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September 21, 1983
ANPP-27853-BSK/RQT

U. S. Nuclear Regulatory Commission
Region V
Creekside Oaks Office Park
1450 Maria Lane - Suite 210
Walnut Creek, CA 94596-5368

Attention: Mr. D. M. Sternberg, Chief
Reactor Projects Branch 1

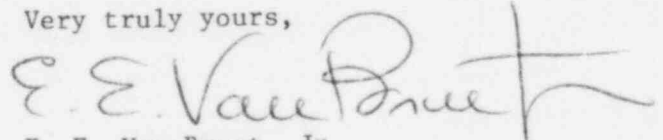
Subject: Final Report - DER 83-25
A 50.55(e) Report Relating To Instrumentation Tubing Does Not
Have A Boundary Class Break As Required
File: 83-019-026; D.4.33.2

Reference: (A) Telephone Conversation between P. Narbut and G. Duckworth
on April 21, 1983
(B) ANPP-23911, dated May 26, 1983 (Interim Report)
(C) ANPP-24229, dated July 1, 1983 (Time Extension)
(D) ANPP-27592, dated August 19, 1983 (Time Extension)

Dear Sir:

Attached is our final written report of the deficiency referenced above,
which has been determined to be Not Reportable under the requirements of
10CFR50.55(e).

Very truly yours,



E. E. Van Brunt, Jr.
APS Vice President,
Nuclear Projects Management
ANPP Project Director

EEVB/RQT:sn

Attachment

cc: See Attached Page 2

Mr. D. M. Sternberg
DER 83-25
Page 2

cc: Richard DeYoung, Director
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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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FINAL REPORT - DER 83-34

DEFICIENCY EVALUATION 50.55(e)

ARIZONA PUBLIC SERVICE COMPANY (APS)

PVNGS UNITS 1, 2 and 3

I. CONDITION DESCRIPTION

Specification 13-JM-715 establishes design specifications for nuclear service instrument lines and supports. Per the bottom two figures of specification Attachment A-2-Sheet-1, Revision 3 (see DER Attachment 1), a class break consisting of either a normally closed root valve or an excess flow check valve is required for instrument tubing lines connecting Quality Class Non-Q instruments to ASME Class 2 or 3 process lines. Contrary to this requirement, a review of the Project Instrument Index (Bechtel Dwg. 13-J-ZZI-001) and associated Piping and Instrumentation Diagrams showed Quality Class Non-Q instruments on ASME Class 2 and 3 process lines with no automatic shutoff device installed. A complete list of these occurrences, derived via cross-checking of the Index and the Construction Information Package, is documented in Block 12 of Nonconformance Report JX-907 (DER Attachment 2).

II. ANALYSIS OF SAFETY IMPLICATIONS

The itemized cases in Nonconformance Report JX-907 have been evaluated for safety significance by Bechtel's Controls Systems discipline. These cases fall under one of the three following categories:

- 1) The Quality Class Non-Q instrument is identical to a Quality Class Q instrument, but was not purchased under a Quality Class Q specification and is designated Rp (qualified for pressure boundary).
- 2) The Quality Class Non-Q instrument tubing line has a normally closed instrument valve located between a normally open root valve and the instrument itself. The entire tubing line, including the normally closed instrument valve, is ASME Class 2
- 3) The Quality Class Non-Q instrument tubing line has a restriction orifice in lieu of an excess flow check valve. Calculation 13-JC-ZZ-009 shows that the make-up capacity of the particular process line system is greater than the fluid loss resulting from a line break between the restriction orifice and the Non-Q instrument.

For each of the above cases, the instrument and/or the tubing line (with appurtenances) is compatible with the ASME Class 2 or 3 process lines. Thus, if left uncorrected, the safety of operations of the plant would not be adversely affected during the lifetime of the plant. This condition is therefore not reportable under the requirements of 10CFR50.55(e).

