



ARKANSAS POWER & LIGHT COMPANY

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September 15, 1988

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U. S. Nuclear Regulatory Commission  
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SUBJECT: Arkansas Nuclear One - Units 1 & 2  
Docket Nos. 50-313 and 50-368  
License Nos. DPR-51 and NPF-6  
Response to Bulletin 88-05 (Supplement 2)

Gentlemen:

NRC Bulletin 88-05, dated May 6, 1988 (ØCNAØ588Ø9), was issued to require submittal of information regarding materials supplied by Piping Supplies, Inc. (PSI) and West Jersey Manufacturing Company (WJM) and to request that actions be taken to assure that materials supplied by these companies comply with ASME Code and design specification requirements or are suitable for their intended service, or that any questionable materials be replaced. The NRC had obtained copies of certified material test reports (CMTRs) for material supplied by these companies that contain false information about material supplied to the nuclear industry. Supplement 1 to the subject Bulletin, dated June 15, 1988 (ØCNAØ68818), was issued to provide additional information, reduce the scope from "materials" to "flanges and fittings", delineate actions for identifying and determining the compliance of the materials, and clarify the actions required upon identifying nonconforming materials. Supplement 2 to the subject Bulletin, dated August 3, 1988 (ØCNAØ88817), temporarily suspended until further notice the field measurements, testing, records review, and the preparation of justifications for continued operations (JCOs) that were requested by the subject Bulletin and Supplement 1.

The applicable reporting requirement of Bulletin 88-05 Supplement 2 (Requirement 1) is for submittal of the results of the records review, testing, and analysis performed as of the date of Supplement 2 in accordance with the 120 day reporting requirement specified in paragraph 1 of Bulletin 88-05.

Per Requested Action 1 of Bulletin 88-05, AP&L reviewed ANO purchase orders, transfers, and upgrades from January 1, 1976 through August 15, 1988. This review revealed that 15 purchase orders had procured 172 WJM and 4 PSI flanges. The WJM flanges were procured to ASME SA-105 requirements, and the 4 PSI flanges were made of ASME SA-182, F316L material. Of the 176 purchased flanges, 106 remained in stock in the ANO warehouse and 70 were issued for installation. Of the 70 issued for installation, 27 had already been replaced. 32 were located in safety-related systems, 4 were issued for non-Q systems, and 7 remain as not yet positively located due to early project suspension (per Supplement 2).

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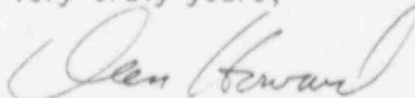
The testing and analysis effort required by Bulletin 88-05 was conducted in two phases at ANO. In phase one, 30 warehoused flanges that represented installed flanges were tested.

Three SA-105 flanges did not meet the minimum hardness of 137 BHN (Brinell Hardness Number, BHN, is derived by converting Equotip hardness tester values) specified for SA-105 material. Two flanges of heat number 1591, supplied by WJM, were tested and failed: one was 0.5 BHN low, the other 3.5 BHN low. A complete purchasing description of these flanges is: ASME A-105, Sec. III, Cl. 2, 3", 150#, butt weld, weld neck, raised face, Schedule 40 flanges. Heat number 1591 flanges were purchased by AP&L Purchase Order 11406-F-11075-Q, Item 12. The other flange that failed was out of spec low by 0.5 BHN. It was an ASME A-105, Sec. III, Cl. 2, 4", 150#, butt weld, weld neck, raised face, Schedule 40 supplied by WJM with heat number A66. This flange was procured by AP&L Purchase Order 11406-F-11075-Q, Item 11.

It should be noted that during the course of industry efforts to address the issues of Bulletin 88-05, groups such as NUMARC, EPRI and Bechtel conducted in-depth studies which indicate that Equotip hardness values are significantly conservative. As a result of these studies, it has been recommended that the lower hardness limit for ASME SA-105 material be revised from 137 BHN to 109-110 BHN. The three out of spec flanges discussed above would be within the required minimum hardness value suggested by the recent industry studies.

In phase two, four installed flanges were tested. Two were PSI stainless steel that tested non-magnetic. The other two flanges were hardness tested yielding results of 176 BHN and 263 BHN. The higher value exceeds the SA-105 upper limit of 187 BHN, however, it is considered to be a testing aberration and not an issue with respect to acceptability of the material. This flange had a WJM heat number 1591, and is located in ANO Unit 1, on service water line HBD-13-18", outboard of valve SW-6037.

Very truly yours,



Dan R. Howard  
Manager, Licensing

DRH:RBT

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