-83

Asnt Level:

Date:

Station Palo Verde Unit 1

ASME Code Category III Original X Retest _____

LIQUID PENETRANT EXAMINATION REPORT

Examiner (Print) JAMES LUDOWSKI, Level II, Exam Date 9/8/83

Company WIS. IND. TESTING

System HPSI F-375 Component Material SS304

Weld Designation F24-UWA, Isometric Dwg. No. W-0006

Type: Color Contrast Fluorescent Wet Developer

Method: Solvent Removable Water Washable Dry Developer

Post-emulsifying

Penetrant Materials

Manufacturer SPOTCHECK

Pre-cleaning Solvent Type SPOTCHECK Batch No. 80-H-101

Penetrant Type SPOTCHECK Batch No. 81-K093

Emulsifier Type NA Batch No. NA

Remover Type MAGNAFLUX Batch No. 82-A0-47

Developer Type SPOTCHECK Batch No. 82-C0-90

Examination Evaluation Results: Acceptable Unacceptable

Sketch or Detail of Indication. (Use other side if necessary.)

Examiners Signature James Ludowski II Date 9/8/83

Comments _____

Station Palo Verde Unit 1

ASME Code Category III Original X Retest _____

LIQUID PENETRANT EXAMINATION REPORT

Examiner: (Print) JAMES LUDWIGS, Level II, Exam Date 9/8/83

Company WIS. IND. TESTING

System HPSI / F423 Component Material SS-304

Weld Designation E24 VWE, Isometric Dwg. No. W-0006

Type: Color Contrast Fluorescent Wet Developer

Method: Solvent Removable Water Washable Dry Developer

Post-emulsifying

Penetrant Materials Manufacturer SPOTCHECK

Pre-cleaning Solvent Type SPOTCHECK Batch No. 80-H-101

Penetrant Type SPOTCHECK Batch No. 81-K093

Emulsifier Type NA Batch No. NA

Remover Type MAGNAFLUX Batch No. 82-A0-43

Developer Type SPOTCHECK Batch No. 82-C0-90

Examination Evaluation Results: Acceptable Unacceptable

Sketch or Detail of Indication. (Use other side if necessary.)

Examiners Signature James Ludwig II Date 9/8/83

Comments _____

Station Palo Verde Unit I

ASME Code Category III Original X Retest _____

LIQUID PENETRANT EXAMINATION REPORT

Examiner (Print) JAMES LUDOWISSI Level II Exam Date 9/8/83

Company WIS. IND. TESTING

System HPSI Component Material SS 304

Weld Designation SW-5 Isometric Dwg. No. SIA-PD2/F422

Type: Color Contrast Fluorescent Wet Developer

Method: Solvent Removable Water Washable Dry Developer

Post-emulsifying

Penetrant Materials

Manufacturer SPOT CHECK

Pre-cleaning Solvent Type SPOT CHECK Batch No. 80H-101

Penetrant Type SPOT CHECK Batch No. 81-K093

Emulsifier Type NA Batch No. NA

Remover Type MAGNAFLUX Batch No. 82A043

Developer Type SPOT CHECK Batch No. 82-C090

Examination Evaluation Results: Acceptable Unacceptable

Sketch or Detail of Indication. (Use other side if necessary.)

Examiners Signature James Ludowissi II Date 9/8/83

Comments _____

Station Palo Verde - (Unit 1)

ASME Code Category III Original X Retest _____

LIQUID PENETRANT EXAMINATION REPORT

Examiner (Print) JAMES LUDWIGSI, Level II, Exam Date 9/8/83

Company WIS. IND. TESTING

System HPS 1 Component Material SS-304

Weld Designation F423 VWB, Isometric Dwg. No. SIA-PD2

Type: Color Contrast Fluorescent Wet Developer

Method: Solvent Removable Water Washable Dry Developer

Post-emulsifying

Penetrant Materials Manufacturer SPOT CHECK

Pre-cleaning Solvent Type SPOT CHECK Batch No. 80-H-101

Penetrant Type SPOT CHECK Batch No. 81-K093

Emulsifier Type NA Batch No. NA

Remover Type MAGNAFLUX Batch No. 82-H0-43

Developer Type SPOT CHECK Batch No. 82-C0-90

Examination Evaluation Results: Acceptable Unacceptable

Sketch or Detail of Indication. (Use other side if necessary.)

Examiners Signature James Ludwigsi II Date 9/8/83

Comments _____

Station Palo Verde Unit 1

ASME Code Category III Original X Retest _____

LIQUID PENETRANT EXAMINATION REPORT

Examiner (Print) JAMES LUDOWSKI, Level II, Exam Date 9/8/83

Company WIS. IND. TESTING

System HPSI F375 Component Material SS-304

Weld Designation F423-VWD, Isometric Dwg. No. SIA-PD2

Type: Color Contrast Fluorescent Wet Developer

Method: Solvent Removable Water Washable Dry Developer

Post-emulsifying

Penetrant Materials Manufacturer SPOTCHECK

Pre-cleaning Solvent Type SPOTCHECK Batch No. 80-H-101

Penetrant Type SPOTCHECK Batch No. 81-K093

Emulsifier Type NA Batch No. NA

Remover Type MAGNAFLUX Batch No. 82-A043

Developer Type SPOTCHECK Batch No. 82-CO-90

Examination Evaluation Results: Acceptable Unacceptable

Sketch or Detail of Indication. (Use other side if necessary.)

Examiners Signature James Ludowski II Date 9/8/83

Comments _____

Station PALO VERDE UNIT I

ASME Code Category III Original X Retest _____

LIQUID PENETRANT EXAMINATION REPORT

Examiner (Print) JAMES LUDWIGSKI Level II Exam Date 9/8/83

Company WIS. IND. TESTING

System HPSI Component Material SS-304

Weld Designation F422-VWA Isometric Dwg. No. SIA-PD2

Type: Color Contrast Fluorescent Wet Developer

Method: Solvent Removable Water Washable Dry Developer

Post-emulsifying

Penetrant Materials

Manufacturer SPOT-CHECK

Pre-cleaning Solvent Type SPOTCHECK Batch No. 80-H-101

Penetrant Type SPOTCHECK Batch No. 81-X093

Emulsifier Type NA Batch No. NA

Remover Type MAGNAFLUX Batch No. 82-A043

Developer Type SPOTCHECK Batch No. 82-CO-90

Examination Evaluation Results: Acceptable Unacceptable

Sketch or Detail of Indication. (Use other side if necessary.)

Examiners Signature James Ludwigski II Date 9/8/83

Comments _____

Station PALO VERDE UNIT 1

ASME Code Category III Original X Retest _____

LIQUID PENETRANT EXAMINATION REPORT

Examiner (Print) JAMES LUDOVISI Level II Exam Date 9/8/83

Company WIS. IND. TESTING

System HPSI Component Material SS-304

Weld Designation F423-VWA Isometric Dwg. No. SIA-PD2

Type: Color Contrast Fluorescent Wet Developer

Method: Solvent Removable Water Washable Dry Developer

Post-emulsifying

Penetrant Materials Manufacturer SPOTCHECK

Pre-cleaning Solvent Type SPOTCHECK Batch No. 80-H-101

Penetrant Type SPOTCHECK Batch No. 81-K093

Emulsifier Type NA Batch No. NA

Remover Type MAGNAFLUX Batch No. 82-A0-43

Developer Type SPOTCHECK Batch No. 82-C0-90

Examination Evaluation Results: Acceptable Unacceptable

Sketch or Detail of Indication. (Use other side if necessary.)

Examiners Signature James Ludovisi II Date 9/8/83

Comments _____

Station Palo Verde Unit 1
ASME Code Category III Original X Retest _____

LIQUID PENETRANT EXAMINATION REPORT

Examiner (Print) JAMES LUDOWICKI, Level II, Exam Date 9/8/83

Company WIS. IND. TESTING

System HPSI F-375 Component Material SS304

Weld Designation F24-UWB, Isometric Dwg. No. W-0006

Type: Color Contrast Fluorescent Wet Developer

Method: Solvent Removable Water Washable Dry Developer

Post-emulsifying

Penetrant Materials Manufacturer SPOTCHECK

Pre-cleaning Solvent Type SPOTCHECK Batch No. 80-H-101

Penetrant Type SPOTCHECK Batch No. 81-K093

Emulsifier Type N/A Batch No. N/A

Remover Type MAGNAFLUX Batch No. 82-A0-47

Developer Type SPOTCHECK Batch No. 82-C0-90

Examination Evaluation Results: Acceptable Unacceptable

Sketch or Detail of Indication. (Use other side if necessary.)

Examiners Signature James Ludowski II Date 9/8/83

Comments _____

INDEPENDENT MEASUREMENTS PROGRAM

USNRC R1 MOBILE NDE VAN

USNRC R1 MOBILE NDE VAN

[illegible]

LINE / ISO	WELD NO.	CLASS	DATA	RT	MT	PT	UT	HARDNESS	THICK WALL	FERRITE	ALLOY ANAL	VISUAL	COMMENTS
SI-099-4 HPSI "A" LINE	FW1	2	✓	9-9							9-9	9-9	4" S/S
	FW1	2	✓										
	FW2	2	✓										
SI-106-3 HPSI LINE A	FW3	2	✓	9-10							9-9	9-10	3" S/S
	FW4	2	✓	9-10								9-10	
	VW1A	2	✓	9-10								9-10	4" S/S
	VW1B	2	✓	9-10								9-10	4" S/S
SI-100-004 F156	VW3	2	✓	9-11								9-11	4" S/S
	FW2	2	✓	9-11								9-11	
	FW	2	✓	9-11								9-11	3" S/S WELD
SI-105-2	SW												HPSI Socket welds
	OOL	2		9-12								9-12	Elev 45
	SW												HPSI Line A
	OOM	2		9-12								9-12	Socket welds



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

October 13, 1983

MEMORANDUM FOR: W. G. Albert
Inspection Team Leader
Palo Verde Site, RV

FROM: Thomas T. Martin, Director
Division of Engineering and Technical Programs, RI

SUBJECT: MOBILE NDE VAN INSPECTION REPORT

Transmitted herewith is the inspection report resulting from our inspection activities with the NRC Mobile Nondestructive Examination Van at Palo Verde Unit 1. We hope that this independent measurement inspection activity and documentation fulfills your needs and offer our services to you in the future.

We solicit your comments and recommendations regarding improvement in the NDE Van Program to better serve NRC needs.

Thomas T. Martin
Thomas T. Martin, Director
Division of Engineering and
Technical Programs

Enclosure: As stated

cc w/o encl:
R. Lewis, RII
J. Olshinski, RII
R. Spessard, RIII
C. Norelius, RIII
J. Gagliardo, RIV
P. P. Narbut, RV 463-3730

NOTICE OF VIOLATION

Arizona Public Service Co.
Palo Verde

Docket No. 50-528
Construction Permit No. CPPR 141

As a result of the inspection conducted on September 6-16, September 26-30, 1983, and in accordance with the NRC Enforcement Policy, (10 CFR 2, Appendix C) published in Federal Register Notice (47 FR 9987) dated March 9, 1982, the following violation was identified:

10 CFR 50.55a requires that the reactor pressure boundary be constructed in accordance with the American Society for Mechanical Engineers (ASME) III Code for Class I Systems. The ASME III Code, Section III, NB 5111 imposes ASME Section V. ASME Section V, paragraph T221.2, requires that weld ripples be removed to a degree that the resulting radiographic image cannot mask or be confused with the image of any discontinuity.

Contrary to the above, during the period of September 6-30, 1983, a review of vendor radiographs for welds ISO 23PS1F105 Line No. 1RC-051-S001, welds "A" and "B", and 1RC-051-S002, weld "A"; and field weld ISO 13-P-2CG-103, weld nos. 1RC-079, 1RC-030, and 1RC-073, disclosed weld ripple images in the radiographs that could mask or be confused with rejectable discontinuities.

This is a Severity Level IV violation (Supplement II). Pursuant to the provisions of 10 CFR 2.201, Arizona Public Service Co. is hereby required to submit to this office within 30 days of the date of this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Where good cause is shown, consideration will be given to extending this response time.

V. NRC Nondestructive Examination and Quality Review of Safety Related Systems

.1 Purpose

The purpose of the independent NRC nondestructive examination (NDE) was to verify the adequacy of the licensee's welding quality control program. This was accomplished by duplicating those examinations required of the licensee by regulations and evaluating the results. In addition to the required examinations, several additional confirmatory examinations designed to verify conformance with material specifications were performed and compared to quality assurance records. This NRC inspection team selected the HPSI "A" system to inspect at the Palo Verde Unit 1. This system was undergoing pre-operational testing and was full of water under pressure. A selection of welds from this system that could be drained and inspected was made. Due to preoperational testing of Unit 1, a selection of welds from Unit 3 was also made. The selection of these welds was intended to provide a representative sample of piping components, sizes, materials, of shop and field welds. All the welds selected were previously accepted by the licensee based on vendor shop or on site NDE records.

.2 Document Reviews

The following quality assurance documents were reviewed to verify compliance with regulatory and code requirements:

a. Twelve weld document packages were reviewed for:

- Material Certifications
- NDE results
- Fabrication records shop and field
- Drawings (Isometric)
- FWHT Charts
(Refer to table for listing)

not listed

X

b. Two quality procedures were reviewed.

- 13PM-201 Shop Fabrication of Nuclear Piping Systems
- 13PM-204 Field Fabrication and Installation of Nuclear Piping Systems

c. A review of GEO's (Site NDE subcontractor) internal audit, dated June 10, 1983, was performed. This audit reviewed all of GEO's NDE site personnel qualification at Palo Verde.

d. Verification of NDE Personnel Qualifications to SNT-TC-1A

The NRC inspector reviewed all of Bechtel's individual film interpreter qualification and certification records. He also reviewed 6 out of 39 of GEO's NDE records for personnel qualifications.

All the above documents were verified to satisfy NRC requirements and licensee commitments to industry codes and standards.

3. NRC Independent Examinations

Radiography

Twenty-three welds were re-examined by the NRC using an Iridium 192 source. Welds that were radiographed were ASME Code Class 1 and 2, carbon and stainless steel (refer to table for listing). —X

Results: All re-radiographed welds were found acceptable to ASME Section III acceptance criteria.

Pipe Wall Thickness Measurement - Ten pipe welds and adjacent pipe material were examined per NRC procedure NDE-11, Revision 0, using a NORTEC NDT thickness gauge. Minimum wall thickness was determined by using an ASTM standard pipe sizes and nominal thickness chart.

Results: All areas examined were within tolerance requirements.

Ferrite Measurements - Thirteen pipe welds were checked for delta ferrite content using a Type II Ferrite Indicator (Severn Gauge).

Results: All measurements were within acceptable limits of material test reports.

Hardness Measurements - Fifteen welds were checked for hardness (base material adjacent to welds) using the Equo-tip hardness tester per NRC procedure NDE-12, Revision 0. Hardness numbers were converted to Brinnell values and the approximate tensile strengths were determined by use of conversion tables.

Results: All areas examined were within acceptable limits of material test reports.

Alloy Analyzer - Four pipe welds and adjacent base metals were examined using a Texas Nuclear Alloy Analyzer. A quantitative chemical analysis was made on two stainless steel, type 304, and two stainless steel, type 316 materials.