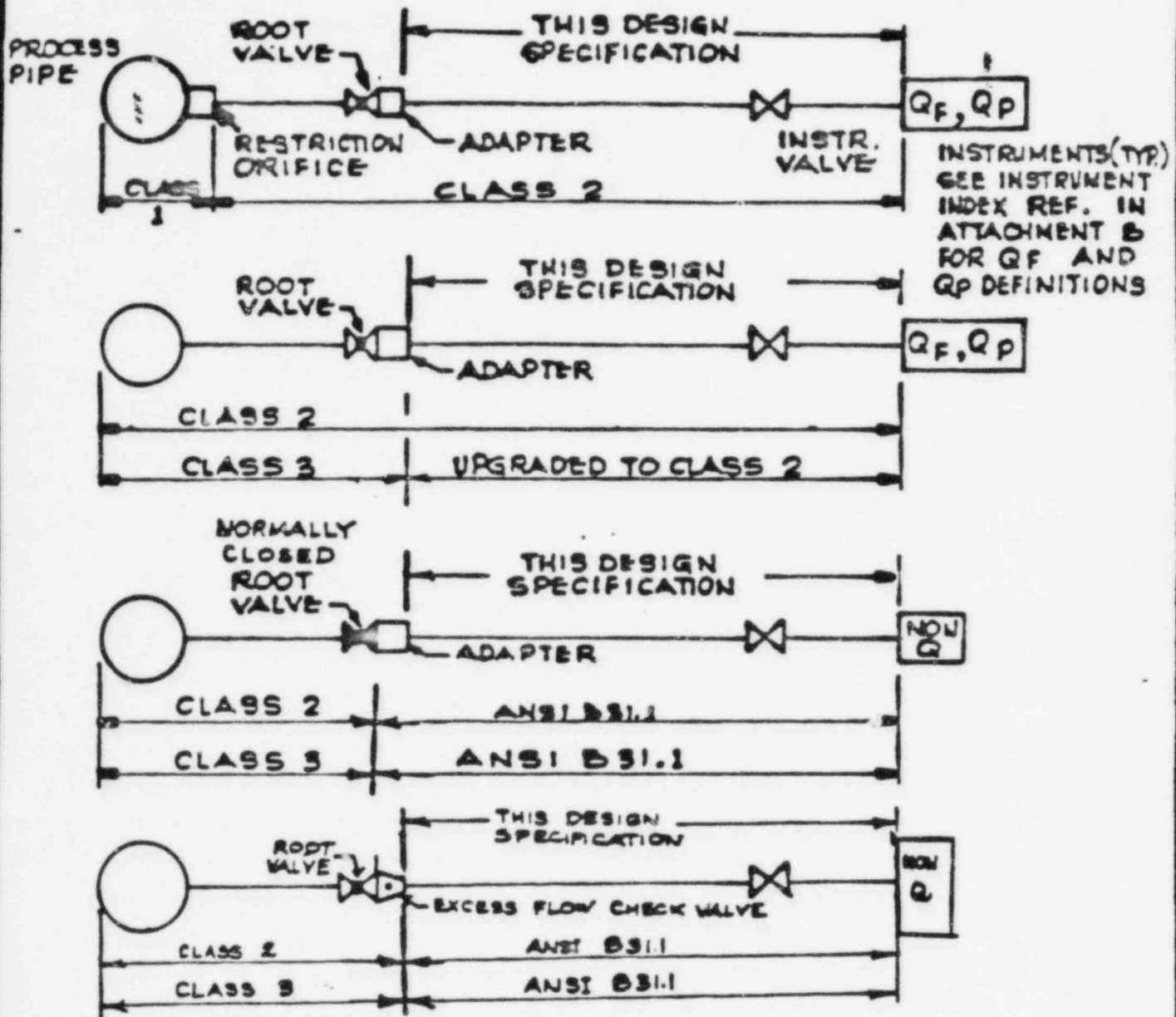
III. CORRECTIVE ACTION

- 1) Specification Change Notices 3432 and 3451 have been issued against Specification 13-JM-715, revising Attachment A-2-Sheet-1 to Revision 4, which redefines the requirements for Quality Class Non-Q instruments on ASME Class 2 and 3 process lines. The revised specification Attachment A-2-Sheet-1, Revision 4 is included in this Deficiency Evaluation Report as (DER Attachment 3) for information.
- 2) The final disposition for Nonconformance Report JX-907 will be "Use as is". The appropriate figure on the revised specification Attachment A-2-Sheet-1 (DER Attachment 3) is indicated in Block 16 of the attached copy of Nonconformance Report JX-907 (DER Attachment 2) for the disposition of each individual item.
- 3) Rp designation has been added in the Instrument Index to all Quality Class R items capable of maintaining pressure boundary integrity.
- 4) Bechtel's Controls Systems discipline has determined that no additional conditions of this type exist.

ATTACHMENTS

- 1) Specification 13-JM-715 Attachment A-2-Sheet-1, Revision 3
- 2) Nonconformance Report JX-907
- 3) Specification 13-JM-715 Attachment A-2-Sheet-1, Revision 4

A. SUMMARY OF CLASSIFICATION/ BOUNDARIES



NOTES:

1. WELD ADAPTERS WITH RESTRICTION ORIFICE FEATURE FURNISHED PER SPEC 13-JM-710B ARE CLASS 2.
2. EXCESS FLOW CHECK VALVES FURNISHED PER SPEC 13-JM-705 ARE CLASS 2.
3. WELDING OF ADAPTER WITH RESTRICTION ORIFICE FEATURE OR EXCESS FLOW CHECK VALVE TO A NORMALLY OPEN ROOT VALVE SHALL BE PER ASME III



ARIZONA NUCLEAR POWER PROJECT
PALO VERDE NUCLEAR
GENERATING STATION

ASME SECTION III
JURISDICTIONAL BOUNDARIES FOR
INSTRUMENT TUBING LINES

SPECIFICATION	ANSI NO.	ATTACHMENT	REV.
13-JM-715	10487	A-2-SHEET 1	3

STATUS: AAVENDOR: HBA

