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June 27, 1980

1-060-23
2-060-32

Mr. K. V. Seyfrit, Director
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Subject: Arkansas Nuclear One - Units 1 and 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6
IE Bulletin 80-08 - Examination of
Containment Liner Penetration Welds
(File: 1510.1 and 2-1510.1)

Gentlemen:

Following is our response to specific items of IE Bulletin 80-08.

Item 1: "Determine if your facility contains the flued head design for penetration connections, or other designs with containment boundary butt weld(s) between the penetration sleeve and process piping as illustrated in Figure NE 1120-0, Inter 1975 Addenda to the 1974, and later editions of the ASME B&PV Code."

Reply: Both ANO Unit 1 and Unit 2 utilize the flued head design for containment penetrations. All such penetrations are listed in Attachments I and II.

Item 2: If an affirmative answer is reached for Item 1, determine the following:

- a. Applicability of the ASME Code, including year and addenda and/or Regulatory Guide 1.19.
- b. Type of nondestructive examinations performed during construction.

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- c. Type of weld joint (including pipe material and size) and whether or not backing bars were used.
- d. Results of construction nondestructive examinations, i.e., if repairs were required. This should be identified including extent of repairs and description of defects encountered during repair, if known.

- Reply:
- a. The applicable codes indicated on Attachments I and II.
 - b. All flued head penetrations at ANO Unit 1 and Unit 2 were radiographed.
 - c. All welds are butt welds, without backing bars. Material and size information is contained in Attachments I and II.
 - d. See Attachment III and IV.

Item 3: "For those facilities committed during construction to perform volumetric examinations of such penetrations through SAR commitments which have not performed radiography, justify not performing radiography or submit plans and schedules for performing radiographic examinations."

Reply: As stated in response to Item 2b, all such welds at ANO were radiographed. Therefore, this item is not applicable.

As noted in our letter from Mr. J. P. O'Hanlon to Mr. G. L. Madsen, dated May 27, 1980, our investigations revealed one flued head penetration weld which had not been repaired to correct a lack of fusion defect identified during construction. This defect has been repaired.

Very truly yours,

David C. Trimble

David C. Trimble
Manager, Licensing

DCT:DRH:nak

Attachments

ANO - UNIT 1
FLUED HEAD PENETRATIONS

<u>PENETRATION</u> <u>#</u>	<u>PIPE</u> <u>MATERIAL</u>	<u>SIZE</u>	<u>APPLICABLE</u> <u>CODE</u>	<u>REPAIR</u> <u>REQUIRED</u>
P- 1	ASTM A-155 GR. KCF-70 CL. 1	36"	USAS 1331.7, 1969	NO
P- 2	ASTM A-155 GR. KCF-70 CL. 1	36"	USAS 1331.7, 1969	NO
P- 3	ASTM A-106B	18"	USAS 1331.7, 1969	NO
P- 4	ASTM A-106B	18"	USAS 1331.7, 1969	YES
P- 5	ASTM A-312, TP 304	8"	USAS 1331.7, 1969	YES
P- 7	ASTM A-376 or A-312 TYPE 316	3/4"	USAS 1331.7, 1969	NO
P- 8	ASTM A-376 or A-312 TYPE 316	2½"	USAS 1331.7, 1969	NO
P- 9	ASTM A-376 or A-312 TYPE 316	1"	USAS 1331.7, 1969	YES
P-10	ASTM A-376 or A-312 TYPE 316	3/4"	USAS 1331.7, 1969	NO
P-11	ASTM A-106B	2"	USAS 1331.7, 1969	YES
P-12	ASTM A-376 or A-312 TP-304	1"	USAS 1331.7, 1969	NO
P-13	ASTM A-376 or A-312 TYPE 316	2½"	USAS 1331.7, 1969	NO
P-14	ASTM A-376 or A-312 TYPE 316	2½"	USAS 1331.7, 1969	NO
P-15	ASTM A-376 or A-312 TYPE 316	2½"	USAS 1331.7, 1969	NO
P-16	ASTM A-376 or A-312 TYPE 316	2"	USAS 1331.7, 1969	NO
P-17	ASTM A-106B	4"	USAS 1331.7, 1969	NO
P-19	ASTM A-312, TP-304	8"	USAS 1331.7, 1969	NO
P-21	ASTM A-106B	10"	USAS 1331.7, 1969	NO
P-22	ASTM A-106B	10"	USAS 1331.7, 1969	NO
P-23	ASTM A-312, TP-304	8"	USAS 1331.7, 1969	NO
P-24	ASTM A-106B	2"	USAS 1331.7, 1969	NO

ANO-UNIT 1 (Continued)