Results: Areas examined were within $\pm 2\%$ of chemical analysis indicated on corresponding certified mill test reports and were within acceptable limits.

Liquid Penetrant Examination - Eight safety related pipe weldments were liquid penetrant examined per NRC procedure NDE-9, Revision 0. All weldments examined were ASME Class 1 welds.

Results: All areas inspected were acceptable.

Visual Examination - Thirty^{four} weldments and adjacent base material were visually inspected for weld reinforcement, overall workmanship and surface condition per NRC procedure NDE 14, Revision 0. K

Results: All areas inspected were acceptable.

Radiography of Socket Welds - Ten socket welds were radiographed to verify pipe engagement.

Results: All radiographs show at least a minimum of 1/16 inch gap per ASME Section III, paragraph NB4244d-1(e) requirements.

Radiographic Review of Licensee Field Welds and Vendor Welds - A review of licensee's pipe weld radiographs was made during this inspection of ASME Class 1 and 2 weldments. Out of 746 sets of radiographs, 206 were reviewed as listed below, with results as follows: T 206 K

<u>Line</u>	<u>ISO</u>	<u>WELD</u>	<u>RESULTS</u>
SI-008-CCBC-10"	13-P-SIF-201	FW 5	Acceptable
"	"	FW 1	Acceptable
"	"	FW 2	Acceptable
"	"	FW 3	Acceptable
"	"	FW 4	Acceptable
"	"	FW 6	Acceptable
"	"	*FW 7	Acceptable
SI-008-GCBC-10"	13-P-SIF-201	VW-D-F375	Acceptable
"	"	VW-B-F375	Acceptable
"	"	VW-A-F375	Acceptable
"	"	VW-A-422	Acceptable
"	"	VW-B-423	Acceptable
"	"	VW-A-423	Acceptable
SI-A-009-CCBC-4"	13-P-SIF-203	FW 1	Acceptable
"	"	FW 2	Acceptable
SI-099-CCBB-4"	13-F-SIF-203	VW-E-F149	Acceptable
"	"	VW-B-F149	Acceptable
"	"	VW-A-F149	Acceptable
SI-099-S-001-4"	13-P-SIF-203	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
"	"	E	Acceptable
SI-A-100-CCBA-4"	"	FW 1	Acceptable
"	"	FW 2	Acceptable
"	"	FW 3	Acceptable
SI-100-CCBB-4"	13-P-SIF-203	VW-A-156	Acceptable
"	"	VW-B-156	Acceptable
"	"	VW-3-156	Acceptable

*Visually verified RT root indication (concavity) between RT station numbers 12 and 15 by using a fiberscope. All areas of concern are acceptable.

<u>Line</u>	<u>ISO</u>	<u>WELD</u>	<u>RESULTS</u>
SI-A-101-CCBA-1"	13-P-SIF-204	FW OOL	Acceptable
2"		FW OOA	Acceptable
2"		FW OOB	Acceptable
2"		FW OOC	Acceptable
2"		FW OOH	Acceptable
2"		FW OOJ	Acceptable
2"		FW OOK	Acceptable
2"		FW OOL	Acceptable
2"		FW OON	Acceptable
2"		FW OOP	Acceptable
2"		FW OOR (C)	Acceptable
2"		FW OOS (C)	Acceptable
2"		FW OOT	Acceptable
2"		FW OOO	Acceptable
SI-A-102-CCBA-2"	13-P-SIP-204	FW OOA	Acceptable
		FW OOB	Acceptable
		FW OOC	Acceptable
		FW OOD	Acceptable
		FW OOE	Acceptable
		FW OOF	Acceptable
		FW OOG	Acceptable
		FW OOH	Acceptable
		FW OOJ	Acceptable
		FW OOK	Acceptable
		FW OOL	Acceptable
		FW COM (C)	Acceptable
SI-103-CCBA-2"	13-P-SIF-203	FW 300	Acceptable
		FW OOA	Acceptable
		FW OOB	Acceptable
		FW OOC	Acceptable
		FW OOD	Acceptable
		FW OOE	Acceptable
		FW OOG	Acceptable
		FW OOI	Acceptable
		FW OOJ	Acceptable
		FW OOK (C)	Acceptable
		FW OCP	Acceptable
		FW OOR	Acceptable
SI-105-S-003-4"	13-P-SIF-203	A	Acceptable
"	"	B	Acceptable
SI-105-S-004-4"	13-P-SIF-203	A	Acceptable
SI-105-S-005-4"	13-P-SIF-203	A	Acceptable
"	"	B	Acceptable
SI-105-S-002-4"	13-P-SIF-202	A	Acceptable
SI-105-S-001-4"	13-P-SIF-202	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable

<u>Line</u>	<u>ISO</u>	<u>WELD</u>	<u>RESULTS</u>
SI-157-CCBA-4"	13-P-SIF-204	FW 300	Acceptable
4"		FW 301	Acceptable
1"		FW 00C (C1)	Acceptable
2"		FW 00A	Acceptable
2"		FW 00B (C)	Acceptable
2"		FW 00C (C1)	Acceptable
2"		FW 00D (C)	Acceptable
1"		FW 00E	Acceptable
SI-157-CCBA-1"	13-P-SIF-204	FW 00E	Acceptable
2"		FW 00H	Acceptable
1"		FW 00I	Acceptable
4"		FW 001	Acceptable
4"		FW 002	Acceptable
4"		FW 003	Acceptable
3"		FW 004	Acceptable
3"		FW 006	Acceptable
3"		FW 007	Acceptable
3"		FW 008	Acceptable
SI-157-S-001-4"	13-P-SIF-136	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
"	"	E	Acceptable
"	"	F	Acceptable
SI-157-S-002-4"	13-P-SIF-136	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
SI-157-S-003-4"	13-P-SIF-136	A	Acceptable
SI-157-S-004-4"	13-P-SIF-136	A	Acceptable
SI-157-S-005-4"	13-P-SIF-136	A	Acceptable
"	"	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
"	13-P-ZG108	U-77 (c-1)	Acceptable
SI-157-S-006-3"	13-P-SIF-136	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
SI-157-S-007-3"	13-P-SIF-136	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
"	"	E	Acceptable
RC-051-S-001-16"	23-P-SIF-105	A	Rejected Beads
"	"	B	Rejected Beads
RC-051-S-002-16"	23-P-SIF-105	A	Rejected Beads
RC-051-S-003-16"	23-P-SIF-105	G	Acceptable
"	"	H	Acceptable

<u>Line</u>	<u>ISO</u>	<u>WELD</u>	<u>RESULTS</u>
RC-051-S-003-16"	23-P-SIF-105	A	Acceptable
"	"	B	Acceptable
"	"	D	Acceptable
S1-176-S-001-4"	13-P-SIF-204	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
"	"	E	Acceptable
S1-176-S-002-3"	13-P-SIF-204	A	Acceptable
S1-176-S-003-3"	13-P-SIF-204	A	Acceptable
S1-176-S-004-3"	13-P-SIF-204	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
S1-176-S-006-3"	13-P-SIF-204	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
"	"	E	Acceptable
"	"	F	Acceptable
S1-218-S-001-4"	13-P-SIF-203	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
"	"	E	Acceptable
"	"	F	Acceptable
S1-218-S-002-4"	13-P-SIF-203	A	Acceptable
S1-236-S-003-4"	13-P-SIF-203	A	Acceptable
S1-236-S-005-4"	13-P-SIF-203	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
S1-236-S-006-3"	13-P-SIF-203	B	Acceptable
"	"	E	Acceptable
"	"	F	Acceptable
"	"	H	Acceptable
"	"	J	Acceptable
"	"	K	Acceptable
"	"	L	Acceptable
"	"	M	Acceptable
"	"	N	Acceptable
S1-248-S-003-3"	23-P-SIF-105	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable

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<u>Line</u>	<u>ISO</u>	<u>WELD</u>	<u>RESULTS</u>
S1-248-S-007-3"	23-P-SIF-105	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	G	Acceptable
"	"	H	Acceptable
"	"	J	Acceptable
"	"	K	Acceptable
"	"	D	Acceptable
"	"	E	Acceptable
"	"	F	Acceptable
S1-248-S-008-3"	23-P-SIF-105	H	Acceptable
"	"	J	Acceptable
"	"	K	Acceptable
S1-248-S-009-3"	23-P-SIF-105	A	Acceptable
"	"	B	Acceptable
"	"	C	Acceptable
"	"	D	Acceptable
S1-248-S-011-3"	23-P-SIF-105	G	Acceptable
"	"	H	Acceptable
"	"	J	Acceptable
S1-248-S-012-3"	23-P-SIF-105	F	Acceptable
"	"	G	Acceptable
"	"	H	Acceptable

* unit 2/3

<u>O.D. Size</u>	<u>Line</u>	<u>Document Review</u>	<u>ISO</u>	<u>Weld S/N</u>	<u>Results</u>
30"	1-RC079	"	13-P-ZCG-103	W001	Rejected Beads
30"	1-RC030	"	"	"	Rejected Beads
30"	1-RC073	"	"	"	Rejected Beads
30"	1-RC031	"	"	"	Acceptable

Unit 2

30"	2-RC079	"	13-P-ZCG-103	W001	Acceptable
30"	2-RC030	"	"	"	Acceptable
30"	2-RC073	"	"	"	Acceptable
30"	2-RC031	"	"	"	Acceptable

Unit 3

30"	3-RC079	"	13-P-ZCG-103	W001	Acceptable
30"	3-RC030	"	"	"	Acceptable
30"	3-RC073	"	"	"	Acceptable
30"	3-RC031	"	"	"	Acceptable

The radiographic film review disclosed 6 welds which are in the "as-welded" condition and present weld ripple images in the film. The ASME V Code, paragraph T-221-2, requires that weld irregularities be removed to the extent that they cannot mask or be confused with actual discontinuities. The weld ripple images in weld nos. IRC-051-S-001-16, 23-P-SIF-105 A and B; IRC-051-S-002, weld A; and ISO-13-P-2CG-103, IRC-079, 030, and 073 are considered excessive and capable of masking or being confused with discontinuities. This is a violation of 10 CFR 50.55a (528/83-).

PALO VERDE

INDEPENDENT MEASUREMENTS PROGRAM										USNRC R: MOBILE NDE VAN			Page 1
Line/ISO	Weld No.	Class	Date	RT	MT	PT	UT	Hardness	Thick Wall	Ferrite	Alloy Anal	Visual	Comments
HPSI F-375 Elev 45'	VW-D	2	X	9-8		9-8		X	9-8	9-8		9-8	10" S/S 5.0 to 7.5 FN Results
F-375 Aux Bldg Elev 45'	VW-B	2	X	9-8		9-8		X	9-8	9-8		9-8	10" S/S 5.0 to 7.5 FN
F-375 Aux Bldg Elev 45'	VW-A	2	X	9-8		9-8		X	9-8	9-8		9-8	10" S/S 5.0 to 7.5 FN
HPSI "A" Pump Line											9-9		Spool SF-008-006 Spool SF-008-005
HPSI F-422 Elev 45'	SH-5	2	X	9-8		9-8		X	9-8	9-8		9-8	10" S/S 5.0 to 7.5 FN
F-422 "A" Pump Line	VW-A	2	X	9-8		9-8		X	9-8	9-8		9-8	10" S/S 5.0 to 7.5 FN
HPSI "A" Line	VW-B	2	X	9-8		9-8		X	9-8	9-8		9-8	10" S/S 5.0 to 7.5 FN
F-423 Elev 45'	VW-A	2	X			9-8		X	9-8	9-8		9-8	10" S/S 5.0 to 7.5 FN
F-423 Elev 45'	VW-E	2	X			9-8		X	9-8	9-8		9-8	10" S/S 5.0 to 7.5 FN
F-423 Aux Bldg													
SI-099-4 Aux Bldg "A" Line	VW-E	2	X	9-9								9-9	4" S/S
F-149	VW-B	2	X	9-9					9-9			9-9	4" S/S
SI-099-4 HPSI "A" Line	VW-A	2	X	9-9					9-9			9-9	4" S/S
SI-099-4 Elev 45'		2	X										
SI-099-4 HPSI "A" Line	FW-1	2	X	9-9						X	9-9	9-9	4" S/S
SI-106-3 HPSI Line A	FW-1	2	X					X					
FW-2	FW-2	2	X					X					
SI-106-3 HPSI Line A	FW-3	2	X	9-10				X			9-9	9-10	3" S/S
FW-4	FW-4	2	X	9-10				X				9-10	
SI-100-004 F156	VW-A	2	X	9-10				X				9-10	4" S/S
	VW-B	2	X	9-10				X				9-10	4" S/S

PALO VERDE

INDEPENDENT MEASUREMENTS PROGRAM													USNRC R I MOBILE NDE VAN		Page 2
LLine/ISO	Weld No.	Class	Data	RT	MY	PT	UT	Hardness	Thick Wall	Ferrite	Alloy Anal	VISUAL	Comments		
SI-100-4 F156	VW-3	2	X	9-11					X	X		9-11	4" S/S		
	FW-2	2	X	9-11						X		9-11			
	FW-301	2	X	9-11								9-11*	3" S/S Weld		
SI-105-2	SW-DOL	2		9-13								9-13	HPSI Socket Welds Elev 45 HPSI Line A		
	DOW-SW	2		9-13								9-13	Socket Welds Socket Welds S/S		
	SOCR-SW	2		9-13								9-13	Socket Welds S/S		
SI-105-1" HPSI "A" Line	OOS-W	2		9-13								9-13	S/S Socket Welds		
	OOG-W	2		9-13								9-13	S/S Socket Welds		
	OOW-W	2		9-13								9-13	S/S Socket Welds		
SI-105-1" HPSI "A" Line	VO23-W	2		9-13								9-13	Socket Welds		
	Q18-NOT REPAID	2		9-13								9-13	3" S/S Weld		
	VW-A	2		9-13								9-13	3" S/S Weld		
SI-106-1 MK 7833	B-VW	2		9-13								9-13	3" S/S Socket Welds		
	FW-1	1		9-13								9-13	Loop #1 Steam Generator Unit 3 30" Dia		
	FW-B	1		9-14								9-14	Loop #2 Steam Generator #2 30" Dia		
Reactor Coolant Containment Bldg. #1 RC-030	FW-1	1		9-14								9-14	Loop #1 Steam Generator to Pump Unit #3 30" Dia		
	FW-1	1		9-14								9-14			

Att. #1

To: Robert Young - Section Chief - Oregon

From: J. A. Alatta - Area Supervisor
Bureau of Land Management

Subject - Team Inspection - Elk Creek Unit
Oct 7, 1973

Attached is my field report covering
inspector's activities at Elk Creek Unit.
~~more~~ Inspector of Forest Management
Elk Creek and noted notes as a result
inspector and will be written by the
Land Management. The photographs
that it contained will be included in
report of Frank's report.