PALO VERDE NUCLEAR GENERATING STATION				NONCONFORMANCE REPORT		NO. <u>907</u>		PAGE <u>1</u> OF <u>1</u>	
1. UNIT 1	2. MO DAY YR 3 31 83	3. DRAWING/PART NO. N/A	REV. N/A	4. ITEM DESCRIPTION Non-"Q" Instruments	5. ITEM LOCATION Unit 1				
6. Q CLASS Q	7. STARTUP SYSTEM NO. SEE BLOCK 12	8. SERIAL NO. N/A	9. SUBCONTRACTOR/SUPPLIER/BECHTEL BECHTEL		10. P.O. OR SPEC NO. 13-JM-715 Rev3	11. ASME AUTHORIZED INSPECTION REQ'D. ☒ YES ☐ NO			
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.						
The following instruments are not quality class									
"Q" (as referenced in the Instrument index									
13J-ZZI-001), but they are installed in quality									
class "Q" systems using quality class "Q"									
installation details. No excess flow check									
valves or other flow restriction devices have									
been used. This is an apparent violation of									
13-JM-715. The instrument quality class (as									
listed in 13J-ZZI-001) and the start-up sub-									
system are listed adjacent to the instrument									
tag number starting on page 2.									
13. REPORTED BY: J. Iverson	15. INSPECTION/VALIDATION/REVIEW DATE <u>A.H. Roach</u> 4-5-83								
19. ACCEPTANCE OF REWORK/REPAIR			18. DISPOSITION CONCURRENCE						
☐ QC ENGR _____ AUTH. INSP _____ DATE _____			15A. REPORTABILITY EVALUATION: NOT REPORTABLE: ☐ OR DER NO. <u>83-25</u> ☒			REVIEWERS: R/E <u>A. J. [Signature]</u> QA <u>A.H. Roach</u> DATE <u>4/5/83</u>			
☐ FIELD ENGR _____ DATE _____			PROJ FIELD ENGR _____ DATE _____			NUCLEAR GROUP SUPV _____ DATE _____ (IF REQUIRED)			
14. ASSUMED CAUSE OF DISCREPANCY ENGINEERING ERROR			GROUP SUPV _____ DATE _____			PROJ ENGR _____ DATE _____			
INITIATOR <u>[Signature]</u> DATE <u>3/3/83</u>			AUTHORIZED INSPECTOR _____ DATE _____			QA ENGR _____ DATE _____			

