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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 3 1981

Docket Nos.: 50-416/417

Mr. J. P. McGaughy, Jr.
Assistant Vice President - Nuclear Production
Mississippi Power and Light Company
P. O. Box 1640
Jackson, Mississippi 39205

Dear Mr. McGaughy:

SUBJECT: HYDROGEN CONTROL MEASURES - GRAND GULF NUCLEAR STATION, UNITS 1 AND 2

In our October 30, 1980 letter, Mississippi Power and Light Company (MP&L) was requested to provide a description of its program to improve the hydrogen control capability at the Grand Gulf Nuclear Station (GGNS). The current schedule proposed by MP&L indicates that a design selection will not be made until June 1981 with a final design report due in December 1981. We find the schedule for this proposed program to be unacceptable, if the GGNS licensing effort is to remain on schedule.

You are, therefore, requested to indicate the hydrogen mitigation system which will be used at the GGNS and to provide the design description of that system for our review. To avoid licensing delays, this description should be filed within 45 days of the date of this letter. In addition, the final design report should be submitted to us by June 15, 1981.

Sincerely,

R Tedesco

Robert L. Tedesco, Assistant Director
for Licensing
Division of Licensing

cc: See next page.

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ADDITIONAL INFORMATION REQUIRED BY
CHEMICAL ENGINEERING BRANCH FROM
GRAND GULF NUCLEAR STATION

Chemical Technology Section/Chemical Engineering Branch(CMEB)

281.1 (5.4.8) (10.4.6) Establish and state appropriate limits for the conductivity of the purified condensate to the reactor vessel in accordance with Regulatory Position C.1 of Regulatory Guide 1.56, revision 1. Also, describe the sampling frequency, chemical analyses, and established limits for dissolved and suspended solids that will be performed and the basis for these limits.

281.2 (10.4.6) Establish and state the sequential regeneration frequency in order to maintain adequate capacity margin in the condensate treatment system (Regulatory Position C.2 of Regulatory Guide 1.56, revision 1). Include the basis for the resin regeneration frequency.

281.3 (5.4.8) (10.4.6) Indicate that the initial total capacity of new demineralizer resins will be measured and describe the method to be used for this measurement (Regulatory Position C.3 of Regulatory Guide 1.56, revision 1).

281.4 (5.4.8) (10.4.6) Describe the method of determining the condition of the demineralizer units so that the ion exchange resin can be regenerated or replaced before an unacceptable level of depletion is reached (Regulatory Position C.4 of Regulatory Guide 1.56, revision 1). Describe the method by which (a) the conductivity meter readings for the condensate cleanup system will be calibrated, (b) the flow rates through each demineralizer will be measured, (c) the quantity of the principal ions likely to cause demineralizer breakthrough will be calculated, and (d) the accuracy of the calculation of resin capacity will be checked.

281.5 (5.4.8) (10.4.6) Indicate the control room alarm set points of the conductivity meters at the inlet and outlet demineralizers in the condensate and reactor water cleanup systems when either (Regulatory Position C.5 of Regulatory Guide 1.56, revision 1):

a. The conductivity indicates marginal performace of the demineralizer systems;

b. The conductivity indicates noticeable breakthrough of one or more demineralizers.

281.6 (5.4.8) (10.4.6) The reactor coolant limits and corrective action to be taken if the conductivity, pH, or chloride content is exceeded will be established in the Technical Specifications. Describe the chemical analysis methods to be used for their determination (Regulatory Position C.6 of Regulatory Guide 1.56, revision 1).

281.7 (10.4.6) Describe the water chemistry control program to assure maintenance of condensate demineralize influent and effluent conductivity within the limits of Table 2 of Regulatory Guide 1.56, revision 1. Include conductivity meter alarm set points and the corrective action to be taken if the limits of Table 2 are exceeded.

320.24 You have indicated in Table 11.5-3 that your monitoring and sampling in the standby service water system is performed in-process rather than in the effluent as specified in SRP 11.5. This is acceptable if Table 11.5-3 indicates that the grab samples are analyzed for "gross radioactivity", "tritium radioactivity", and "principal identification of and concentration of radionuclides and alpha emitters", and you make a commitment to use the results of these analyses to calculate radioactive releases via this pathway. Your FSAR should be revised, accordingly, to indicate your compliance in this area.

REQUEST FOR ADDITIONAL INFORMATION

EFFLUENT TREATMENT SYSTEMS BRANCH

GRAND GULF NUCLEAR STATION, UNIT NOS. 1 AND 2
DOCKET NOS.: 50-416/417

320.22 Your response to question 320.17 stated that the main condenser evacuation system (MCES) is not explosion proof, but did not address the attendent system design criteria of SRP 10.4.2 relating to potential for explosive mixtures in the system. In subsequent telephone discussion, you have indicated that explosive mixtures should not exist in the main condenser evacuation system due to the steam dilution provisions incorporated in the design. To satisfy the criteria of SRP 10.4.2, we require a commitment to install redundant instrumentation to measure dilution steam flow and provide automatic isolation of the MCES upon loss of flow or redundant instrumentation to detect and annunciate the buildup of potentially explosive mixtures.

320.23 In your response to question 320.20 the following sections are considered to be inadequate, and additional commitments are required:

(c) Regarding the in-process grab sample provisions in your spent fuel pool treatment system, Table 9.3-3 should indicate that grab samples are analyzed for "gross radioactivity", and "principal identification and concentration of radionuclides and alpha emitters" as specified in SRP 11.5, Table 1B.

(d) Regarding the effluent grab sample provisions in your plant service water system, Table 9.3-3 should indicate that grab samples are analyzed for "gross radioactivity", "tritium radioactivity", and "principal identification of and concentration of radionuclides and alpha emitters" as specified in SRP 11.5, Table 1B.

(f) You have stated that on-line iodine monitoring is not provided but that gaseous effluent streams are grab sampled for laboratory iodine analyses. SRP 11.5, Table 1A does not require on-line iodine monitoring, but rather continuous iodine sampling. Recent telephone discussion with your personnel indicates that your iodine grab sampling provisions, namely on-line charcoal filter cartridges, constitute continuous iodine sampling provisions. This being the case, your Table 11.5-3 should be revised to reflect this situation.