It will be in accordance with 11-19
1973. My report will be placed at
call me at (503) 728-8886.

cc: Forest Ranger - Elk Creek
W. Alatta - Elk Creek
L. Vandenberg - Elk Creek

#157

Details

Structural Steel

The inspector audited the installed structural steel associated with the High Pressure Injection (HPI) A train ~~High Pressure Injection~~ system. The area inspected ~~was~~ ^{are} located in the auxiliary building and contained building. The inspector physically examined welds and bolted connections to ascertain compliance with the listed applicable documents,

- Specification 13-CM-320 Division 7 Installation Specification For Erection Of Structural And Miscellaneous Steel
- Structural Welding Code AWS D1.1 1972 with 1973 Revision 1.
- American Institute of Steel Construction AISC - Specification For Structural Joints Using ASTM A325 or A490 Bolts.
- Applicable construction drawings
see over

The history below identifies the case, subject,
location, type of injection and injection
findings.

Inspection Location	Elevation	Amount of Inspection Spec. Vol. 1 available	Items Inspected	Type of Inspection	Inspection Finding
to x. Bldg. W. Bldg. 11'	51'6"	15 joints of approx. 30	Bolted Connections	Visual	4 loose bolts See details below
W. Bldg.	51'6"	13 joints of approx. 15	Bolted Connections	Visual	Acceptable
W. Bldg.	51'6"	13 joints of approx. 15	Welded Connections	Weld gage Visual	6 fillet welds <u>undersize</u> See details below
W. Bldg.	82'- 95'	94 joints of approx. 200	Bolted Connections	Visual	Acceptable
W. Bldg.	88'-	40 joints of approx. 300	Bolted Connections	Visual	Acceptable
W. Bldg.	88'	50 joints of approx. 200	Welded Connections	Weld gage Visual	8 welds welds of fillet welds 4 welds with undersize See details below
enclainment Bldg.	80'-87'	110 joints of approx. 570	Bolted Connections	Visual	Acceptable
enclainment Bldg.	80'-87'	110 joints of approx. 250	Welded Connections	Weld gage Visual	Acceptable
W. Bldg. W. Bldg. 11'	51'6"	10 joints joints of approx. 130	Bolted Connections	Torque Test	OK Acceptable
W. Bldg.	51'6"	20 joints of approx. 52	Bolted Connections	Torque Test	1 Bolt turned 60 degrees No turning before minimum tightness was achieved. No other bolts turned.

Inspection Location	Elevation	Around or Inspection Verbs T.I.L. Available	Items Inspected	Type of Inspection	Inspection Findings
cont. V.H.B.	87'	20 bolts of approx. 2500	Bolted Connections	Torque Test	1 Bolt torqued 95% tightness before minimum tightness was achieved See details below
cont. V.H.B.	98'	34 Bolted Joints of connections approx. 100	Bolted Connections	VISUAL	Acceptable
Contaminant Bldg.	125'	12 joints	Bolted Connections	VISUAL	Acceptable
		4 Joints Welded	Welded Connections	weld gauge VISUAL	Acceptable
	140	15 joints	Bolted Connections	VISUAL	Acceptable
cont. V.H.B.	-	20 joints	Bolted Connections	VISUAL	Acceptable
cont. V.H.B.	57'6"	15 joints	Bolted Connections	VISUAL	Acceptable
at other inspection points					not associated with the HSEI wind system,

The following criticism was made in preparing the inspection.

- Visual. Visual examination was performed to assure bolted connections were tight, bolts and nuts were of the correct ^{manufactured} size, and that all washers and cover plates were included where appropriate, bolts contained the proper threads exposed past the nuts, paint was properly applied to all connections. Coating of flanges and clip angles were properly performed. Connections were properly assembled in accordance with applicable drawings and specifications. Examination of welded connections ^{was made to ensure} ~~was made~~ weld finish, undercut, and length of welds were in accordance with applicable requirements and ~~weld~~ ^{weld} spatter, location and proximity was properly dispositioned.

- Weld Size. Examination of welds was made to assure that fillet welds contained the required leg size on each side of welded members.

- Torque Test The test was performed by construction personnel and witnessed by the inspector using a calibrated torque wrench. The examination ~~was~~ performed to determine if the ~~pipe~~ bolt loadings were as specified in the specifications.

Findings:

Visual inspections performed in the HPSI Pump Room A found 4 bolt connections which were finger loose. The bolts as are shown on drawing 13-C-2HS-581 Revision 7 and connect the A-C-6 platform at the 51' 6" elevation. The connections were inspected by Quality Control on August 17, 1986 and found acceptable to specification 13-CM-320 Revision 6. Specification 13-CM-320 requires the turn-of-the-nut method be used to obtain tightness of 39 turns on an A325, 7/8 diameter bolt. Torque testing ~~found 2 bolts~~ in the A-C-6 pipe way at AE - 6' East of HD, elevation 51' 6", clip angle to imbed plate, 4th bolt from top bolt required a bolt rotation of 60 degrees to achieve the

minimum tightness requirement of ~~100~~ ³⁹ Kips.
in the containment building at 125°
azimuth, 10' from line plate, elevation 85'.
The top bolts in one I beam to I beam connection
turned 45 degrees to achieve the minimum
tightness requirement of 39 Kips. The bolts
were previously inspected and accepted by
Quality Control.

AISC Specification for Structural Joints
Using ASTM A325 or A490 Bolts, Table
3, requires that an A325 bolt, 7/8 inch
diameter, must be tightened at least to
a minimum tension of 39 Kips. Failure
to achieve ^{minimum tightness} a tension of 10 CFR 50
Appendix B, Criterion V. The licensee committed
corrective action by issuing NCR number CA4308.

Visual inspection of welded connection
shown on drawing 13-S-2775-536 Bolts
3 located in the Auxiliary Breakbay Pipe
Chase, elevation 91, revealed filler
metal with small size filler ^{size} and
excessive undercut. The bolts are
portions of a 10 x 31 pipe section, grade
B79 fabricated by Manitowish Steel.
The drawing specifies a 7/8 inch filler

width. Further GWS D101 specifies
anchoring which exceeds 732 inch as
unacceptable. The inspector found
6 widths with filler sizes down to
732 inch and anchoring of approximately
1/16 inch deep.

The licensee initiated corrective actions
on the above items by issuing MCR's
number P-A-7140 and C-A-4320.

Failure to achieve minimum filler sizes
and allowing anchoring which exceeds 732
inch is a violation of 10 CFR 50
Appendix B, Criterion IX.

Exit interview -
~~was checked with~~
 The inspection Areas included

- (1) Structural Steel
- (2) Piping and Electrical Penetration
- (3) ~~Review of packaging~~
- (4) ~~Insulation and concrete expansion~~
~~anchor bolts~~

1 Structural Steel

2 Visual examination of welded & bolted connections - 445 joints associated with August 1540
 HPSE "A" System in the Cent. Bldg; Bay. Bldg.
 In addition 110 joints at the locations in the Cent. Bldg; Bay. Bldg; 62 bolts were torque tested to verify tightness.

a review of Weld. procedure & procedure qualifications of structural steel was made.

Findings; 2 apparent areas of nonconformance

Bolt Tightness - Four bolts were

found finger loose and additional test using the torque wrench found the bolts with tightness less than the required 39 KIPS. This is an ~~apparent~~ ^{apparent} ~~problem~~ ^{problem} with the bolts. 5 out of 6 bolts in inspection 13 CM 320.

Welded Connections - Six inch size fillet welds were found in the Bay. Bldg, Elev. 51' 6" - 110 fillet size required

Torque
 520 ft. lbs.
 torque 290

at structural steel
 a welded connection
 220 welded

1/4" filter sizes channels.

In SS²5 in the Ref. 100% pipe check, 6 welds
were found with sand size filter media
and excessive undercut. Scanning specifies
7/16" filter media 7/32" channels. Undercut to
1/16" deep was observed. AWS D1.1 allows
up to 1/32" deep.

~~This is in apparent violation of~~
~~the construction for a~~ violation of 10CFR 50,
Appendix B Criterion IX and AWS D1.1 and
Bechtel drawing 13-S-2AS-536 and
13-L-1AS-570.

2. Review of Electrical Penetrations

2. Visual examinations of 7 containment
penetrations, including piping penetrations,
electrical penetrations, and spray penetrations
~~were~~ made. In addition, a weld review
which included ^{material} test reports, weld checklist,
weld procedure and welder qualifications
were performed.

Findings

All items inspected were found acceptable.

3. Review of radiography:

~~Reviews were made of 16 welds.
11 radiographs and 5 film strips. The
review included film quality and density,
exposure quality and disposition of unacceptable
conditions.~~

Findings

All radiographic film was found acceptable

4. Embed plates and concrete expansion anchor bolts.

The results of this inspection will be
reported by Son.

9/7

Visually examined 12 structural steel joints in the gallery steel of the HP51 Train "A" pump room. In two of the joints ~~in at the gallery~~ ~~street~~ at the 50' level (one ~~to the~~ at the ladder and the other at the south wall connection) it was found that a total of four bolts were loose.

~~In other joints at this room~~
~~paint marks ^{on nuts} showed that some~~
~~structural steel rework had been~~
~~performed~~

In other joints of this room markings on the paint of nuts showed that some structural steel rework had been performed in this room.

Glen W

9/10

Visually examined 24 structural steel joints at the 100' level inside containment in the vicinity of HP51 line A-106 (Penetration 77)

9/13

Visually inspected 20 structural steel joints in the lowest and highest levels of the Pressurizer room. ~~Examined~~

No Problems

NA

Bechtel MATERIAL RECEIVING REPORT

ATT. 5

DISTRIBUTION

MC1-500 JOB NO 10407

22229 DATE 12/28/77

VEN etek, Straza Div.

SH RECEIVED Vendor

SH RECEIVED POINT El Cajon, CA

RET DWO

SERVICE

Page 1 of 2

PC ITEM NO	QUANTITY RECEIVED	Penetration #	Type	COMPLETE DESCRIPTION	Serial #
13	2	46,47	1	6"x18" CrMo (changed)	257, 258
2	1	8	1	24"x52" C.S.	227
4	4	13,14,15,16	1	3"x12" S.S.	231, 232, 233, 234
5	4	17,18,19,20	1	12"x36" S.S.	235, 236, 239, 240
6	2	21,22	1	10"x24" S.S.	241, 242
9	2	33,34	4	10"x20" C.S.	243, 244, 245, 246
10	4	35,36,38,39	4	2"x6" C.S.	247, 248, 250, 251
11	2	40,41	1	2"x12" S.S.	252, 253
17	2	50,51	2	4"x12" S.S.	261, 262
18	1	52	2	1"x6" C.S.	263
19	1	58	4	8"x20" C.S.	264
20	2	29,30	4	1"x6" S.S.	265, 266

Storage Level: *B/C*

Am-6-B

Airway Trucking

C-03090

12/23/77

28,000

47740-1

B-35-D-1-4

L. EVANS

#160

SHIPPING ORDER AMETEK

STRAZA DIV. INC. 780 L. JENFIELD DRIVE, EL CAJON, CA 92022 TELEPHONE: (714) 2-3451

PAGE THREE OF FOUR

No.

XXXXXXXXXX
XXXXXXXXXX
47746

DECEMBER 19, 1977 19

SHIPPED TO ARIZONA PUBLIC SERVICE COMPANY

OUR JOB NO 4833

YOUR ORDER NO 10407-12-11-500

ITEM	QTY	DESCRIPTION
		CONTINUED FROM PAGE TWO
11	1	7-050062 TYPE 1 PENETRATION PENETRATION NO. 41 SERIAL NO. 243
13	1	7-050064 TYPE 2 PENETRATION PENETRATION NO. 43 SERIAL NO. 255
14	1	7-050072 TYPE 4 PENETRATION PENETRATION NO. 45 SERIAL NO. 255
15	1	7-050063 TYPE 1 PENETRATION PENETRATION NO. 46 SERIAL NO. 257
15	1	7-050063 TYPE 1 PENETRATION PENETRATION NO. 47 SERIAL NO. 258
16	1	7-050065 TYPE 2 PENETRATION PENETRATION NO. 48 SERIAL NO. 259
16	1	7-050065 TYPE 2 PENETRATION PENETRATION NO. 49 SERIAL NO. 250
17	1	7-050066 TYPE 2 PENETRATION PENETRATION NO. 50 SERIAL NO. 261
17	1	7-050066 TYPE 2 PENETRATION PENETRATION NO. 51 SERIAL NO. 262
18	1	7-050067 TYPE 2 PENETRATION PENETRATION NO. 52 SERIAL NO. 263
19	1	7-050073 TYPE 4 PENETRATION PENETRATION NO. 56 SERIAL NO. 264
20	1	7-050074 TYPE 4 PENETRATION PENETRATION NO. 29 SERIAL NO. 265
20	1	7-050074 TYPE 4 PENETRATION PENETRATION NO. 30 SERIAL NO. 266
	1	7-050075 TYPE 4 PENETRATION PENETRATION NO. 31 SERIAL NO. 267

CONTINUED ON PAGE FOUR

RECEIVED BY

A/S 17A
P1

LOS ANGELES
DELIVERY RECEIPT
TEST REPORT

EARLE M. JORGENSEN CO.

STEEL

FORGE DIVISION

18650 SO. ALAMEDA STREET • PHONE 567-1122 (Area Code 213)
MAILING ADDRESS P.O. Box 34633

LOS ANGELES, CALIFORNIA 90034

INVOICE NO.
2-16-77

SHIPPED BY DEV TIME

2501 FL

2501 FL

U-92760

DATE ENTERED
8/18/76

ENTER BY
PATE

ORDERED BY
C B HENRIKSEN

ANETEM/STRAZA
C/O P O BOX 666
EL CAJON CALIF 92021
35-104664-11

7-050057-2
N F-3

SAME

790 GREENFIELD DRIVE

NUCLEAR

CERTIFIED TEST REPORT

We certify that the material covered by this report has been inspected and tested in accordance with the applicable requirements described herein and test results are on file subject to examination.

By *Camela Lee*
SHIPPING CLERK

SHIP VIA	QUANTITY AND DESCRIPTION	WEIGHT	HEAT NO
XX	EMJ WHSE	XX	

ASME SA-182 F304 STAINLESS STEEL & ASME B&PV CODE SECTION 3
1974 EDITION & ADDENDA THRU SUMMER 1975 FOR CLASS 2 COMPONENTS.
FORGED OVERSIZE TO ALLOW FOR FINISH
SOLUTION ANNEALED TO OBTAIN 75000 MIN TENSILE; 30000 MIN YIELD;
30% MIN ELONGATION; 50% MIN REDUCTION OF AREA.
FURNACE CHARTS REQUIRED.
ROUGH MACHINED COMPLETE PER DWG 7-050057-2 AND TOLERANCE SHOWN
INCLUDING ID; 250 RMS.
ULTRASONIC INSPECT AND ACCEPTANCE PER NB-2542
PINK AND WHITE
214201

6 PCS P/N-7-050057-2 N/C
PENT #13, 14, 15, 16, 66 AND 77

STEEL STAMP SA-182 F304, EMJ, P07, HT#, PN ON EACH PART

MECHANICAL TESTING REQD AND INCL IN PRICE.