CONTINUATION SHEET

PALO VERDE NUCLEAR GENERATING STATION



NONCONFORMANCE REPORT

JX 907

PAGE 2 OF 1

1. UNIT 1	2. MO DAY YR 3 31 83	3. DRAWING/PART NO. NA	REV NA	4. ITEM DESCRIPTION Non-"Q" Instruments	5. ITEM LOCATION UNIT 1
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			
TAG NO. QUALITY CLASS SUB-SYSTEM					
1. 1J-AFN-PSL-023 R20 AF01	FIG 7				
2. 1J-CHN-PT-201 R1E CH13	3				
3. 1J-CHN-PI-201-1 R10 CH13	4				
4. 1J-CHN-FT-202 R1E CH13	3				
5. 1J-CHN-FI-202-2 R10 CH13	4				
6. 1J-CHN-PT-206 R1E CH02	3				
7. 1J-CHN-PI-206-1 R10 CH02	4				
8. 1J-CHN-PT-207 R1E CH02	3				
9. 1J-CHN-PI-207-1 R10 CH02	4				
10. 1J-CHN-PT-220 R1E CH13	3				
11. 1J-CHN-PT-221 R1E CH03	3				
12. 1J-CHN-LT-226 R1E CH03	3				
13. 1J-CHN-LT-227 R1E CH03	3				
14. 1J-CHN-LI-227-1 R10 CH03	4				
15. 1J-CHN-LT-251 R1E CH08	3				
16. 1J-CHN-PT-251 R1E CH08	3				
17. 1J-CHN-PT-255 R1E CH12	3				
18. 1J-CHN-PI-255-1 R10 CH12	4				

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PALO VERDE NUCLEAR GENERATING STATION



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PAGE 3 OF 1

1. UNIT 1	2. MO DAY YR 3 31 83	3. DRAWING/PART NO. NA	REV NA	4. ITEM DESCRIPTION Non-"Q" Instruments	5. ITEM LOCATION UNIT 1
17. FIELD ENGR DECISION	17. ☐ FIELD RECOMMENDED DISPOSITION ☐ ENGR DISPOSITION REQ'D ☐ ENGINEER CONCURRENCE REQUIREMENT				
19. 1J-CHN-PT-256 R1E CH12	FIG. 3				
20. 1J-CHN-PI-256-1 R10 CH12	4				
21. 1J-ECN-PDT-009 S30 EC01	3				
22. 1J-ECN-PDT-010 S30 EC02	3				
23. 1J-EWN-PSH-007 R30 EW01	7				
24. 1J-EWN-PSH-008 R30 EW02	7				
25. 1J-EWN-PI-009 S30 EW01	7				
26. 1J-EWN-PI-010 S30 EW02	7				
27. 1J-EWN-PSL-149 R30 EW01	7				
28. 1J-EWN-PSL-150 R30 EW02	7				
29. 1J-RCN-LT-103 R1E RC03	3				
30. 1J-RCN-PT-118 R1E RC01	3				
31. 1J-SIN-PT-303X R1E SI06	3				
32. 1J-SIN-PT-303Y R1E SI06	3				
33. 1J-SIN-PT-306 R1E SI07	3				
34. 1J-SIN-PT-307 R1E SI07	3				
35. 1J-SIN-PT-308 R1E SI09	3				
36. 1J-SIN-PT-309 R1E SI09	3				
37. 1J-SIN-LT-312 R1E SI02	Y 3				

