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February 25, 2003

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Arkansas Nuclear One, Unit 1
Docket No. 50-313
Correction of Information Provided in Response to Generic Letter 97-01, Degradation of Control Rod Drive Mechanism Nozzle and Other Vessel Closure Head Penetrations

REFERENCES:

1. BAW-2301, *B&WOG Integrated Response to Generic Letter 97-01: "Degradation of Control Rod Drive Mechanism Nozzle and Other Vessel Closure Head Penetrations"* (July 1997)
2. Entergy letter dated July 29, 1997, *120 Day Response to Generic Letter 97-01* (0CAN079703)

Dear Sir or Madam:

On April 1, 1997 the NRC issued Generic Letter 97-01, *Degradation of Control Rod Drive Mechanism Nozzle and Other Vessel Closure Head Penetrations.* The NRC staff requested information in two primary areas; (1) control rod drive mechanism (CRDM) inspection history and plans and (2) resin bed intrusion history as described in Information Notice 96-11, *Ingress of Demineralizer Resins Increases Potential for Stress Corrosion Cracking of Control Rod Drive Mechanism Penetrations.* Responses to these information requests for each of the B&W designed facilities were compiled into B&W Owners Group (BWOG) topical report BAW-2301 (Ref. 1). The information was compiled based on input from each of the B&W facility owners including Arkansas Nuclear One, Unit 1 (ANO-1). The 120 day response to Generic Letter 97-01 for ANO-1 (Ref. 2) adopted the information contained in BAW-2301.

In Appendix C of BAW-2301, information was provided for ANO-1 that discussed a resin intrusion event which occurred on September 30, 1988 involving cation resins during cold shutdown. It was determined that all but three liters of resin was removed and no indications of resin decomposition were observed prior to the clean-up. The report also stated that no noticeable change was detected in the reactor coolant system (RCS) chemistry.

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In association with follow-up on Alloy 600 issues, the NRC Senior Resident Inspector for ANO-1 noted that the discussion provided in BAW-2301 for ANO-1 was not fully accurate regarding the event description and the RCS chemistry effects. In further review of the ANO-1 resin intrusion event and the description in BAW-2301, the following information provides a more accurate description of the event and RCS affects. This discussion supercedes the last paragraph of section 3.5 of Appendix C to BAW-2301 (page C-8).

> *A review of plant operational records identified a mixed cation/anion resin intrusion into the reactor vessel which occurred on September 30, 1988, during cold shutdown. The intrusion occurred due to resin in the BWST following in-operation change-out of lead/lag filters in the spent fuel pool purification system. The BWST was pumped down until almost empty during filling of the fuel transfer canal, thus allowing resin into the reactor vessel cavity. It was determined that all but three liters of resin were removed. A plan was implemented to flush the remaining resin from the RCS and to monitor sulfate levels during heatup from the 1R8 outage. The sulfate concentrations while heating up were generally less than 100 ppb. Sulfate concentrations were above 100 ppb for only 52 hours. Sulfate concentrations in excess of 250 ppb were only experienced twice while the RCS was at elevated temperatures. Concentrations peaked at 311 ppb during one 15 minute sample and later at 257 ppb during one 45 minute sample. The residual sulfate concentrations were evaluated prior to heatup of the unit. The concentrations were concluded to be sufficiently low and would not pose a significant potential for intergranular attack.*

An additional review of the ANO-1 discussions in BAW-2301 was performed and two inconsistencies within the report were noted. Appendix C section 6.0 states, "The sulfate concentration and the total sulfur as sulfate concentration are determined regularly...." Only sulfate concentration is determined regularly at ANO-1 which is consistent with Appendix C, section 3.0 that states, "Total sulfur is monitored only at Three Mile Island Unit 1."

Appendix D section D.4 states, "No other chemical contaminant excursions have been administratively covered. These include fluoride, boron, chloride, and sulfate." This statement seems to not recognize the resin intrusion event discussed above and in section 3.5 of Appendix C.

In summary, the conclusions reached regarding the potential impact for intergranular attack (IGA) on ANO-1 for Alloy 600 RCS components and welds are unchanged from that previously presented in BAW-2301. This information is being provided to correct the ANO-1 response to Generic Letter 97-01. There are no commitments being made by this letter.

If you have any questions or require additional information, please contact Steve Bennett at 479-858-4626.

This letter contains information responding to NRC Generic Letter 97-01 for ANO-1 and is being submitted pursuant to 10CFR50.54(f). I declare under penalty of perjury that the foregoing is true and correct. Executed on February 25, 2003.

Sincerely,

Sherrie R. Cotton

Sherrie R. Cotton
Director, Nuclear Safety Assurance

SRC/sab

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