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March 3, 1983

ØCANØ28311

Director of Nuclear Reactor Regulation
ATTN: Mr. J. F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Director of Nuclear Reactor Regulation
ATTN: Mr. Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Arkansas Nuclear One - Units 1 & 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6
Additional Information Concerning
Spent Fuel Storage Expansion

Gentlemen:

Your letter dated January 10, 1983, (ØCNAØ183Ø9) requested additional information in the chemical engineering area relating to the proposed spent fuel storage expansion. Attached is our response to your request.

Very truly yours,

John R. Marshall
Manager, Licensing

JRM:JC:s1

Attachment

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Questions Related to the Chemical Engineering Area

Question 1:

You stated that the spent fuel pool ion-exchanger resins are designed to be changed based on an increase in differential pressure rather than on the lack of ability to remove radioactive ionic material. For ALARA consideration, it is our position that the ion-exchanger resins should also be replaced as a consequence of reduced decontamination factor of the resins.

Describe the samples and instrument readings and their frequency of measurement that will be performed during power and refueling operations, to monitor the Spent Fuel Pool (SFP) water purity and need for SFP cleanup system demineralizer resin and filter replacement. State the chemical and radiochemical limits to be used in monitoring the SFP water and initiating corrective action. Provide the basis for establishing these limits. Your response should consider variables such as: boron concentration, gross gamma and iodine activity, demineralizer and filter differential pressures, demineralizer decontamination factor, pH, and crud level.

Response:

Our original submittal for the proposed spent fuel storage expansion dated November 5, 1982, (ØCAN1182Ø5) stated that the spent fuel pool (SFP) ion-exchanger resins were designed to be changed based on differential pressure. This is a common method used in many applications; however, an equally acceptable method bases the changing of the SFP demineralized resins on the reduced decontamination factor. It should be noted, that the purification system is only run intermittently at the discretion of ANO supervisory personnel to improve the spent fuel pool water clarity or the water quality of the BWST (Unit 1) or the RWT (Unit 2). The decontamination factor is monitored if the responsible personnel determine that the resins may be depleted due to extensive cleaning requirements. This method (DF) has been used in isolated instances at ANO to determine the appropriate time to change the SFP demineralizer resin beds.

From experience, however, these resins have been more than adequate to maintain the water quality of its associated systems for one year under normal circumstances. For this reason, these resins are routinely changed on an annual basis as a preventive measure and not due to the inability of the demineralizer to adequately remove contaminants (reduced decontamination factor). ANO has experienced no significant problems with SFP gross gamma or iodine activity, chlorides, flourides, pH or crud since initial operation. Therefore, no regular sampling program for these parameters has been established. The boron concentration in the SFP is verified as required by the Technical Specifications.