C	MM	P	S	BL	NI	CR	MO	V	RE	HEAT NO
060	1.46	0.33	0.02	.52	8.33	18.25				8653469

RECEIVED
368
3-10-77

DAY 9

3/21/77

Thank You

SUBSCRIBED AND SWORN TO BEFORE ME THIS

16 FEBRUARY 1977
R. HAROLD LUSTON
NOTARY PUBLIC
LOS ANGELES COUNTY
My Comm. Expires May 6, 1979

HEAT NO	YIELD	TENSILE	ELONG
A4-8653469	42700	81600	63
C5-	42000	84700	61
D5-	42400	81600	63

FORGINGS WERE MADE IN DOUBLES.
ACTUAL PHYSICALS IN LONGITUDINAL DIRECTION

EMBRITTEMENT OK MACRO OK
SEE ATTACHED FOR: ULTRASONIC
CERTS, HEAT TREAT CERTS AND SEE
OUR SHIPPER #2505-FL FOR FURNACE
CHARTS.

LOS ANGELES
DELIVERY RECEIPT
TEST REPORT

EARLE M. JOHNSON CO.

STEEL

FORGE DIVISION

10430 SO. ALAMEDA STREET • PHONE 347-1122 (A. or Code 212)

MAILING ADDRESS: P.O. Box 44633

LOS ANGELES, CALIFORNIA 90054

2501 FL

2501 FL

CUSTOMER ORDER NO.	DATE ENTERED	ENTER BY	ORDERED BY
N-92760-4	8/18/76	PATE	C D HENRIKSEN

ANETEK/STRAZA
C/O P O BOX 666
EL CAJON CALIF 92021
35-104664-11

2-050057-2
SN F-5

SAME
790 GREENFIELD DRIVE
NUCLEAR

SHIP VIA	OUR TRUCK	WILL CALL	CARRIER	OUR PLANT	WEIGHT COLL	W/P PREPARED	W/P COLLECT
XX			EMJ WHSE		XX		

ASME SA-182 F304 STAINLESS STEEL & ASME B6PV CODE SECTION 3
1974 EDITION & ADDENDA THRU SUMMER 1975 FOR CLASS 2 COMPONENTS.
FORGED OVERSIZE TO ALLOW FOR FINISH
SOLUTION ANNEALED TO OBTAIN 75000 MIN TENSILE; 30000 MIN YIELD;
30% MIN ELONGATION; 50% MIN REDUCTION OF AREA.
FURNACE CHARTS REQUIRED.
MACHINED COMPLETE PER Dwg 7-050057-2 AND TOLERANCE SHOWN
INCLUDING ID; 250 RMS.
ULTRASONIC INSPECT AND ACCEPTANCE PER NB-2542
PINK CO AND WHITE
214201

6 PCS P/N-7-050057-2 N/C
PENT #13, 14, 15, 16, 66 AND 77

STEEL STAMP SA-182 F304, EMJ, P07, HT#, PH ON EACH PART

MECHANICAL TESTING REQD AND INCL IN PRICE.

C	MM	P	S	NI	CR	MO	V	G/B	MILL	HEAT NO
060	1.46	0.33	0.02	.52	8.33	18.25			REP	8653469

CERTIFIED TEST REPORT

We certify that the material covered by this report has been inspected and tested in accordance with the applicable requirements described herein and test results are on file subject to examination.

By *Pamela Lee*
SHIPPING CLERK

SUBSCRIBED AND SWORN TO BEFORE ME THIS

16 FEBRUARY 77
R. Harold Elston
R. HAROLD ELSTON
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My Commission Expires May 6, 1979

HEAT NO	YIELD	TENSILE	ELONG	REDUCED
A4-8653469	42700	81600	63	77.4
C5-	42800	84700	61	77.2
D5-	42400	81600	63	78.2

FORGINGS WERE MADE IN DOUBLES.
ACTUAL PHYSICALS IN LONGITUDINAL DIRECTION

HARDENABILITY ROCKWELL C
EMBRITTLEMENT OK MACRO OK
SEE ATTACHED FOR: ULTRASONIC
CERTS. HEAT TREAT CERTS AND SEE
OUR SHIPPER #2505-FL FOR FURNACE
CHARTS.

Thank You

EARLE M. JOHNSON CO.

FORCE DIVISION

RETENTION TIME 11 YRS

MRR NO. 22227

R4850

CERTIFICATE OF ULTRASONIC NON-DESTRUCTIVE TEST

For: AGTEY / STANZA

Your Order No. N-92710-11

Our Invoice No. 2502 Date 1-35-77

Material: SMC SA-111 F 304 SS

Operator: C. SHERIDAN / EDELTE

Number Parts Received: 6 Accepted: 6

Applicable Specifications: ASME SEC III Div 1

Applicable Test Procedure: ASME SEC III Div 1

Type of Ultrasonic Inspection Required:

Flaw Detection: PULSE ECHO

QUANTITY	PART NUMBER	DE GRADING
6 pcs.	# 7-050057-2 H/C PENT. #13, 14, 15, 16, 17 ↑↑↑↑↑	HT. 2-1-74 65% 101- " C1- " 101- " D1- " 101- "

Test Method

Control: 1.0" CERAMIC

Immersed: 1.0" H₂O

Test

Transducer: 1/4"

Frequency: 2.25 MHz

Test Block: ASME SEC III

Reference Block Standard

ASME SA-111 F 304 SS

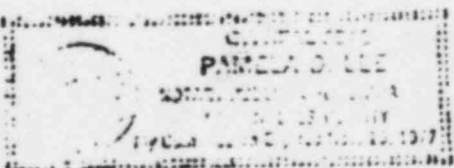
Equipment: Sperry Model U-W or U-1777B

Method: Longitudinal and/or Shear Wave Mode

Remarks: We hereby certify the above listed material was ultrasonically inspected in accordance with ASME SEC III and was found to be within the limitations of ASME SEC III as acceptable material.

PAID NO 2542

3-10-77



303
9-7-77
7/5/77
BPC & OAL

SUBSCRIBED AND SWORN TO BEFORE ME

THIS 30TH DAY OF AUGUST 1977

Pamela D. Lee
NOTARY PUBLIC

BY: Charles E. ...

EAR

JORGENSEN CO.

FORGE DIVISION

CERTIFICATE OF ULTRASONIC NON-DESTRUCTIVE TEST

For AMETEK / STRAZAYour Order No. N-42750-4Our Invoice No. 2501 Date 2-15-77Material ASME SA-182 F354 SSOperator C. SMOAD J.E.E. IINumber Parts Received 6 Accepted 6Applicable Specification ASME SEC IIApplicable Test Procedure QC-G-32-54-55

Type of Ultrasonic Inspection Required

Flow Detection PULSE ECHORev. 2
6-10-77

QUANTITY	PART NUMBER	DESCRIPTION
6 pcs.	P/N-7-C5C057-2N/C PENT. #13, 14, 15, 16, 66, 77	Ht. # <u>C5-8653469</u> ICS - " DS - " IDS - " A4 - " 1A4 - "

Test Method

Contact

Immersed ☒

Test

Transducer

1" CERAMIC
3/4"

Frequency

1.0 MHZ
2.25"

Test Block

37.5" STEEL
BR 2752 FS4

Reference Block Standard

ASME SA-182 F354 SS

Equipment

Serry Model U-W or UM 720 77B

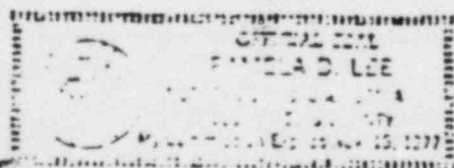
Method

Longitudinal and/or Shear Wave Mode

Remarks

We hereby certify the above listed material was ultrasonically inspected in accordance with QC-G-32-54-55
and was found to be within the limitations of ASME SEC II as acceptable material.

PARA. NB 2542



SUBSCRIBED AND SWORN TO BEFORE ME

THE 16TH DAY OF FEBRUARY 1977

NOTARY PUBLIC

DECHTEL

368

3-10-77



RF-5

3/24/77

EARLE H. JORGENSEN

Chas. J. Jorgensen

AMETEK/Straza	NUCLEAR POWER PLANT COMPONENTS	R4830
	ASME CODE	
CERTIFICATE OF COMPLIANCE		Issue Date: Revision:

Date: December 14, 1977

To: ARIZONA PUBLIC SERVICE CO.
 BECHTEL POWER CORPORATION
 PALO VERDE NUCLEAR GENERATING STATION
 3 MILES SOUTH AT WINTERSBURG, ARIZONA

Purchase Order 10407-1211-500 Shipper 47746
 Part Number 7-0500071 Quantity 6 Pcs
 Part Name PENETRATIONS Serial No(s). 231 THRU 236

This is to certify that all parts and materials fabricated on the above purchase order were manufactured to and meet the requirements of applicable codes, drawings, specifications, etc.

Seller further certifies that all processes, personnel and equipment have been certified and/or approved in accordance with the above purchase order requirements.

AMETEK, Straza Division

[Signature]
 H. E. Brown
 QUALITY ASSURANCE MANAGER,
 NUCLEAR & AEROSPACE



FORM NO. MAF-1

RETENTION

PART FOR NUCLEAR PART AND APPURTENANCES

retention of the ASME Code Rules

MRR NO. 10007

1. Manufactured by AMETEX EL CAJON, CALIFORNIA 92021
Name and address of Manufacturer of part

2. Manufactured for BECHTEL POWER CORPORATION NORWALK, CALIFORNIA
Name and address of Manufacturer of completed nuclear component

3. Identification: Manufacturer's Serial No. 231 Serial No. _____

4. Constructed According to Drawing 12-00007 REV. A Drawing Prepared by AMETEX, STRAZA
FORGED FLEED HEAD AND PROCESS PIPE, MACHINED TO 12-3-1

5. Description of Part Inspected DIA. X 20" PIPE LENGTH.

6. Applicable ASME Code: Section III, Edition 1974, Addenda date W 175, Case No. _____ Class 2

7. Remarks: PENETRATION # 13 PROCESS PIPING CONTAINMENT PENETRATION
Brief description of service for which component was designed

FOR PALO VERDE NUCLEAR GENERATING STATION UNIT # 1

PROCESS PIPE HYDROSTATICALLY TESTED TO 3.730 PSI.

We certify that the statements made in this report are correct and this vessel part or appurtenance as defined in the Code conforms to the rules of construction of the ASME Code Section III.

The applicable Design Specification and Stress Report are not the responsibility of the part Manufacturer. An appurtenance Manufacturer is responsible for furnishing a separate Design Specification and Stress Report if the appurtenance is not included in the component Design Specification and Stress Report.

Date 10/17/77 Signed AMETEX, STRAZA By MEK
(Manufacturer)

Certificate of Authorization Expires MARCH 19, 1980 Certificate of Authorization No. 4-1664

CERTIFICATION OF DESIGN FOR APPURTENANCE (when applicable)

Design information on file at AMETEX, STRAZA EL CAJON, CALIFORNIA 92021

Stress analysis report on file at AMETEX, STRAZA EL CAJON, CALIFORNIA 92021

Design specifications certified by V. MAJARIAN Prof. Eng. State ARIZ. Reg. No. 10746

Stress analysis report certified by ARTHUR L. MOORE Prof. Eng. State ARIZ. Reg. No. 10746

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and for the State or Province of CALIFORNIA and employed by DEPT. OF INDUSTRIAL RELATIONS, DIV. OF INDUSTRIAL SAFETY have inspected the part of a pressure vessel described in this Manufacturer's Partial Data Report on 11/7/77 and state that to the best of my knowledge and belief, the Manufacturer has constructed this part in accordance with the ASME Code Section III.

In signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the part described in this Manufacturer's Partial Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 11/7/77

[Signature] Commission CA 894
Inspector's State or National Board, State, Province and No.

*Every drawing, sketch, or drawing may be used provided: 1. size is 8 1/2" x 11", 2. information in item 4 of the drawing is included in each sheet, and 3. each sheet is numbered and number of sheets is recorded in item 5, "Remarks".

$$(\mathbf{C} - \mathbf{N}_2) \cdot \mathbf{A} = \mathbf{V}$$

1. FUEL TAG _____ Name _____ Distance _____
2. PROCESS # P-1 _____ Thickness _____ Allowance _____ in. Dia. _____ Length _____ in.
Note: Specify Min. of Range Overlaid

Seams: None H.T.: R.T.: Efficiency: 100

None H.T. R.T. No. of courses 9

a. Heads		T.S.		b. Material		T.S.	
Location	Crown Radius	Knurled Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. Conv. or Conc.
Top, bottom, ends	Thickness					12.75	

Other fastening _____
 (If removable, show sketch) _____
 Material, Spec. No., T. S. Size, Number: _____
 Draw the correct sketch: _____

* JACKET CLOSURE _____
 Describe in proper English, Ser. etc. (If large give dimensions, if bolted, describe or sketch) _____
 Drop Weight _____

9. Design pressure: 225 PSI at 350 °F Charpy Impact ft-lb
at temp. of

Items 9 and 10 to be completed for tube sections

9. Tube Sheets: State name, Material _____ Dia. _____ Thickness _____ in. Attachment _____
(Kind & Spec. No.) (Subject to pressure) (Welded, Bolted)

10. Tubes: Material _____ Dia. _____ Thickness _____ in. Attachment _____
 O.D. _____ in. Thickness _____ inches or gage. Number _____ Type _____ (See, or U)

Items 11-14 may be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

11. Shell: Material T.S. Nominal Thickness in. Corrosion Allowance in. Dia. ft. in. Length ft. in.
(Kind & Spec. Note: Min. of Range Specified)

Reams: Long _____ H.T. _____ R.T. _____ Efficiency _____ %

Girth _____ H.T. _____ R.T. _____ No. of Courses _____
 _____ T.S. _____

1. Heads (a) Material:		T.S.		(b) Material		T.S.		Side to Front / Conv. or Cor.	
Location	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Circular Apex Angle	Hemispherical Radius	Flat Diameter		

at Top, bottom, middle _____
by Channel _____

5) Channel: _____ (b) _____ c) _____ Other fastening: _____ Describe or attach sketch: _____
 If removable bolt used: _____ Drop Weight: _____

14. Design pressure _____ psi at _____ °F

Items below to be completed on all vessels where applicable.

18. Battery Size _____ Number _____ Size _____ Location _____

[illegible][illegible]

Item	Quantity	Size	Location
1. Paper	100	11" x 17"	Room 101
2. Paper	50	11" x 17"	Room 101
3. Paper	25	11" x 17"	Room 101

S. Numbers	Lugs		Legs		Other	Describe	Attached	Where & How
	(Number)	(Number)	(Number)	(Number)				
1								
2								
3								
4								
5								
6								
7								
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AMETEK/STRAZA

NUCLEAR POWER PLANT COMPONENTS

Nondestructive Examination
ASME CODE

RETENTION

Date: 12-16-77
W/O No. 4E
Ship. No. 9774
P/O No. 1000
Cust. RECHTEL

CERTIFICATE: PENETRANT EXAMINATION

We Hereby Certify ONE piece

Part Number 7-050057-2

Part Name MECHANICAL PENETRATIONS

Serial No. F-7 (230) PENE-77

Have been Liquid Penetrant Examined in Compliance to: AMETEK/Straza Procedure No. 9LP

TYPE 1A and the following applicable documents:

ASME Code Sec. III CLASS 2

RDT Standard N/A

Cust. Drawing 7-050057

Cust. Specification 1.3-MM-500

Penetrant Materials Used:

Penetrant URESSO
Emulsifier N/A
Remover WATER
Developer N/A

Batch # G232
Batch # N/A
Batch # N/A
Batch # N/A

Sulfur and Halogen Content

% Sulfur	% Halogen
0.009	0.012
N/A	N/A
N/A	N/A
N/A	N/A

Examination Results: ACCEPTABLE - NO REJECTABLE INDICATIONS

RECHTEL
368

12-20-77

SEC. III, DIV. 1
Acceptance

12-25-46

By: L. R. Anderson
Examiner



Qual. Level II

AMETEK

STRAZA DIVISION • TWO GREENFIELD

44 EL CAJON, CA 92022

TELEX 89-5436

TELEPHONE (714) 441-1000

RETENTION 1 - YES

P4820

WELDING VERIFICATION REPORT

WE CERTIFY THAT ALL WELDS PERFORMED ON PART NO. 7-050029-1

PENETRATION(S) # 21 F22

WERE PERFORMED BY WELDER(S) 30

WHO ARE QUALIFIED TO THE PROCEDURES USED.