CONTINUATION SHEET

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NONCONFORMANCE REPORT

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1. UNIT	2. MO	3. DAY	4. YR	5. DRAWING/PART NO.	6. REV	7. ITEM DESCRIPTION	8. ITEM LOCATION
1	3	31	83	NA	NA	Non-"Q" Instruments	Unit 1
9. I T E M	10. DESCRIPTION LIST IN ORDER NO. PCS., DWG/SPEC REQMT., PRESENT CONDITION				11. FIELD ENGR DECISION	12. ☐ FIELD RECOMMENDED DISPOSITION ☐ ENGR DISPOSITION REQ'D ☐ ENGINEER CONCURRENCE REQUIREMENT	
38	1J-SIN-LT-313 RIE SI02				FIG 3		
39	1J-SIN-LT-322 RIE SI02						
40	1J-SIN-LT-323 RIE SI02						
41	1J-SIN-LT-332 RIE SI02						
42	1J-SIN-LT-333 RIE SI02						
43	1J-SIN-PT-336 RIE SI05						
44	1J-SIN-LT-342 RIE SI02						
45	1J-SIN-LT-343 RIE SI02						
46	1J-SIN-PT-345 RIE SI05						
47	1J-SIN-PT-390 RIE RC01						
48	1J-SIN-PT-391 RIE RC01						
49	1J-SPN-PIT-003 R20 SP01						
50	1J-SPN-PIT-004 R20 SP02						
51	1J-SPN-FIT-007 R20 SP01						
52	1J-SPN-FIT-008 R20 SP02						
53	1J-RCN-PDT-110 RIE RC01						
54	1J-RCN-PDT-111 RIE RC01						
55	1J-RCN-PDT-124W RIE RC01						
56	1J-RCN-PDT-112 RIE RC01				Y		

CONTINUATION SHEET

PALO VERDE NUCLEAR GENERATING STATION				NONCONFORMANCE REPORT		NO. <u>JX-907</u>		PAGE <u>5</u> OF <u>7</u>	
1. UNIT	2. MO DAY YR	3. DRAWING/PART NO.	REV	4. ITEM DESCRIPTION	5. ITEM LOCATION				
1	3 31 83	NA	NA	Non-"Q" Instruments	UNIT 1				
ITEM	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				
	57	1J-RCN-PDT-113	R1E		RC01	FIG 3			
58	1J-RCN-PDT-124X	R1E	RC01						
59	1J-RCN-PDT-121	R1E	RC01						
60	1J-RCN-PDT-120	R1E	RC01						
61	1J-RCN-PDT-124Y	R1E	RC01						
62	1J-RCN-PDT-122	R1E	RC01						
63	1J-RCN-PDT-123	R1E	RC01						
64	1J-RCN-PDT-124Z	R1E	RC01						
65	1J-CHN-FT-241	R1E	CH14						
66	1J-CHN-FT-242	R1E	CH14						
67	1J-CHN-FT-243	R1E	CH14						
68	1J-CHN-FT-244	R1E	CH14						
69	1J-RCN-PT-151	R1E	RC02						
70	1J-RCN-PT-152	R1E	RC02						
71	1J-RCN-PT-153	R1E	RC02						
72	1J-RCN-PT-161	R1E	RC02						
73	1J-RCN-PT-162	R1E	RC02						
74	1J-RCN-PT-162 ² 3	R1E	RC02						
75	1J-RCN-PT-171	R1E	RC02	Y					

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PALO VERDE NUCLEAR GENERATING STATION



