UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of	)	
	)	
UNION ELECTRIC COMPANY	)	Docket No. STN 50-483 OL
	)	
(Callaway Plant, Unit 1)	)	

NRC STAFF RESPONSE TO
APPEAL BOARD ORDER OF AUGUST 15, 1983

Robert G. Perlis
Counsel for NRC Staff

August 31, 1983

DESIGNATED ORIGINAL

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By Order dated August 15, 1983, the Appeal Board directed the Applicant in this proceeding to file by August 22, 1983, an explanation of a concern raised by the Appeal Board relative to SA-312 piping at the Callaway facility. The NRC staff was directed to respond to the Applicant's filing by August 31, 1983; Joint Intervenors were invited to submit any comments they might have by that same date. The Applicant duly filed a response to the Appeal Board's Order on August 22nd. The Staff herein files its response in accordance with the Appeal Board's Order.

In its Order of August 15, the Appeal Board noted that Applicant's Exhibit 10, Enclosure 5, page 4 indicated that some SA-312 piping is listed as having a design pressure of 2485 pounds per square inch ("psi").[1/] The Appeal Board also noted that "testimony of record indicates

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1/ As indicated in Exhibit 10, the piping is used in a containment penetration line to the reactor coolant system hot legs, and is identified as spool number EJ02-S046 and line number 41-ECB-10". As the line number indicates, the pipe has a nominal outside diameter of ten inches.

that the ASME code-required pressure for SA-312 piping at Callaway is 882 pounds per square inch." The Appeal Board thereupon indicated that unless the evidence were in error, the pipe in question would appear to be "used in areas for which it is unsuited"; it could be subject to greater pressures than the ASME test pressure.

In its response to the Appeal Board's Order, the Applicant essentially pointed out that 882 psi is not the hydrostatic test pressure for all SA-312 pipe, and that the pipe in question is actually SA-358 pipe and not SA-312 pipe. As described in the attached Affidavits of John H. Neisler[2/] and David Terao, the Staff is in general agreement with the Applicant's presentation.

The Appeal Board in its Order did not identify where in the record the testimony indicated that the ASME code-required pressure for SA-312 piping at Callaway is 882 psi. Applicant's Exhibit 11 and Applicant's Prefiled SA-312 Testimony (ff. Tr. 1773, pp. 27-28), indicate that 882 psi was the hydrostatic test pressure for the size and schedule SA-312 pipe that was the subject of certain burst tests performed by Bechtel. As pointed out by Mr. Terao (Terao Affidavit, ¶ 4), the hydrostatic test pressure varies with the outside diameter and wall thickness of the pipe. Pipe with a thicker pipe wall, needed to accommodate a design pressure of 2485 psi, would be hydrostatically tested at a higher pressure.

2/ Because Mr. Neisler's affidavit was telecopied from the Callaway site to Bethesda, it is somewhat difficult to read. The Staff has therefore attached a typed (unsiged) copy of Mr. Neisler's affidavit as well as a telecopied (signed) copy. The two copies are in all other respects identical.

The NRC Resident Inspector at the Callway facility examined the piece of pipe identified in the Appeal Board's Order and the pipe's documentation. Neisler Affidavit, ¶¶ 3-4. Mr. Neisler found that the pipe was manufactured by ARMCO at its Houston, Texas plant, and that the material used was SA-358, type 304, schedule 140, and not SA-312 type pipe. Neisler Affidavit, ¶ 5. The SA-312 type pipe which was the subject of litigation herein had been manufactured by Youngstown Welding and Electric Company.[3/]

To serve as an additional check, the Staff performed certain calculations on the piece of pipe identified by the Appeal Board. The ASME Specification SA-530 hydrostatic test pressure for SA-358 type 304 pipe with a ten-inch nominal outside diameter and a wall thickness of one inch is 2791 psi, not 882 psi. Terao Affidavit, ¶ 7. Further, the subject pipe at Callaway was measured and found to have wall thickness of 1.061 and 1.079 inches.[4/] Neisler Affidavit, ¶ 6. For SA-358, type 304 pipe with a ten-inch nominal outside diameter, the minimum required pipe wall thickness for pipe with an internal pipe pressure of 2485 psi is 0.78 inches, well below 1.061 inches. Terao Affidavit, ¶ 8.

3/ The concern raised in Joint Intervenor's Subcontention II.A.2 dealt only with centerline lack-of-penetration in SA-312 pipe manufactured by Youngstown Welding and Electric Company. See Staff Brief in Opposition to Joint Intervenors' Exceptions, pp. 29-30; Staff Proposed Findings Below, pp. 51-53 (¶¶ 106-109). Thus, the centerline lack-of-penetration issue raised by Joint Intervenors is not relevant to SA-358 pipe.

4/ The pipe is in two sections. Neisler Affidavit, ¶ 3.

In sum, the potential problems identified by the Appeal Board do not exist. The affidavits submitted by the Staff and Applicant demonstrate:

(1) Applicants's Exhibit 10 erroneously lists the subject pipe as SA-312. The pipe is in fact SA-358 pipe and not SA-312.

(2) This SA-358 type 304, schedule 140, pipe installed at Callaway has a nominal outside diameter of ten inches, and has a wall thickness in excess of one inch.

(3) The hydrostatic test pressure for such ten-inch diameter, one-inch thick SA-358 pipe is 2791 psi.

(4) For such SA-358 pipe to meet the design pressure of 2485 psi listed on Applicant's Exhibit 10, it need only have a wall thickness of 0.78 inches.

(5) The subject pipe has more than the required wall thickness to meet a design pressure of 2485 psi shown on Applicant's Exhibit 10.

Respectfully submitted,

Robert G. Perlis
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 31st day of August, 1983