	<u>PROCEDURE USED</u>	<u>WELDER NO.</u>
(PIPE TO HEAD WELD)	NUC- N/A	1 N/A
(NAME PLATE ATTACHMENT WELD)	NUC- 108	1 30

ALL THE ABOVE WELD PROCEDURES HAVE BEEN APPROVED BY BECHTEL
FOR USE ON THIS PROGRAM PRIOR TO FABRICATION.

AMETEK, STRAZA DIVISION

M. E. Brown
M. E. BROWN
QUALITY ASSURANCE MANAGER
NUCLEAR & AEROSPACE

BECHTEL
368

12-20-77

2 L
IRATION

Bechtel
MATERIAL RECEIPT REPORT

RETENTION
SPEC NO 13-11-500

ITEM NO 22226 DATE 12/28/77

Q CLASS Q

VENDOR Metek, Straza Div.

REF DWG

SHIPPED BY Vendor

SHIPPING POINT El Cajon, CA

SERVICE

QUANTITY
RECEIVED

Mech. Penetration Assy. COMPLETE DESCRIPTION

	Penetration #	Type	Description	Serial #
1	4	1	28"X56" C.S.	226
1	10	1	24"X52" C.S.	228
2	67,77	1	3"X12" S.S.	235,236
2	26,27	1	16"X36" S.S.	243,244
1	43	2	3/4"X6" S.S.	255
2	46,49	2	3/4"X12" S.S.	259,260
1	42	2	1"X6" S.S. (changed)	255

RECORDS RELEASED



NON CONFORMANCE

TAG NO 101-154-11

Storage Level: 0 C

64678

AIRWAY

ITEM NO

6-08004

CAR NO

12/28/77

CHARGES

PREPAID (X) COLLECT ()

421000

DATE

COMPLETE

OSD NO

1-1-4

FILED

Handwritten signature

P 13 NO 23-100-500
MRB NO 22229
Page 2 of 2

[illegible]

DATE 4/14/78	ARIZONA NUCLEAR POWER PROJECT JDE 10407	PROJECT WELDING MANUAL	
REVISION 3		TITLE TABLE OF CONTENTS	DESIGNATION -

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WELDING STANDARDS

A. General Standards

<u>Number</u>	<u>Title</u>
GR-1	General Welding Requirements
GIS-BA	General Installation Specification - Straightening Anchor Bolts
GIS-PA	General Installation Specification - Large Piping Adjustment (Bending)
GPS-1	Internal Gas Purging
GWS-CF	Carbon & Low Alloy Steel/Copper
GWS-DEOX	Use of Deoxaluminite
GWS-DM	Dissimilar Metals
GWS-FM	Ferritic & Martensitic Stainless
GWS-NF	Nonferrous
GWS-SN	Stainless & Nickel
GWS-SW	Stud Welding
GWS-STRUCTURAL	Structural
GWS-REBAR	Rebar
GWS-TC	Thermocouple Attachment
MWP-1	General Requirements - Machine Welding
PBS-SS	Pipe Bending - Stainless Steel
RB-MS-T	Mechanical Splicing - Rebar
WD-1	Welding Documentation - ASME III
WFMC-1	Welding Filler Metal Control
WFMP-1	Welding Filler Material Procurement
ED-1	Elimination of Defects

B. Performance Specifications

<u>Number</u>	<u>Title</u>
WQ-1	Welder Qualification - ASME IX
WQ-2	Welder Qualification - AWS D1.1
WQ-STUD	Welder Qualification - ASME III (Stud)

WELDING STANDARDS

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STRUCTURAL STEEL	CODE DESIGN CRITERIA	MFL P-NO.	MFL THICKNESS	BECHTEL WELDING STANDARD		PWMT (1)	PREHEAT	NON DESTRUCTIVE EXAMINATION REQUIREMENTS		DOCUMENTATION	NOTES
				PROCEDURE	ALT. PROCEDURE			BY AND UT SPECIFICATION	MT, PT, LT AND VE SPECIFICATION		
Groove weld - C-steel to S. stl. (4)	AWS D1.1	1	2-5/16" MAX	PI-A-1h (Structural)	PI-A-c-1h (Structural) PI-P for 5/8" and larger PI-P (CVN) for 5/8" and smaller	No	(2)	(3)	(3)	X	(1) Postweld heat treating requirements are as specified in the welding procedure and the code. (2) Preheat is required by the welding procedure. (3) Visual inspection per 13-CH-220, section 9.2. (4) Spec. 13-CH-220.
fillet weld - C-steel to C. stl. (4)	AWS D1.1	1	3/8" MAX	PI-A-1h (Structural)	PI-A-c-1h (Structural)	No	(2)(6)	(3)	(3)	X	(5) All stainless steel welding shall be performed using procedures qualified to ASME section IX. (6) The interpass temperature maximum shall be 350°F.
Notch fillet weld C-steel, plate to S.S. angle	AWS D1.1 (Note 2)	1	3/16"	PB, PI-A		No	(2)(6)	(3)	(3)	X	(7) See Dwg. 13-G-00A-003 Detail 6 for typical. (8) See Dwg. 13-G-00A-003, Detail 6 for typical. (9) See Dwg. 13-G-2AS-186 Sect. A for typical. (10) Spec. 13-CH-220.
fillet weld - S.S. plate to plate (4)(6)	AWS D1.1 (Note 2)	1	3/16"	PB-A		No	(2)(6)	(3)	(3)	X	(11) Galvanizing need not be removed if the root pass is performed using E6010 electrodes. (12) Spec. 13-CH-220.
fillet weld - C. steel to S.S. (4)(2)	AWS D1.1 (Note 2)	1	1/8"	PB, PI-A	PB, PI-T-1g	No	(2)(6)	(3)	(3)	X	(13) Spec. 13-CH-220.
Circumferential fillet - A.B. to C. stl. (4)	AWS D1.1	1	3/8"	PI-A-1h (Structural)	PI-A-c-1h (Structural)	No	(2)	(3)	(3)	X	(14) WHP-1 & WHP-1 do not apply (15) Spec. 13-CH-375 (16) Welding shall be performed using procedure qualified to ASME IX.
Deck to C. stl. (10)(11)	AWS D1.1	1	3/4" MAX	PI-A-c (Structural)	PI-A-c-1h (Structural)	No	(2)	(3)	(3)	X	(17) Spec. 13-CH-220.
fillet weld - grating to C. stl. (10)(11)	AWS D1.1	1	1/4" MAX	PI-A-c (Structural)	PI-A-c-1h (Structural)	No	(2)	(3)	(3)	X	(18) Spec. 13-CH-220.

GENERAL NOTES:
I. THIS DRAWING IS TO BE USED AS FORM FOR PERFORMING REQUIREMENTS.
II. AFTER ANY WELD NOT SHOWN TO PROJECT ENGINEERING FOR SELECTION OF PROPER WELDING
PROCEDURE AND NON DESTRUCTIVE EXAMINATION REQUIREMENTS.
III. APPLICABLE REVISIONS OF WELDING AND NON DESTRUCTIVE EXAMINATION PROCEDURES ARE AS
SHOWN IN THE LATEST REVISION OF THE PROJECT WELDING MANUAL.

ARIZONA NUCLEAR POWER PROJECT
PALO VERDE NUCLEAR
GENERATING STATION
UNITS 1, 2 & 3

WELDING AND NON DESTRUCTIVE
EXAMINATION REQUIREMENTS FOR
CIVIL/STRUCTURAL

STRUCTURAL
STEEL



13-G-00A-058

25

SHEET 3A

STRUCTURAL STEEL	CODE DESIGN CRITERIA	MT/L P-NO	MAT'L THICKNESS	BECHTEL WELDING STANDARD		PWHT (1)	PREHEAT	NON DESTRUCTIVE EXAMINATION REQUIREMENTS		NOTES	
				PROCEDURE	ALT. PROCEDURE			RT AND UT SPECIFICATION	MT, PT, LT AND VE SPECIFICATION		
Puddle weld (pin weld) deck to C. sill. (15)(11)	AWS D1.1	1	3/4" max	P1-A-Lh (Structural)	P1-A-c-Lh (Structural)	No	(2)	(3)	(3)	X	
				P1-A-Lh (Structural)	P1-A-c-Lh (Structural)						
Pillet weld C. sill. (11)	AWS D1.1	1	ALL	P1-A-Lh (Structural)	P1-A-c-Lh (Structural)	No	(2)	(3)	(3)	X	
				P1-A-Lh (Structural)	P1-A-c-Lh (Structural)						
Stud weld to C. sill. (4)(16)	AWS D1.1	1	MA	P1-STUD (Structural)	P1-A-Lh (Structural)	No	(2)	(3)	(3)	X	
				P1-STUD (Structural)	P1-A-Lh (Structural)						
Condenser (12)	NI	1	1"	P1-A-Lh (Structural)	P1-STUD Through Deck Welding	No	(2)	(3)	VE-BPC-1	X	
				P1-A-Lh (Structural)	P1-A-c-Lh (Structural)						
(1)(11)	AWS D1.1	1	5" max	P1-A-C (Structural)	P1-A-c-Lh (Structural)	No	(2)	(3)	(3)	X	
				P1-A-C (Structural)	P1-A-c-Lh (Structural)						
(1)(14)	AWS D1.1	1	ALL sizes	P1-A-Lh (Structural)	P1-A-c-Lh (Structural)	No	(2)	(3)	(3)	X	
				P1-A-Lh (Structural)	P1-A-c-Lh (Structural)						
G-E structural steel	AWS D1.1	11B	ALL	P11B-A-Lh (Structural)	P1-A-C (Structural)	No	(2)	(3)	(3)	X	
				P11B-A-Lh (Structural)	P1-A-C (Structural)						
Aluminum bug bars	None	21	All thicknesses	P21-M-Ag (Bug Bar)	P23, P21-MT	No	200°F	(3)	VE-BPC-1	X	
				P21-M-Ag (Bug Bar)	P23, P21-MT						
Pillet welds in engine sill.	AWS D1.1 (Hose 5)	8	All thicknesses	P8-A	P8-T-b P8-T-Ag P8-AI-b	No	(2) (6)	(3)	(3)	X	
				P8-A	P8-T-b P8-T-Ag P8-AI-b						
Steam generator support elim pack	AWS D1.1	1	All thicknesses	P1-A-Lh (Structural)	P1-A-Lh (Structural)	No	(2)	(3)	(3)	X	
				P1-A-Lh (Structural)	P1-A-Lh (Structural)						
	AWS D1.1	11	All thicknesses	ASIA, P1-A	ASIA, P1-A	No	(2)	(3)	(3)	X	
				ASIA, P1-A	ASIA, P1-A						
	AWS D1.1 (16)	15	All thicknesses	P5, P1-A-2	P5, P1-A-2	No	(2)	(3)	(3)	X	
				P5, P1-A-2	P5, P1-A-2						
Metal Fabrication Wall Studs	AWS D1.1	1	All thicknesses	P1-A-C (Structural)	P1-A-Lh (Structural)	No	(2)	(3)	(3)	X	
				P1-A-C (Structural)	P1-A-Lh (Structural)						

GENERAL NOTES:

- THIS DRAWING IS TO BE USED AS FORM BEVER ROOM REQUIREMENTS.
- NEVER ANY WELD NOT SHOWN TO PROJECT ENGINEERING FOR SELECTION OF PROPER WELDING PROCEDURE AND NON DESTRUCTIVE EXAMINATION REQUIREMENTS.
- APPLICABLE REVISIONS OF WELDING AND NON DESTRUCTIVE EXAMINATION PROCEDURES ARE AS SHOWN IN THE LATEST REVISION OF THE PROJECT WELDING MANUAL.



ARIZONA NUCLEAR POWER PROJECT
PAID VERDE NUCLEAR
GENERATING STATION
UNITS 1, 2 & 3

WELDING AND NON DESTRUCTIVE
EXAMINATION REQUIREMENTS FOR
CIVIL/STRUCTURAL

STRUCTURAL
STEEL

JOB NO. 10487

DRAWING NO.

REV

13-C-80A-85H

25

SHEET

1H

STRUCTURAL STEEL	CODE DESIGN CRITERIA	MT'L P-NO	MAT'L THICKNESS	BECHTEL WELDING STANDARD		PWHT (1)	PREHEAT	NON DESTRUCTIVE EXAMINATION REQUIREMENTS		DOCUMENTATION		NOTES
				PROCEDURE	ALT. PROCEDURE			RT AND UT SPECIFICATION	MT, PT, LT AND VE SPECIFICATION	FILLER MET'L WITHDRAWAL	FIELD WELD CHECK LIST	
Structural steel to welded plate Ref. Bush 13-C-2CS 176/277 Rev 2.0 Sh. 8 and 18	AWS D1.1	1	3/16" to 3/4"	P1-A-1h (Structural)		No	(2)		(3)	X		(1) As required by 13-C-2CS-170
Couset to boiler crone 11.1x	AWS D1.1	1	1 1/4" max. butt welds	P1-A-1h (Structural)		No	70°F MIN	UT-PE-1.2 (1)	MT-P-1.2 OF HT-T-1.2 (1)	X	X	
11.1x	AWS D1.1	1	1 1/4" max.	P1-A-1h (Structural)		No	70°F MIN	UT-PE-1.2 (1)		X		
11.1x	AWS D1.1	8		P8-T-Aa P8-T-b P8-A-T-b	P8-T-Aa P8-T-b P8-A-T-b							

GENERAL NOTES

- THIS DRAWING IS TO BE USED AS FORM 84C PER BOAM REQUIREMENTS.
- REFER WELD NOT SHOWN TO PROJECT ENGINEERING FOR SELECTION OF PROPER WELDING PROCEDURE AND NON DESTRUCTIVE EXAMINATION REQUIREMENTS.
- APPLICABLE REVISIONS OF WELDING AND NON DESTRUCTIVE EXAMINATION PROCEDURES ARE AS SHOWN IN THE LATEST REVISION OF THE PROJECT WELDING MANUAL.

ARIZONA NUCLEAR POWER PROJECT
PALO VERDE NUCLEAR
GENERATING STATION
UNITS 1, 2 & 3



WELDING AND NON DESTRUCTIVE
EXAMINATION REQUIREMENTS FOR
CIVIL/STRUCTURAL

STRUCTURAL
STEEL

JOB NO. 18487

DRAWING NO. 13-C-00A-858
REV. 25
SHEET 30

R1500
 REVISION TIME 1 YRS

DIME VERIFICATION REPORT

A 2408 1

WE CERTIFY THAT ALL WELDS PERFORMED ON PART NO. 7-DXN-3-1
 PENETRATIONS (1) AND 47 (2 EACH)
 WERE PERFORMED BY WELDER(S) 16, 30, 31
 WHO ARE QUALIFIED TO THE PROCEDURES USED.

