



MISSISSIPPI POWER & LIGHT COMPANY

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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

November 29, 1982

NUCLEAR PRODUCTION DEPARTMENT

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-13
File: 0290/L-813.0/C-195.0
Ref: AECM-82/317
Regulatory Guide 1.97 Compliance
AECM-82/563

On July 15, 1982 (AECM-82/317) MP&L submitted a preliminary response to GGNS License Condition 2.C (23) concerning Regulatory Guide 1.97 on post accident instrumentation. This response provided a description of Reg. Guide 1.97 variables, the existing GGNS design compliance on each variable, and in many cases MP&L's initial position on those variables.

MP&L previously expected to submit a final position on Reg. Guide 1.97 for GGNS by December 15, 1982. This was based on the issuance of the BWR Owners Group Reg. Guide 1.97 Position Report and more importantly, the issuance of the NRC 50.54(f) letter in response to SECY-82-111. Since MP&L is still awaiting the receipt of the 50.54(f) letter, we believe that a final response on Reg. Guide 1.97 at this time would not be in keeping with the intent of SECY-82-111 for an integrated emergency response capability review. MP&L will, therefore, provide our final Reg. Guide 1.97 position and implementation schedule consistent with the schedule to be requested by your forthcoming 50.54(f) letter.

However, MP&L is attaching revised GGNS design compliance pages on certain Reg. Guide 1.97 variables previously provided in the attachment to AECM-82/317. These pages more accurately reflect our existing Reg. Guide 1.97 compliance and should be substituted in place of the former pages provided. MP&L believes that our July 15, 1982 submittal along with the attached revised compliance pages are responsive to the GGNS License Condition 2.C (23) until our integrated response to your 50.54(f) letter is submitted.

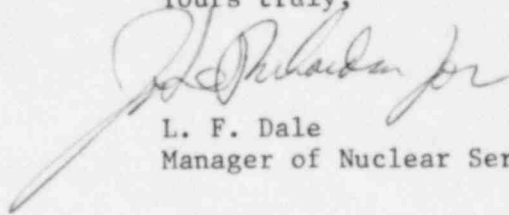
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MISSISSIPPI POWER & LIGHT COMPANY

Please contact this office for any additional information you may require at this time.

Yours truly,



L. F. Dale
Manager of Nuclear Services

SAB/SHH/JDR:rg

Attachments

cc: Mr. N. L. Stampley (w/o)
Mr. R. B. McGehee (w/o)
Mr. T. B. Conner (w/o)
Mr. G. B. Taylor (w/o)

Mr. Richard C. DeYoung, Director (w/a)
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. J. P. O'Reilly, Regional Administrator (w/a)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 3100
Atlanta, Georgia 30303

1C RCS Soluble Boron Concentration (Sample)

Range: 0 to 1000 ppm

Cat.: 3 Type: B

GG Design: RCS boron concentration will be obtained by analytical lab analysis as part of the P.A.S.S. discussed in Item 22A (Grab Sample). The monitoring range will be from 0.1 ppm to 10 ppm on a sample diluted by a factor of 1000. This will be adequate range for boron concentration in the RCS after boron injection. (See item 22A)

Compliance: In compliance

Control Rm: No additions

MP&L Pos.: The existing Grand Gulf design complies with the requirement of this variable.

2 CORE COOLING

2A Coolant Level in Reactor

Range: Bottom of core support plate to less of top of vessel or center line of main steam line. (216.0" to 648")

Cat.: 1 Type: (Type A for GGNS), B

GG Design: Level instruments exist to monitor vessel water level from 216.3" to 933.0" referenced to vessel zero (six groups of instruments).

Compliance: The existing water level instrumentation for the wide range (-160" to +60") and the narrow range (0" to +60") are 1E qualified and are being upgraded to NUREG-0588 requirements. The upset range (0" to +180"), shutdown range (0" to +400"), and the fuel zone (-117" to -317") instrumentation is not 1E qualified.

Control Rm: Reactor water level is continuously recorded in the control room.

Interim

MP&L Pos.: The existing water level monitoring for the wide range and narrow range instrumentation is or is being upgraded in compliance with this variable; however, the resolution on the issue of inadequate core cooling may dictate design changes in the present GGNS water level monitoring.

2B BWR Core Thermocouples

Range: 200°F to 2300°F, Four thermocouples per quadrant

Cat.: 1 Type: B

GG Design: In-core thermocouples are not provided to measure core cooling. These instruments have not been previously used.

8 CONDENSATE AND FEEDWATER SYSTEM

8A Main Feedwater Flow

Range: 0 to 110% design flow (0 to 16.6 Mlb/hr)

Cat.: 3 Type: D

GG Design: Instrumentation exists which monitors feedwater flow as follows: C34-FT-N002A/B from 0 to 10 Mlb/hr per feedwater loop; N71-FT-N016A/B from 0 to 8.23 Mlb/hr per feedwater loop; N21-FT-N087A/B from 0 to 14 Mlb/hr per reactor feedwater pump suction line. Only N21-FT-N087A/B have control room indication (also 0-14 Mlb/hr)

Compliance: In compliance

Control Rm: No changes

MP&L Pos.: The existing Grand Gulf design complies with the requirement of this variable.

