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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)

UNION ELECTRIC COMPANY)

(Callaway Plant, Unit 1))

Docket No. STN 50-483 OL

APPLICANT'S RESPONSE TO
APPEAL BOARD ORDER OF
AUGUST 15, 1983

In its Order of August 15, 1983, the Appeal Board raised the concern that a particular piece of SA-312 pipe listed in Applicant Exhibit 10 may be utilized in an application where the pressure it is subjected to is in excess of what the Appeal Board believed to be the "ASME code-required pressure" of 882 psi. The Appeal Board also noted that, due to this higher pressure, the Staff may have acted incorrectly in determining that no additional testing was required of the SA-312 piping at the Callaway Plant.

As discussed below, Applicant believes the Appeal Board has misunderstood both the nature of the hydrostatic pressure requirements for SA-312 piping and the basis upon which the Staff determined whether additional testing of this pipe was required. Further, as described in the attached Affidavit of John D. Hurd, the particular piece of pipe in question was erroneously listed in Applicant Exhibit 10, in that it is a piece of SA-358 piping, not SA-312.

The ASME Code material specification for SA-312 pipe sets forth a number of testing requirements, including the requirement that each length of pipe be hydrostatically tested.^{1/} PID at 56; Applicant SA-312 Piping Testimony at 16. The material specification further sets forth the calculation for determining the pressure at which the pipe must be hydrostatically tested; this calculation takes into account the following variables: allowable wall stress, wall thickness and outside diameter. Applicant Exhibit 11 at 14. The 882 psi figure referenced by the Appeal Board is not the pipe design pressure but rather is the hydrostatic test pressure for the particular size and schedule of piping which was subjected to additional burst testing by Bechtel. Id.; Hurd Affidavit, ¶ 2. As Mr. Hurd notes, this hydrostatic test pressure will vary according to pipe size and schedule. Hurd Affidavit, ¶¶ 2, 3.

The NRC determination, in I&E Bulletin 79-03A, that additional testing was not required for SA-312 piping used in systems having less than 85% of the ASME allowable design hoop stress was based on the use of an efficiency factor, permitted by the Code, and was unrelated in any way to the required hydrostatic test pressure. In brief, this efficiency factor allows the use of piping which has not undergone non-destructive testing^{2/} in systems having less

^{1/} In addition, as required by the ASME Code each piping system at the Callaway Plant will be hydrostatically tested, after completion of the system, to not less than 1.25 times the system design pressure. Applicant SA-312 Piping Testimony at 41.

^{2/} The SA-312 pipe had been ultrasonically tested as required by the Code; however, this test method failed to detect CLP and therefore it could be assumed that the SA-312 piping had not undergone such examination. Applicant SA-312 Piping Testimony at 36.

than 85% of the Code allowable hoop stress. Applicant SA-312 Piping at 36, 37; see also PID at 63; Rutherford Testimony at 4.

Finally, as reported by Mr. Hurd, the particular piece of pipe which raised the Appeal Board's concern is not, in fact, SA-312 piping and should not have been included in Applicant's response to I&E Bulletin 79-03. Hurd Affidavit, ¶ 4. This discrepancy was discovered by Dravo (the fabricator), reported to Bechtel, and resulted in Bechtel performing a review of the accuracy of Dravo's listing of SA-312 pipe in use at the Callaway Plant. This review was completed prior to Applicant's response to I&E Bulletin 79-03A^{3/} and formed the basis for Applicant's determination that no SA-312 piping was in use in systems having greater than 85% of the Code allowable hoop stress. Id., ¶¶ 4, 5. Likewise, the response to I&E Bulletin 79-03A (Applicant Exhibit 14) was the basis for the Staff's conclusions that no further testing of the piping at Callaway was required.^{4/}

For all of the foregoing reasons, there is no piping that will be used in an area for which it is unsuited and unreliable, and the Staff correctly determined that no additional testing of SA-312

^{3/} Unlike I&E Bulletin 79-03, an identification of SA-312 piping planned or in use was not required by I&E Bulletin 79-03A, which supplanted I&E Bulletin 79-03. Rather, this Bulletin only required the identification and additional testing of SA-312 piping in use in systems having greater than 85% Code allowable hoop stress.

^{4/} Applicant Exhibit 10 was offered into evidence essentially to provide a documentary history of the investigation into the CLP problem. At the time of the hearing, some two and one-half years after the submission had been prepared, Applicant's witnesses simply did not recall the subsequent discovery of the error in including Item No. 55.

pipng was required. Further, there are no implications for the broader issue of whether Applicant's quality assurance program has been adequate.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE

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