	<u>PROCEDURE USED</u>	<u>WELDER NO.</u>
(PIPE TO HEAD WELD)	NUC-112	16, 30, 31
(NAME PLATE ATTACHMENT WELD)	NUC-110	16

ALL THE ABOVE WELD PROCEDURES HAVE BEEN APPROVED BY BECHTEL
 FOR USE ON THIS PROGRAM PRIOR TO FABRICATION.

ANETEK, STRAZA DIVISION

M. E. Brown
 M. E. BROWN
 QUALITY ASSURANCE MANAGER
 NUCLEAR & AEROSPACE

BECHTEL

457

REVIEWED
 3/30/79



Bechtel Power Corporation

RETENTION TIME 12

Form WR-5, Rev. 3 April 79

FIELD WELDING CHECK LIST

1. Bechtel Job No. 10Unit No. 1

GENERAL INFORMATION

2. System or Component Long Term Recir. #1 3. Weld No. U 77 (C-1)
3. Engineering Specification No. 13 PM 204 (6) Original ☒ Repair No. _____
4. Drawing No. 13 P ZCG 108 (4)/109 (1)
5. SA ASTM Material SA 333/SA 182 9. Pipe diameter 12"
- Type & Grade Gr. 6/TP 304
6. Welding Procedure and Revision No. PS, PI AT-Ag (3) 10. Nominal Joint Thickness 0.406
- PS, PI AT-Ag (2)
11. Backing rings required ☒ Backing Plates Req. ☒ N/R
7. Welder Qualification N/R N/R Inserts required ☐ N/R

REQUIREMENTS

12. Purge required N/R Gas Type N/R
13. Preheat temp. 50 °F Min.
14. Cleanliness, fit-up, etc. and Release for Welding Required
15. Interpass Temp. N/R °F N/R
16. Completed weld visually examined. Reinforcement checked and Released for NDE Required
17. PWHT Temp. N/R °F N/R hrs
- Hold Time N/R hrs

NONDESTRUCTIVE EXAMINATION

18. Radiography RT XG 2 (3) ☒
19. Liquid penetrant N/R ☐
20. Magnetic particle N/R ☐
21. Other NDE N/R ☐

22. FILLER METAL

Covered		Base	
E 7018	☐	E 70S - 2	☐
E 6010	☐	ER 308L	☐
E 308L - 16	☐	ER 308	☐
E 308 - 16	☐	ER 309	☒
E 309 - 16	☒	Other	
Other	<u>2092/10/6/79</u>		

23. Authorized Inspector Hold Points Item(s) No. 14 9/24/79
24. Above REQUIREMENTS CERTIFIED CORRECT M. J. Mills 9/24/79
- Lead Field Welding Engineer (LFWE) Date

27. Code Inspection Item(s) No. 13/19/18
- Inspected by J. C. Korman 10/16/79
- Authorized Inspector Date

FOR FIELD USE ONLY

RECORDED RESULTS

Welding	Quality Verification		Authorized Inspector	
	LWOCE	DATE	A. I.	DATE
(BACKRING)				
12A. <u>NR</u>		<u>9/24/79</u>		<u>9/24/79</u>
13A. <u>50°</u>		<u>9/24/79</u>		<u>9/24/79</u>
14A. <u>NR</u>		<u>10/8/79</u>		
15A. <u>NR</u>		<u>10/8/79</u>		
16A. <u>NR</u>		<u>10/8/79</u>		
17A. Temp. _____ Time _____	<u>NR</u>			
Chart No. _____ Curve _____				

NONDESTRUCTIVE EXAMINATION

- 18A. Performed by sub-contractor 10-10-79
- Accept ☒ Reject ☐ 9/24/79 LMG
- 19A. Accept ☐ Reject ☐ N/R
- 20A. Accept ☐ Reject ☐ N/R
- 21A. Accept ☐ Reject ☐ N/R
- 22A. Filler Metal Used ER309L 10/8/79

Remarks: ONE HOLE ON ID'S
Chill Ring had several gaps
Apprx. 1/4" G.S.

25. Welder's name(s) & symbol Date
- BROOKS B-171 9/24/79
- JONES P-318 (TACK) 10/8/79
- ESTEVES B-23 10/8/79

26. Above RESULTS CERTIFIED CORRECT

L. L. Loun 10/12/79

Lead Welding Quality Control Engineer Date



#1672

STATUS AA-DD

VENDOR: HMB

PALU VERDE NUCLEAR GENERATING STATION				NONCONFORMANCE REPORT			
1. UNIT				2. NO DAY YR			
ONE				9/10/83			
3. DRAWING/PART NO.				REV. 5			
135-ZAS 535				Pipe Racks B75 and B79			
7. STARTUP SYSTEM NO.				8. SERIAL NO.			
2A10				N/A			
9. ASSESSMENT				10. P.O. OR SPEC NO.			
13CM131(22)				11. ASME AUTHORIZED INSPECTION REQ'D.			
YES				NO			
12. DESCRIPTION				13. ITEM LOCATION			
PIPE RACK B75 requires a 5/16" fillet weld for attachment of vertical member to horizontal member. The following welds is noted on the attached sketch were found to be undersized (also attached sketch)				Any Bldg 88'			
14. ACCEPTANCE OF REWORK/REPAIR				15. INSPECTION/VALIDATION/REVIEW DATE			
J. R. R. 9/10/83				9/10/83			
16. FIELD ENGR DECISION				17. FIELD RECOMMENDED DISPOSITION			
VENDOR				ENGINEER CONCURRENCE REQ'D.			
18. DISPOSITION CONCURRENCE				19. REPORTABILITY EVALUATION			
NOT REPORTABLE				NOT REPORTABLE			
OR				OR			
DER NO. 79-10				DATE 9/12/83			
20. ACCEPTANCE OF REWORK/REPAIR				21. DISPOSITION CONCURRENCE			
AUTHOR. INSP				N/A			
22. ASSIGNED CAUSE OF DISCREPANCY				23. AUTHORIZED INSPECTOR			
Vendor Error				N/A			
INITIATOR				DATE			
9-10-83				9-10-83			

CONTINUATION SHEET
VERDE NUCLEAR GENERATING STATION

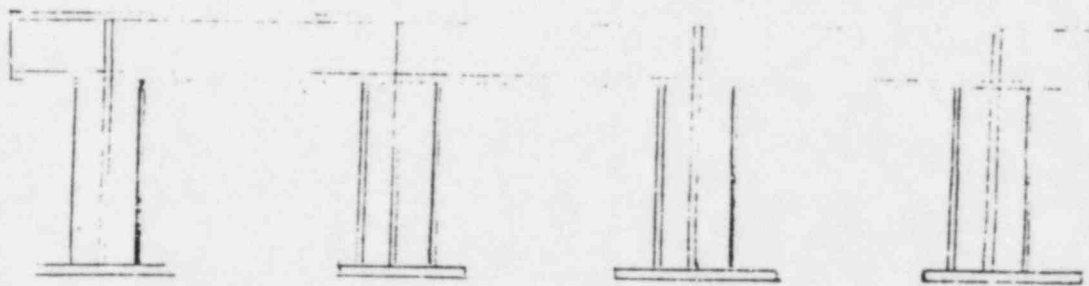
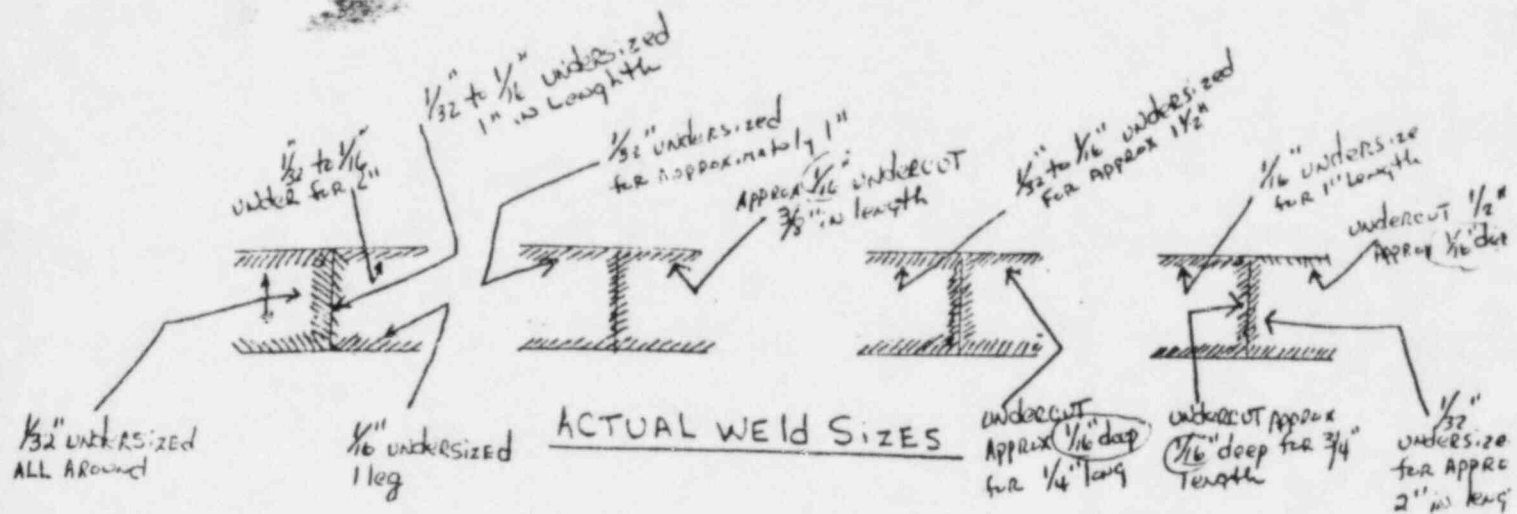


NONCONFORMANCE REPORT

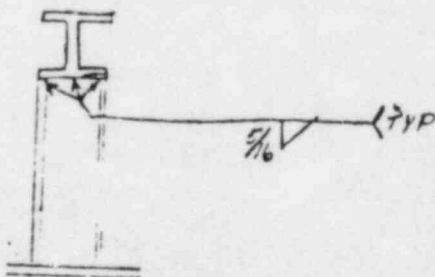
NO. P.A-7140

PAGE 2 OF 4

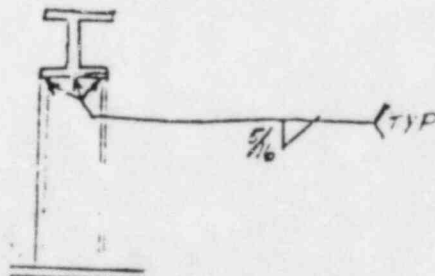
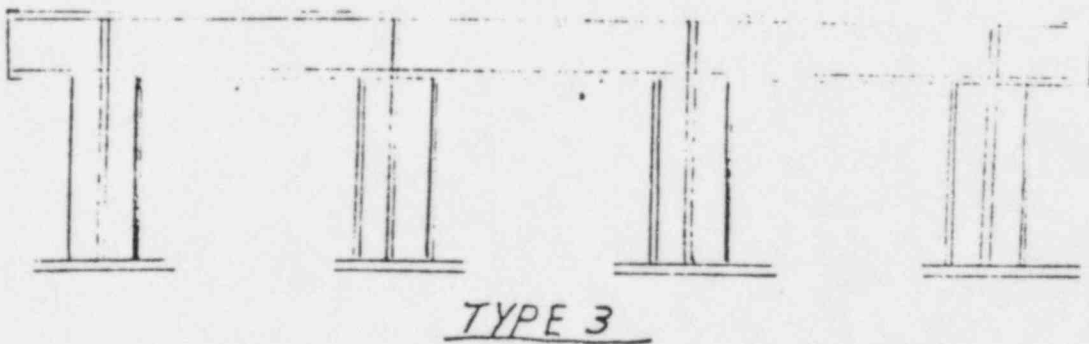
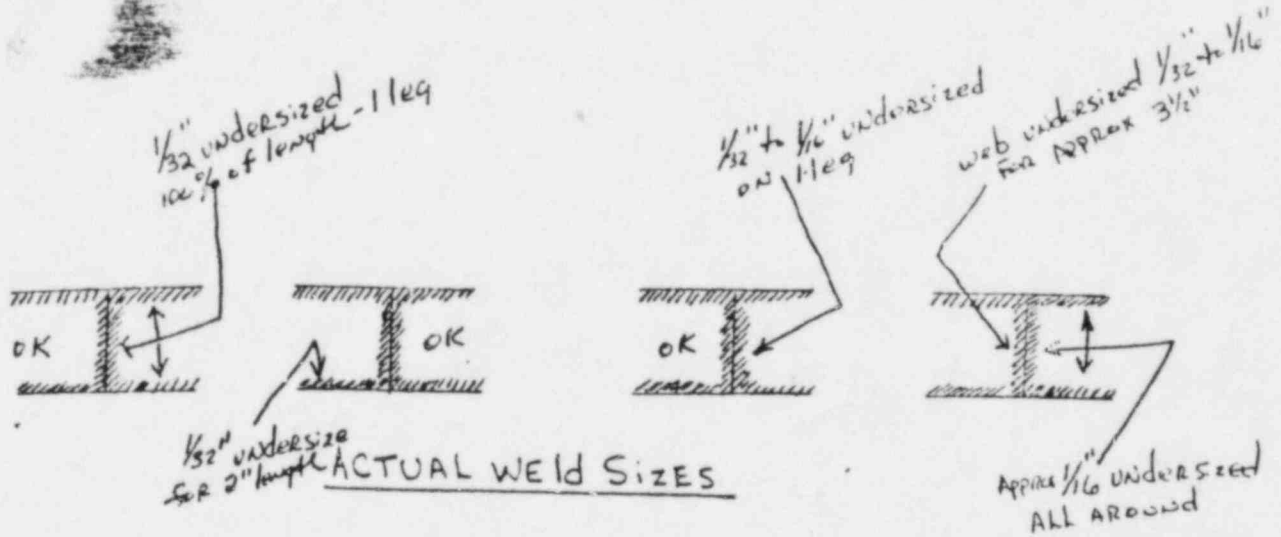
PF 794.1(10407) 4/79



TYPE 3



SIDE VIEW
ACTUAL WELD SIZE REQUIREMENT



SIDE VIEW
ACTUAL WELD SIZE REQUIREMENT

Rack B-75

STATUS: *A*

VENDOR:

PALO VERDE NUCLEAR GENERATING STATION

NONCONFORMANCE REPORT

CA 4308

PAGE 1 OF 1

1. UNIT <i>1</i>	2. MO DAY YR <i>9/8/63</i>	3. DRAWING/PART NO. <i>13-C-ZAS-561</i>	REV. <i>9</i>	4. ITEM DESCRIPTION <i>Structural Steel Bolts</i>	5. ITEM LOCATION <i>E1.51'6" Aux Bldg. Platform A-C-6 5'9" East of AL</i>
6. CLASS <i>C</i>	7. STARTUP SYSTEM NO. <i>1 ZAO1</i>	8. SERIAL NO. <i>N/A</i>	9. SUBCONTRACTOR/SUPPLIER/BECHTEL <i>Bechtel</i>	10. P.O. OR SPEC NO. <i>13-CM-320-8</i>	11. ASME AUTHORIZED INSPECTION REQ'D. ☐ YES ☒ NO