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1. UNIT 1	2. MO DAY YR 3 31 83	3. DRAWING/PART NO. NA	REV NA	4. ITEM DESCRIPTION Non-"Q" Instruments	5. ITEM LOCATION UNIT 1
17 ITEM	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
76	1J-RCN-PT-172	R1E	RC02	FIG 3	
77	1J-RCN-PT-173	R1E	RC02		
78	1J-RCN-PT-181	R1E	RC02		
79	1J-RCN-PT-182	R1E	RC02		
80	1J-RCN-PT-183	R1E	RC02		
81	1J-SGN-FT-1011	R1E	SF09		
82	1J-SGN-FT-1012	R1E	SF09		
83	1J-SGN-FT-1021	R1E	SF09		
84	1J-SGN-FT-1022	R1E	SF09		
85	1J-SIN-PT-312	R1E	SI02		
86	1J-SIN-PT-319	R1E	RC01		
87	1J-SIN-PT-322	R1E	SI02		
88	1J-SIN-PT-329	R1E	RC01		
89	1J-SIN-PT-332	R1E	SI02		
90	1J-SIN-PT-339	R1E	RC01		
91	1J-SIN-PT-342	R1E	SI02		
92	1J-SIN-PT-349	R1E	RC01		
93	1J-SGN-LT-1121	R1E	SF09		
94	1J-SGN-LT-1122	R1E	SF09	Y	

PALO VERDE NUCLEAR GENERATING STATION

NONCONFORMANCE REPORT

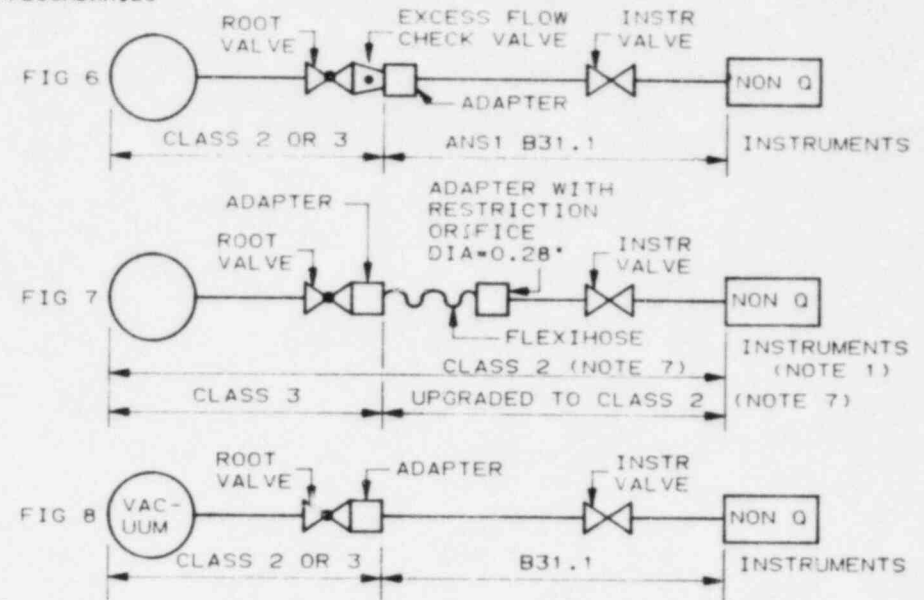
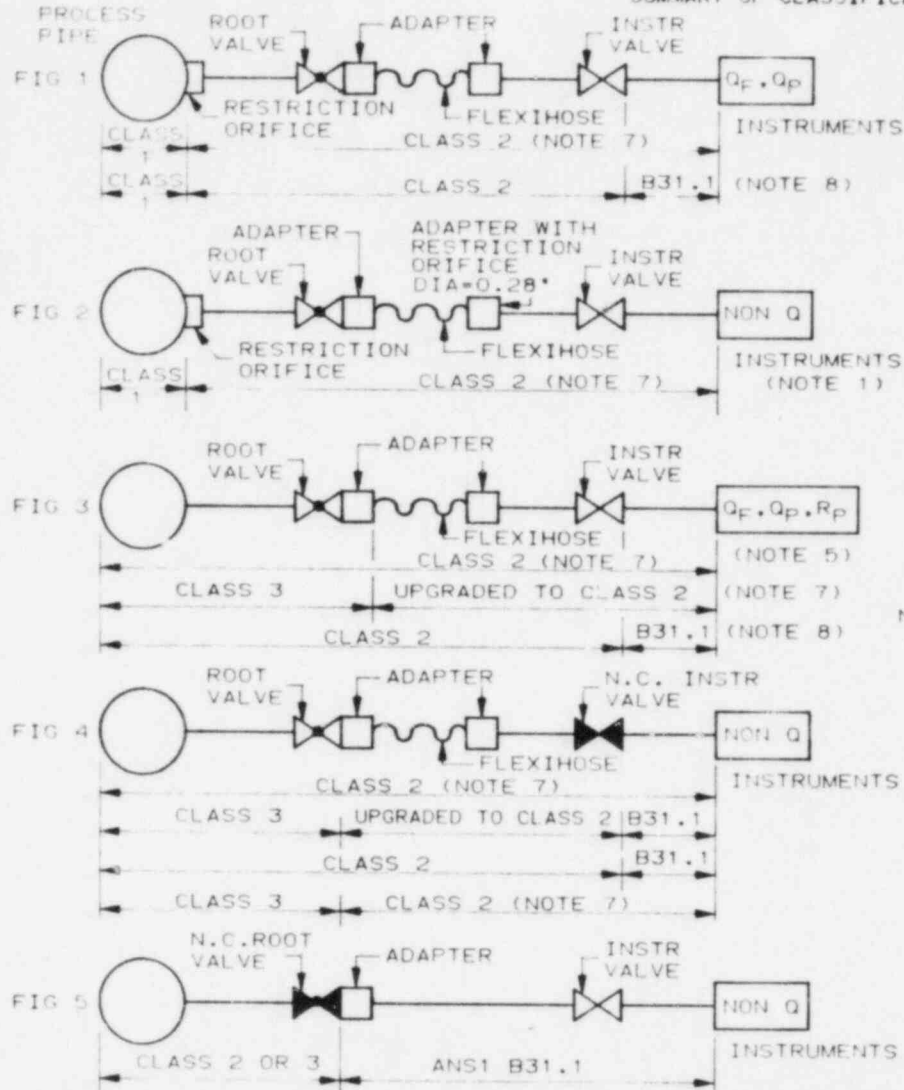
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SUMMARY OF CLASSIFICATION/BOUNDARIES