<u>PENETRATION</u> <u>#</u>	<u>PIPE</u> <u>MATERIAL</u>	<u>SIZE</u>	<u>APPLICABLE</u> <u>CODE</u>	<u>REPAIR</u> <u>REQUIRED</u>
P-25	ASTM A-106B	1"	USAS 1331.7, 1969	NO
P-26	ASTM A-376 or A-312 TYPE 316	12"	USAS 1331.7, 1969	NO
P-27	ASTM A-358 Class I, TYPE 304	12"	USAS 1331.7, 1969	YES
P-31	ASTM A-376 or A-312 TYPE 304	1"	USAS 1331.7, 1969	NO
P-32	ASTM A-376 or A-312 Type 304	1"	USAS 1331.7, 1969	YES
P-33	ASTM A-376 or A-312 TYPE 316	1½"	USAS B31.7, 1969	NO
P-34	ASTM A-376 or A-312 TYPE 316	2½"	USAS B31.7, 1969	NO
P-36	ASTM A-376 or A-312 TYPE 316	12"	USAS B31.7, 1969	NO
P-39	ASTM A-376 or A-312 TP-304	3"	USAS B31.7, 1969	NO
P-40	ASTM A-106B	3"	USAS B31.7, 1969	NO
P-41	ASTM A-106B	1"	USAS B31.7, 1969	NO
P-42	ASTM A-106B	3"	USAS B31.7, 1969	NO
P-43	ASTM A-106B	1"	USAS B31.7, 1969	NO
P-46	ASTM A-106B	1"	USAS B31.7, 1969	NO
P-47	ASTM A-376 or A-312 TP-304	3"	USAS B31.7, 1969	NO
P-48	ASTM A-106B	3"	USAS B31.7, 1969	NO
P-49	ASTM A-106B	3"	USAS B31.7, 1969	NO
P-51	ASTM A-106B	6"	USAS B31.7, 1969	YES
P-52	ASTM A-106B	8"	USAS B31.7, 1969	NO
P-53	ASTM A-106B	2"	USAS B31.7, 1969	NO
P-54	ASTM A-106B	8"	USAS B31.7, 1969	NO
P-55	ASTM A-106B	10"	USAS B31.7, 1969	NO
P-58	ASTM A-106B	4"	USAS B31.7, 1969	NO

ANO-UNIT 1 (Continued)

<u>PENETRATION</u> <u>#</u>	<u>PIPE</u> <u>MATERIAL</u>	<u>SIZE</u>	<u>APPLICABLE</u> <u>CODE</u>	<u>REPAIR</u> <u>REQUIRED</u>
P-59	ASTM A-106B	6"	USAS B31.7, 1969	YES
P-60	ASTM A-106B	8"	USAS B31.7, 1969	NO
P-62	ASTM A-106B	8"	USAS B31.7, 1969	NO
P-63	ASTM A-106B	10"	USAS B31.7, 1969	NO
P-64	ASTM A-106B	4"	USAS B31.7, 1969	YES
P-65	ASTM A-106B	4"	USAS B31.7, 1969	YES
P-66	ASTM A-358 CLASS I, TP-304	14"	USAS B31.7, 1969	YES
P-67	ASTM A-358 CLASS I, TP-304	14"	USAS B31.7, 1969	YES
P-68	ASTM A-358 CLASS I, TP-304	4"	USAS B31.7, 1969	YES

ANO - UNIT 2
FLUED HEAD PENETRATIONS

<u>PENETRATION</u> <u>#</u>	<u>PIPE</u> <u>MATERIAL</u>	<u>SIZE</u>	<u>APPLICABLE</u> <u>CODE</u>	<u>REPAIR</u> <u>REQUIRED</u>
2P- 1	SA-106, GR. B or SA-155 GR. KCF-70	38"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P- 2	SA-106, GR. B or SA-155 GR. KCF-70	38"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P- 3	SA-106 GRADE C	24"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P- 4	SA-106 GRADE C	24"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P- 5	SA-376 or SA-312 TP-316	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P- 6	SA-376 or SA-312 TP-316	2"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	No
2P- 7	SA-106 GRADE C	3/4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	No
2P- 8	SA-376 or SA-312 TP-316	3/4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P- 9	SA-106, GR. B	1"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-10	SA-376 or SA-312 TP-316	6"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-11	SA-376 or SA-312 TP-316	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-12	SA-376 or SA-312 TP-316	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-13	SA-376 or SA-312 TP-316	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-14	SA-376 or SA-312 TP-316	2"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-15	SA-376 or SA-312 TP-316	6"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-17	SA-376 or SA-312 TP-304	10"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	YES

ANO-UNIT 2 (Continued)