ITEM	12. DESCRIPTION LIST IN ORDER: NO. PCS., DWG/SPEC REQMT., PRESENT CONDITION	16. FIELD ENGR DECISION	17. ☐ FIELD RECOMMENDED DISPOSITION ☐ ENGINEER CONCURRENCE REQ'D ☐ ENGINEER DISPOSITION REQ'D.
<i>1</i>	<i>Dwg. 13-C-ZAS-561 Shows Platform A-C-6. Spec 13-CM-320 Sect. 11.0 in Strength Bolted Joints. States in Installation shall be in accordance w/ AISC Spec. for Structural Joints using ASTM A325 or A490 Bolts.</i>		
<i>1</i>	<i>Two structural Joints in a W12x31 using A325 bolts were found to have loose bolts, 1 Bolt in a 3 Bolt connection, and 4 Bolts in a 6 Bolt connection.</i>		

13. REPORTED BY: <i>C. Collins</i>	15. INSPECTION/VALIDATION/REVIEW DATE <i>10/1/63</i>	15A. REPORTABILITY EVALUATION: NOT REPORTABLE: ☐ OR DER NO. _____	REVIEWERS: R/E _____ QA _____ DATE _____
19. ACCEPTANCE OF REWORK/REPAIR ☐ QC ENGR _____ ☐ FIELD ENGR _____	AUTHOR. INSP. _____ DATE _____	18. DISPOSITION CONCURRENCE PROJ FIELD ENGR _____ GROUP SUPV _____ AUTHORIZED INSPECTOR _____	NUCLEAR GROUP SUPV _____ PROJ ENGR _____ QA ENGR _____
11. ASSUMED CAUSE OF DISCREPANCY <i>Contractor Error</i>		DATE _____	
INITIATOR: <i>C. Collins</i> DATE <i>9-8-63</i>		DATE _____	

#163

194 (10407) 12/81

(A7)

STATUS: AA

VENDOR: #1111

LINE NUCLEAR GENERATING STATION

NONCONFORMANCE REPORT

NO. PA-7140 PAGE 1 OF 1

MO DAY YR 4 10 83	3. DRAWING/PART NO. B3S-ZAS 535	REV 5	4. ITEM DESCRIPTION Pne Racks B75 and B79	5. ITEM LOCATION Aux Bldg 88'
7. STARTUP SYSTEM NO. A10	8. SERIAL NO. N/A	9. SUBCONTRACTOR/SUPPLIER/BECHTEL Machione		
10. P.O. OR SPEC NO. 13CM131(22)		11. ASME AUTHORIZED INSPECTION/REQ'D YES ☐ NO ☒		
12. FIELD RECOMMENDED DISPOSITION ☐ FIELD RECOMMENDED ☐ ENGINEER DISPOSITION REQ'D.		13. ENGINEER CONCURRENCE REQ'D ☐		

16. FIELD ENGR DECISION	17. FIELD RECOMMENDED DISPOSITION
1. WORK B75 requires a 5/16" fillet for attachment of particle member to horizontal member. The following welds are attached in the attached sketch.	
2. Tape rack B79 requires a 5/16" fillet for attachment of particle member to horizontal member. The following welds are attached in the attached sketch.	
3. Inspection/Validation/Review Date	

15A. REPORTABILITY EVALUATION: ☐ NOT REPORTABLE: ☐ OR ☒ DER NO. 79-10

15B. DISPOSITION CONCURRENCE

15C. REVIEWERS

R/E	QA	DATE
3/12/83		

16. DISPOSITION CONCURRENCE

NUCLEAR GROUP	SUPV	DATE
PROJ FIELD ENGR	DATE	
GROUP SUPV	DATE	
AUTHORIZED INSPECTOR	DATE	

14. ASSUMED CAUSE OF DISCREPANCY

Vendor Error

INITIATOR *J. Plach* DATE 9-10-83

CONTINUATION SHEET

PALO VERDE NUCLEAR GENERATING STATION

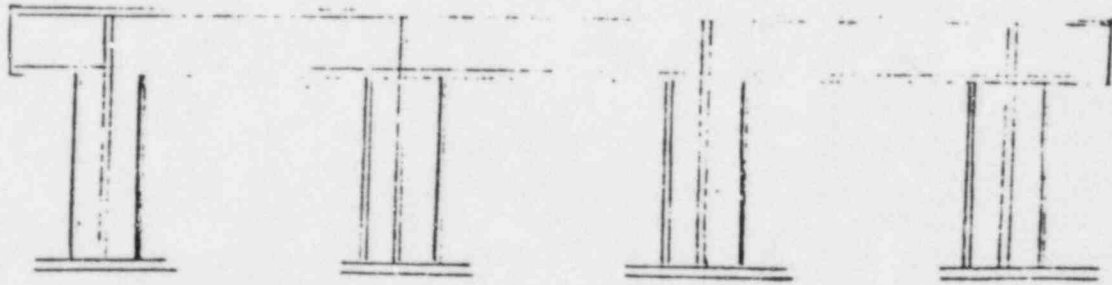
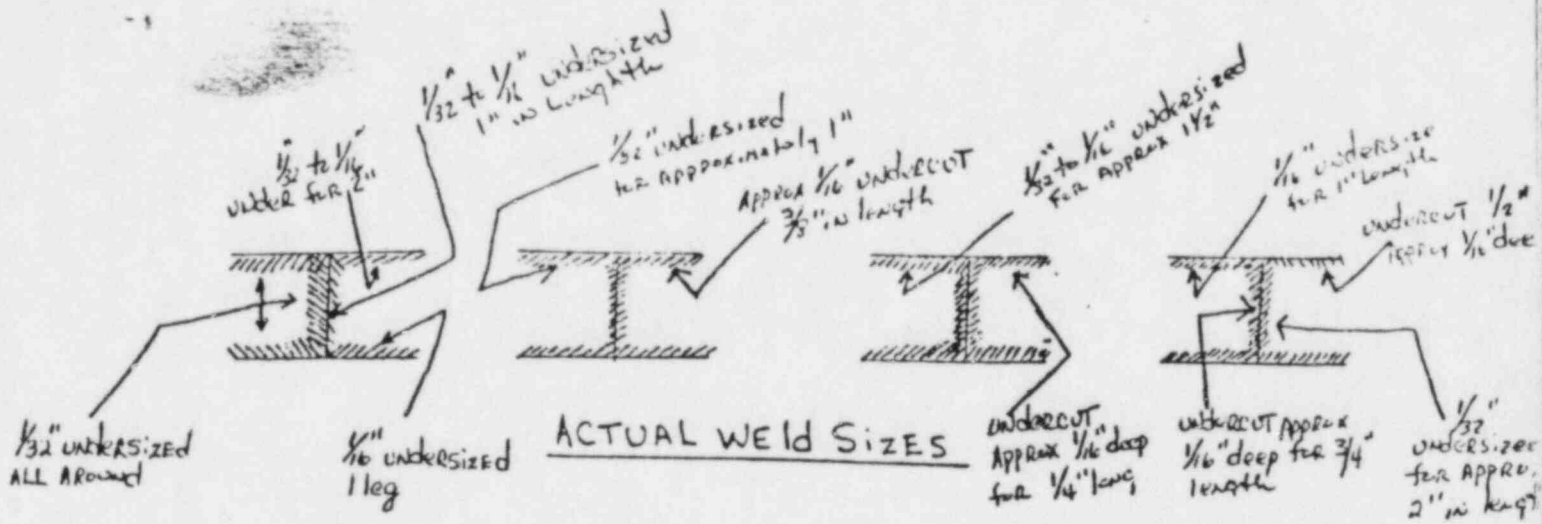


NONCONFORMANCE REPORT

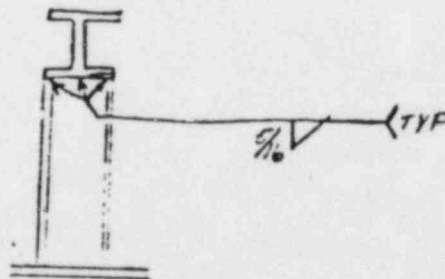
NO. PA-7140

PAGE 3 OF 4

UNIT	2. MO DAY YR	3. DRAWING/PART NO.	REV	4. ITEM DESCRIPTION	5. ITEM LOCATION
006	9/10/83	13-S-ZAS 535	15	Pipe Racks	Aux Bldg 88'
1. DESCRIPTION LIST IN ORDER NO PCS DWG/SPEC REQMT. PRESENT CONDITION	16. FIELD ENGR DECISION	17. ☐ FIELD RECOMMENDED DISPOSITION ☐ ENGR DISPOSITION REQ'D ☐ ENGINEER CONCURRENCE REQUIREMENT			
1. Patch were found to be uninjured. (See Attached sketch) Four areas of undercut of approximately 1/16" in depth were noted.					

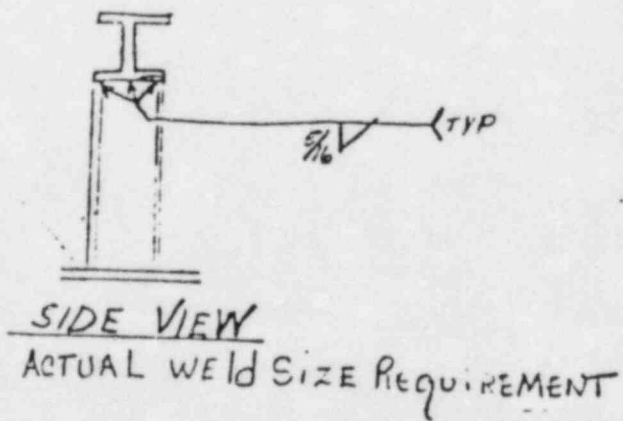
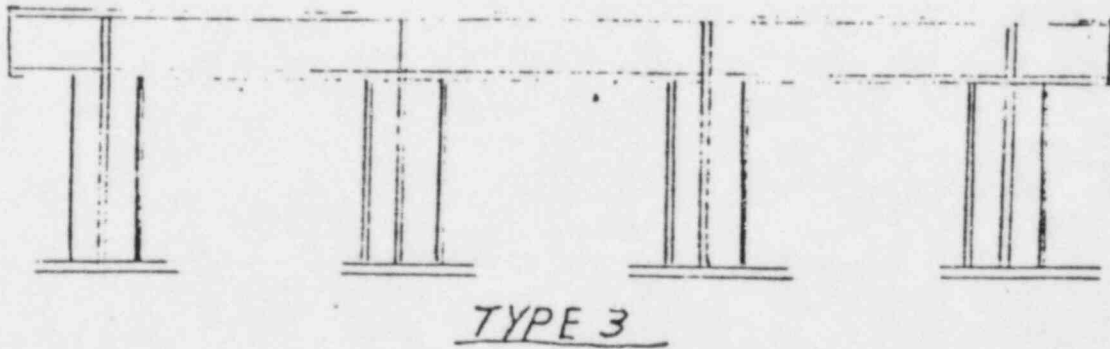
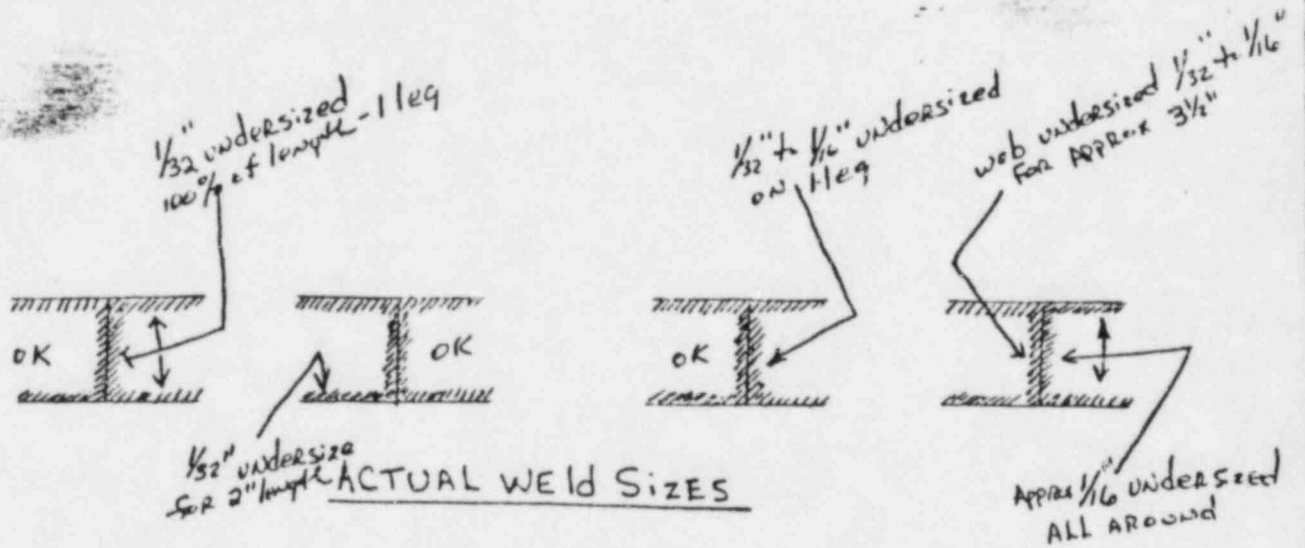


TYPE 3



SIDE VIEW
ACTUAL WELD SIZE REQUIREMENT

RACK B-79



Rack B-75

NONCONFORMANCE REPORT

2. MO DAY YR 4 19 83	3. DRAWING/PART NO. 13-SI-100-H-006, 13-SI-100-H-007	REV. 4 4	4. ITEM DESCRIPTION PIPE SUPPORT	5. ITEM LOCATION Aux. Bldg.	6. Q CLASS G13
7. STARTUP SYSTEM NO. SI-09	8. SERIAL NO. N/A	9. SUBCONTRACTOR/SUPPLIER/BECHTEL BECHTEL		10. P.O. OR SPEC NO. 13-PH-204-11	11. ASME AUTHORIZED INSPECTION REQ'D DAVES - 12055

ITEM	12. DESCRIPTION LIST IN ORDER: NO PCS, DWG/SPEC REQMT., PRESENT CONDITION	15. FIELD ENGR DECISION	17. ☒ FIELD RECOMMENDED DISPOSITION ☐ ENGINEER DISPOSITION REQ'D	ENGINEER CONCURRENCE REQ'D
1.	B-S1-106-H-007 IS THE HISC STEEL	REMOVED 8/10/83	REMOVE FROM PROJECT 10/14/83 FIELD TO REMOVE CONCURRENCE 8/5/83	AS

FOR 15-51-100-4-006, ITEM "C" 4 - PAK	REMARKS RETURN IN SKETCH "A". CC. 5/1/83
---------------------------------------	--

15 x 1.6-4" WAS NOT INSTALLED PER

THE DESIGN DW'G. SEE "AS-BUILT"

CONDITION BELOW: R 13-51-106-H-007

800-1-101-111-111

FIELD TO
REMOVE THOSE

SECTION B.B

EXISTING WGS

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(A)	CLAN	FIELD IS HIGH TO TAKE VIEW A $\frac{3}{8}$ "
-----	------	--

ALL FOUR ITEM "S" WERE INSTALLED ON	STIM DATE BETWEEN THE REMAINING TWO
-------------------------------------	-------------------------------------

13-SI-106-H-007	INSTEAD OF TWO BARS AT	REPORTABLE: ☐	NOT REPORTABLE: ☐	R/E <i>W. H. H. H.</i>	REVIEWERS <i>W. H. H. H.</i>	ISA. REPORTABILITY EVALUATION:
-----------------	------------------------	--------------------------------------	--	------------------------	------------------------------	--------------------------------

13. REPORTED BY: STEPHEN JOHNSZ

15. INSPECTION/VALIDATION/REVIEW DATE: 4/19/83

OR ☐ QA 4/19/83

DER NO. 83-29 ✓

19. ACCEPTANCE OF REWORK/REPAIR	0-54-53 R. J. [Signature]	AUTHOR.	8-25-63	DISPOSITION CONCURRENCE	J. F. 1-1-1	NUCLEAR
---------------------------------	------------------------------	---------	---------	-------------------------	-------------	---------

ENGINEER	<i>[Signature]</i>	DATE	<i>5/17/83</i>
INSPECTOR	<i>[Signature]</i>	DATE	<i>5/17/83</i>
PROJECT FIELD ENGINEER	<i>[Signature]</i>	DATE	<i>5/17/83</i>
SUPV	N/A	(IF REQUIRED)	DATE
GROUP			

GROUP SUPV 5/17/83 5/17/83 W. F. Fitch
PROJ ENGR

DATE 5-12-13
DATE
AUTHORIZED *RP* 5-17-13 QA *RP*

INITIATOR Stephen J. [Signature] DATE 4-19-83

INSPECTOR [Signature] DATE 4/19/83 ENGR [Signature] DATE 4/19/83

CONTINUATION SHEET

RETENTION TIME LT YRS.