NOTES:

1. CALC 13-JC-ZZ-009 SHOWS THAT FOR SPECIFIC INSTALLATIONS, MAKE-UP CAPACITY IS GREATER THAN FLUID LOSS DUE TO A LINE BREAK.
2. EXCESS FLOW CHECK VALVES FURNISHED UNDER 13-JM-705 ARE CLASS 2.
3. WELDING OF WELD TO TUBE ADAPTERS OR EXCESS FLOW CHECK VALVES TO NORMALLY OPEN ROOT VALVE SHALL BE PER ASME III.
4. WELD TO TUBE ADAPTERS FURNISHED UNDER 13-JM-710B ARE CLASS 2.
5. R_P INSTRUMENTS MOUNTED AS SEISMIC CAT 1 OR 9.
6. FIG 1 & 3 MAY BE FITTED WITH A CLASS 2 CONDENSATE POT BETWEEN ROOT VALVE & FLEXIHOSE AS REQUIRED.
7. FACTORY HYDROSTATIC TESTING SHALL BE ACCEPTABLE IN LIEU OF IN SITU TESTING FOR THE CLASS 2 TUBING DOWNSTREAM OF THE INSTRUMENT VALVE.
8. TUBING AND VALVE DOWNSTREAM OF INSTRUMENT VALVE SHALL BE PER B31.1 FOR CE FURNISHED INSTRUMENTS MOUNTED IN CE FURNISHED RACKS.



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ARIZONA NUCLEAR POWER PROJECT
PALO VERDE NUCLEAR
GENERATING STATION

ASME SECTION III
JURISDICTIONAL BOUNDARIES FOR
INSTRUMENT TUBING LINES

SCALE	NO. 3	DATE	ATTACHMENT	REV
INCHES MILL 1/8" = 1"	10407	A-2-SHEET 1	4	