<u>PENETRATION</u> <u>#</u>	<u>PIPE</u> <u>MATERIAL</u>	<u>SIZE</u>	<u>APPLICABLE</u> <u>CODE</u>	<u>REPAIR</u> <u>REQUIRED</u>
2P-18	SA-376 or SA-312 TP-316	3/4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-19	SA-376 or SA-312 TP-304	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-20	SA-106 GR. B	12"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-21	SA-106 GR. B	12"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	YES
2P-23	SA-376 or SA-312 TP-304	10"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-24	SA-376 or SA-312 TP-316	6"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-25	SA-376 or SA-312 TP-316	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-27	SA-358 TP-304, CI.1	14"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-29	SA-376 or SA-312 TP-316	6"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-30	SA-376 or SA-312 TP-316	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-31	SA-106 GR. B	2"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	YES
2P-32	SA-106 GR. B	4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-33	SA-376 or SA-312 TP-316	2"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-34	SA-376 or SA-312 TP-316	2"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-35	SA-106 GR. C	4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO

ANO-UNIT 2 (Continued)

<u>PENETRATION</u> <u>#</u>	<u>PIPE</u> <u>MATERIAL</u>	<u>SIZE</u>	<u>APPLICABLE</u> <u>CODE</u>	<u>REPAIR</u> <u>REQUIRED</u>
2P-37	SA-376 or SA-312 TP-304	3/4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-39	SA-376 or SA-312 TP-304	2"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-40	SA-106 GR. B	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-41	SA-106 GR. B	1"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-42	SA-106 GR. B	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-43	SA-106 GR. B	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-46	SA-106 GR. B	2"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-48	SA-106 GR. B	3"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-51	SA-106 GR. B	6"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-52	SA-106 GR. B	10"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-55	SA-106 GR. B	12"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-58	SA-376 or SA-312 TP-304	2"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-59	SA-106 GR. B	6"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-60	SA-106 or GR. B	10"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-61	SA-376 OR SA-312 TP-304	3/4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	YES

ANO-UNIT 2 (Continued)

<u>PENETRATION</u> #	<u>PIPE</u> <u>MATERIAL</u>	<u>SIZE</u>	<u>APPLICABLE</u> <u>CODE</u>	<u>REPAIR</u> <u>REQUIRED</u>
2P-62	SA-106 GR. B	6"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-63	SA-106 GR. B	12"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-64	SA-106 GR. C	4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-65	SA-106 GR. C	4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-66	SA-358 TP-304, CI.1	24"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-67	SA-358 TP-304, CI.1	24"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	NO
2P-68	SA-376 or SP-312 TP-304	4"	ASME SECTION III-1971 THROUGH 1974 SUMMER ADDENDUM	YES

ANO-UNIT 1
WELD REPAIRS

<u>PENFTRATION</u> <u>#</u>	<u>REASON FOR</u> <u>REJECTION</u>	<u>REPAIR*</u> <u>#</u>	<u>ACCEPTED/</u> <u>REJECTED</u>	<u>REASON FOR</u> <u>REJECTION</u>
P- 4	Porosity, Incomplete Fusion	1	Accepted	
P- 5	Slaglines	1	Accepted	
P- 9	Slaglines	1	Accepted	
P-11	Root Concavity	1	Accepted	
P-27	Root Convexity	1	Rejected	Slaglines
	Slaglines, In- complete Fusion	2	Rejected	Slaglines
		3	Accepted	
P-32	Root Concavity	1	Accepted	
P-51	Slaglines	1	Rejected	Incomplete Fusion
		2	Rejected	Incomplete Fusion
		3	Accepted	
P-59	Incomplete Fusion, Slaglines	1	Rejected	Incomplete Fusion
		2	Accepted	
P-64	Surface Defects	1	Accepted	
P-65	Incomplete Fusion	1	Rejected	Slaglines
		2	Rejected	Incomplete Fusion, Slaglines
		3	Rejected	Incomplete Fusion
		4	Accepted	
P-66	Unknown	1	Rejected	Unknown
		2	Accepted	
P-67	Unknown	1	Accepted	
P-68	Incomplete Fusion, Slaglines	1	Rejected	Incomplete Fusion
		2	Accepted	

*Specific repair methods for each defect are unknown.

ANO-UNIT 2
WELD REPAIRS

<u>PENETRATION</u> <u>#</u>	<u>REASON FOR</u> <u>REJECTION</u>	<u>REPAIR*</u> <u>#</u>	<u>ACCEPTED/</u> <u>REJECTED</u>	<u>REASON FOR</u> <u>REJECTION</u>
2P-31	Incomplete Fusion	1	Accepted	
2P-61	Slaglines, In- complete Fusion	1	Accepted	
2P-21	Incomplete Fusion	1	Rejected	Incomplete Fusion
		2	Rejected	Slaglines
		3	Accepted	
2P-17	Incomplete Fusion	1	Rejected	Incomplete Fusion
		2	Rejected	Slaglines
		3	Accepted	
2P-68	Incomplete Fusion	1	Accepted	

*All repairs consisted of excavating the unacceptable portion of the weld and rewelding.