PALO VERDE NUCLEAR GENERATING STATION



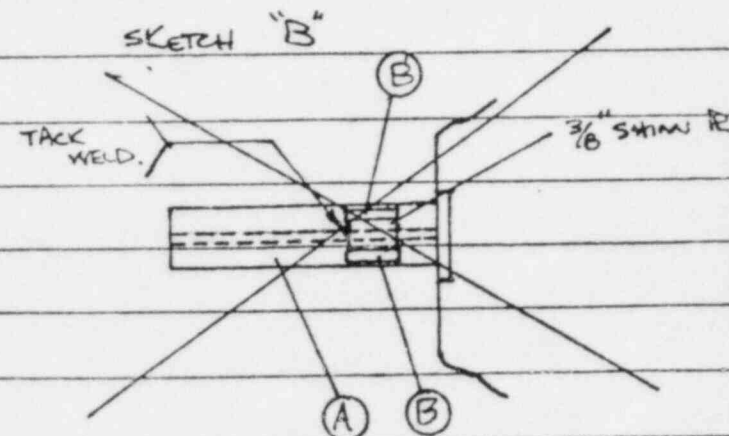
NONCONFORMANCE REPORT

NO PA-6143

PAGE 2 OF 2

EC 5/17/83
24-17
3 EC

1. UNIT	2. MO DAY YR	3. DRAWING PART NO	REV	4. ITEM DESCRIPTION	5. ITEM LOCATION
ONE	4 19 83	13-SI-100-H-006 13-SI-106-H-007	4 4	PIPE SUPPORT	Aux. Bldg.
12. DESCRIPTION LIST IN ORDER NO PCS DWG SPEC REQMT PRESENT CONDITION	16. FIELD ENGR DECISION	17. ☐ FIELD RECOMMENDED DISPOSITION ☐ ENGR DISPOSITION REQ'D ☐ ENGINEER CONCURRENCE REQUIREMENT			
EACH HANGER LOCATION.		EUGS. (AS SHOWN IN SKETCH B)			
2. THERE IS A $\frac{3}{8}$ " CLEARANCE BETWEEN THE BOTTOM OF ITEM "31", P $\frac{1}{4} \times 4 \times 0'-4"$, AND THE TOP OF ITEM "A", W8x31x2'-9", ON 13-SI-106-H-007.		FIELD TO COMPLETE THE INSTALLATION OF 13-SI-106-H-007 FOR THE DESIGN DRAWING. WELDING AND NDE PER FORM 84E. QCE TO VERIFY WELDING PER THE DESIGN DRAWING. FIELD TO USE THE FOLLOWING WELD #S. EC 5/21/83			
ENGINEER DISPOSITION CONCURRENCE					
1/3 7/5/17/83					
RE					
AI					
QA					



CONTINUATION SHEET

RETENTION TIME LT YRS

SIDE NUCLEAR GENERATING STATION



NONCONFORMANCE REPORT

NO. PA-6143

PAGE 3 OF 3

NO DAY YR

5 21 83

3. DRAWING/PART NO.

13-SI-106-H-006

13-SI-106-H-007

REV

4 4

4. ITEM DESCRIPTION

PIPE SUPPORT

5. ITEM LOCATION

AUX BLDG.

12. DESCRIPTION
LIST IN
ORDER: NO. PCS., DWG/SPEC REQMT., PRESENT CONDITION

16. FIELD
ENGR
DECISION

REPAIR

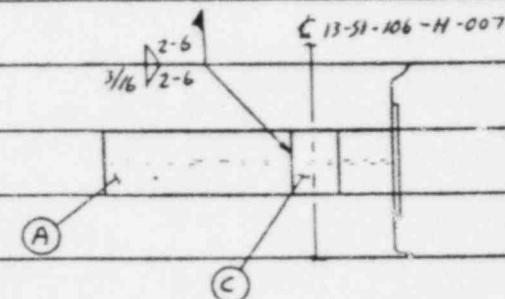
17. ☒ FIELD RECOMMENDED DISPOSITION ☐ ENGR DISPOSITION REQ'D
☐ ENGINEER CONCURRENCE REQUIREMENT

REVISED DISPOSITION 5-21-83
FIELD TO REMOVE ALL EXISTING LUGS
(ITEM "B") BY GRINDING.

FIELD TO THEN FAB 3/8" FILLER PLATE AND
INSTALL AS SHOWN BELOW

ADD

(C) 1-R 3/8 X 6" X 0'-8" Lg



PLAN VIEW

FIELD TO THEN COMPLETE THE INSTALLATION
OF 1-SI-106-H-007 PER THE LATEST REV
OF THE DESIGN DWG.

WELDING & N.D.E. PER LATEST REV OF FORM-84C
QCE TO VERIFY WELDING.

PROJ
FIELD ENGR. Timothy Hout

GROUP
SUPV J. M. J.

AUTHORIZED
INSPECTOR R. R. R.

DATE 5/21/83

DATE 5/23/83

DATE 5-23-83

NUCLEAR
GROUP
SUPV

PROJ
ENGR H. J. J.

QA
ENGR L. J. J.

N/A

DATE 5/23/83

DATE 5/23/83

REV. 2	PALO VERDE NUCLEAR GENERATING STATION UNITS 1, 2 & 3 CONSTRUCTION INSPECTION PLANNING FOR STRUCTURAL AND MISCELLANEOUS STEEL JOB NO. 10407	PAGE <u>1</u> OF <u>1</u> WPP/QCI NO. 58 G
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Aux BLDG - #1 - AC-AFE@A1
EL. 51'6"

1. UNIT NO. ONE 2. STRUCTURE/LOCATION/ELEVATION: _____

3. DESCRIPTION: A-C-6 PLATFORM 4. DATE: 7/14/80

5. DOCUMENTS: F-PGD/V-VENDOR/S-SPEC

☒ <u>13-CM-320</u> ☒ <u>13-C-ZAS-581</u> ☐ _____ ☐ _____ ☐ _____	REV <u>6</u> CC <u>\$</u> <u>15</u> '81 <u>7</u>	DCN/SCN/FCR/NCR - NUMBERS <u>N/A</u> <u>N/A</u>
---	--	---

6. QUALITY CLASS: Q

7. TASK NO.	8. DESCRIPTION	9. SURVEY		10. FE		11. QCE			
		INITIAL	DATE	INITIAL	DATE	STAMP	DATE		
7.1 CONFIGURATION	COLUMNS	<i>[Signature]</i>	7/14/80	RB	7-14	N/A cc	7/17/80		
	BASE PLATE	<i>[Signature]</i>	7/14/80	RB	7-14	N/A cc	7/17/80		
	STRUCTURAL BEAMS	<i>[Signature]</i>	7/14/80	RB	7-14	<i>[Stamp]</i>	7/17/80		
	MISCELLANEOUS BEAMS	<i>[Signature]</i>	7/14/80	RB	7-14	N/A cc	7/17/80		
	BRACING	<i>[Signature]</i>	7/14/80	RB	7-14	<i>[Stamp]</i>	7/17/80		
	DECKING			RB	7-14	N/A cc	7/17/80		
	HAND RAILS			RB	7-14	N/A cc	7/17/80		
	OTHER	RB	7-14	NA	NA	N/A cc	7/17/80		
7.2 COLUMN BEARING PLATE GROUTED				RB	7-14	N/A cc	7/17/80		
7.3	BOLTED CONNECTIONS	TURN OF THE NUT METHOD				RB	7-14	<i>[Stamp]</i>	7/17/80
7.4		CALIBRATED WRENCH METHOD				RB	NA	N/A cc	7/17/80
7.5 WELDED CONNECTIONS				RB	6-11-81	<i>[Stamp]</i>	6/12/81		

12. REMARKS:

N/A

JUN 15 1981

78 Chuck Collaps.

Loose Bolt



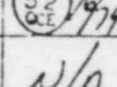
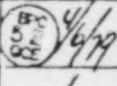
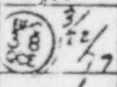
RDE NUCLEAR GENERATION PLANT
CONSTRUCTION INSPECTION PLANNING FOR
NUCLEAR PIPE SUPPORT
JOB NO. 10407

Q 1192

APP. SCI
NO. 2011

REV 6

1. TAG NUMBER 1-S-2AS-535-075 2. SUPPORT DWG NO. 13-S-2AS-535
REV NO. 2 FCR NO(S) 247AP-1, 3192P-1 DCN NO(S) N/A
1303, 1349, 1347 783-P-2774-P
3. SPEC NO. 13-P-204 REV 5 SCN NO(S) 1209, 1449, 1470 FCR NO(S) 2508-P-2786-1
1490 3408-P
4. UNIT NUMBER/BUILDING H 1/BOX 5. QUALITY CLASS Q ASME ☐

6. TASK NO.	7. INSPECTION REQUIREMENTS	8. INSPECTION METHOD FE/QCE	9. PS/SAFE INITIAL DATE	QCE STAMP DATE	10. AI STAMP DATE
1.0	SUPPORT ASSEMBLY CORRECT PER APPROVED ENGINEERING DRAWINGS AND SPECIFICATION.	MONITOR/VERIFY	5/21/79		
2.0	SUPPORT ATTACHMENT CORRECT TO STRUCTURE.	MONITOR/VERIFY	3/21/79		
3.0	CORRECT PIPE SUPPORT LOCATION.	MONITOR/VERIFY	3/21/79		
4.0	GROUTING AND DOCUMENTATION COMPLETE	MONITOR/VERIFY	N/A	N/A	
5.0	SPRING SUPPORTS HAVE TRAVEL STOPS INSTALLED ON COLD SETTINGS.	MONITOR/VERIFY	N/A	N/A	
6.0	TEMPORARY AND VOIDED WELDED ATTACHMENTS REMOVED.	MONITOR/VERIFY	3/21/79		
7.0	MECHANICAL SNUBBERS INSTALLED WITH CORRECT COLD SETTINGS.	MONITOR/VERIFY	N/A	N/A	
8.0	WELDING COMPLETE	REVIEW			
9.0	CONCRETE ANCHORS INSTALLED AND DOCUMENTATION COMPLETE	MONITOR REVIEW	3/21/79	N/A	

11. NCR NUMBER(S): _____

12. REMARKS:

1. NO AS-KUICK REV'D
2. THE ABOVE FCR'S DO NOT PERTAIN TO THIS SUPPORT

BFC
20
QAR

13. QCE REVIEW



DATE

4/6/79

14. AI REVIEW



DATE

4/6/79

#168

CONSTRUCTION INSPECTION PLAN
NUCLEAR PIPE SUPPORT
JOB NO. 10407

41

WFF CC
NO. 2111

REV 6

1. TAG NUMBER 1-E-2AS-535-079 2. SUPPORT DWG NO. 12-S-2AS-535
REV NO. 2 FCR NO(S) 2496-P, 2197-P DCN NO(S) N/A
1300, 1349, 1377 783-P, 2194-P
3. SPEC NO. 13-PM-204 REV 5 SCN NO(S) 1399, 1449, 1470 FCR NO(S) 2508-P, 2756-P
1490 3408
4. UNIT NUMBER/BUILDING #1/BOX 5. QUALITY CLASS Q ASME ☐

6. TASK NO.	7. INSPECTION REQUIREMENTS	8. INSPECTION METHOD FE/QCE	9. PSAFE INITIAL DATE	QCE STAMP DATE	10. AI STAMP DATE
1.0	SUPPORT ASSEMBLY CORRECT PER APPROVED ENGINEERING DRAWINGS AND SPECIFICATION.	MONITOR/VERIFY	X 2/27/79	(BFC 5.2 QCE) 3/1/79	
2.0	SUPPORT ATTACHMENT CORRECT TO STRUCTURE.	MONITOR/VERIFY	X 2/27/79	(BFC 5.2 QCE) 3/1/79	
3.0	CORRECT PIPE SUPPORT LOCATION.	MONITOR/VERIFY	X 2/27/79	(BFC 5.2 QCE) 3/1/79	
4.0	GROUTING AND DOCUMENTATION COMPLETE	MONITOR/VERIFY	N/A	N/A	
5.0	SPRING SUPPORTS HAVE TRAVEL STOPS INSTALLED ON COLD SETTINGS.	MONITOR/VERIFY	N/A	N/A	
6.0	TEMPORARY AND VOIDED WELDED ATTACHMENTS REMOVED.	MONITOR/VERIFY	X 2/27/79	(BFC 5.2 QCE) 3/1/79	
7.0	MECHANICAL SNUBBERS INSTALLED WITH CORRECT COLD SETTINGS.	MONITOR/VERIFY	N/A	N/A	
8.0	WELDING COMPLETE OK Qs 3/1/79	REVIEW		(BFC 5.2 QCE) 3/5/79	
9.0	CONCRETE ANCHORS INSTALLED AND DOCUMENTATION COMPLETE	MONITOR REVIEW	N/A	N/A	

11. NCR NUMBER(S): _____

12. REMARKS

① NO AS POINT "REQUIRED"
② THE ABOVE F.C.R.'S DO NOT PERTAIN TO THIS SUPPORT
According to AWS D1.1 1/32" is not allowed without
Marathon Steel

J. Paechael #38



13. SLE REVIEW

DATE

3/21/79

14. AI REVIEW

DATE

3/21/79