8B Condensate Storage Tank Level

Range: Bottom to top (0 - 31'0")

Cat.: 3 Type: D

GG Design: GGNS level transmitter P11-LT-N003 monitors level from 1'-1" to 41'-1"; P11-LSL-N014, P21-LS-N038 & P21-LS-N055 from 5'-0" to 30'-0"; C61-LT-N102 from 0'-9" to 25'-9"; and E22-LT-N054 C&G and E51-LT-N035A&E from 0'-9½" to 2'-5½". C61-LT-N102 & P11-LT-N003 have level indicators while E22-N054C/G and E51-N035A/E have indicating trip units.

Compliance: Range of CST is 0 to 31'-0". Instrumentation exists to monitor and indicate level from 1'-1" to 41'-1". Since 1'-1" is much less than 31', present instrumentation will suffice. To meet reg. guide would require re-calibrating C61-LT-N012 from 0-300" (0'-9" to 25'-9") to 0-372" (0'-0" to 31'-0")

Control Rm: No change

MP&L Pos.: The existing monitoring range on the CST level complies with the intent of R.G. 1.97 for this variable and no changes are considered necessary.

Compliance: All the instrumentation provided to monitor Class 1E power supply and system voltage and current meet the requirements of Regulatory Guide 1.97 except for those instruments in the E22 (HPCS) system.

Control Rm: To meet the Regulatory Guide would require purchasing 10 voltage/current indicators qualified to the requirements of Regulatory Guide 1.89, powered from an emergency power source and meeting the requirements of 10 CFR 50 Appendix B to replace the E22 existing instruments. Testing as per Regulatory Guide 1.118 would also be required. An additional 24 Class 1E pressure transmitters and 24 Class 1E meters would need to be purchased to monitor the air accumulator pressures. Indication would be provided on the P864 and P601 panels.

Interim

MP&L Pos.: The appropriateness of additional instrumentation to meet the requirements for this variable is being evaluated by MP&L and will be provided in a future transmittal on R.G. 1.97 compliance. The existing instrumentation in the HPCS system (except for air accumulator pressure) is sufficient to monitor this system until resolution of this variable is determined.

17 CONTAINMENT RADIATION

17A Primary Containment Area Radiation - High Range

Range: 1 R/hr to 10^7 R/hr

Cat.: 1 Type: E

GG Design: Instruments D21-RITS-K648 A-D monitor radiation in the Drywell and Containment (2 on opposite sides in each) with a range 10^0 - 10^7 R/hr and are recorded on D21-RR-R601A/B.

Compliance: Class 1E battery backup power is provided.

Control Rm: No changes

MP&L Pos.: The existing Grand Gulf design complies with the requirement of this variable.

17B Reactor Building or Secondary Containment Area Radiation

Range: 1 R/hr to 10^7 R/hr for Mark III containment

Cat.: 2 Type: E

SEE PRIMARY CONTAINMENT AREA
RADIATION (ITEM 17A)

18 AREA RADIATION

18A Radiation Exposure Rate (inside buildings or areas where access is required to service equipment important to safety)

Range: 10^{-1} R/hr to 10^4 R/hr

Cat.: 2 Type: E

GC Design: Same as Item 7F

Compliance: Same as Item 7F

Control Rm: Same as Item 7F

Interim

MP&L Pos.: Same as Item 7F

19 AIRBORNE RADIOACTIVE MATERIALS RELEASED FROM PLANT

19A Noble Gases and Vent Flow Rate

Drywell Purge, Standby Gas Treatment System Purge (for Mark I and II plants) and Secondary Containment Purge (for Mark III plants)

Range: 10^{-6} uCi/cc to 10^5 uCi/cc, 0 to 110% vent design flow (Not needed if effluent discharges through common plant vent)

Cat.: 2 Type: E

GC Design: Containment Vent, FHA Vent and SGTS A/B Vent. Exhaust effluent monitor systems monitor Noble Gases over a range 10^{-7} - 10^5 uCi/cc. These monitors are not Class 1E and the containment and FHA microcomputer and the readout equipment are not powered from a high reliable power source or backed up with power from the battery. The SGTS monitors are powered from a Class 1E power supply by means of two series Class 1E circuit breakers which provide isolation. Radiation monitoring is performed for the following vent flow rates: Containment is 0-4,600 cfm (6000 design); Auxiliary Bldg. is 0-38,000 cfm (35,360 cfm design); SGTS is 0-5,600 cfm (4,300 cfm design); Turbine Bldg. is 0-9,800 cfm (7,790 cfm design) and Radwaste is 0-58,500 cfm (53,600 cfm design)

Compliance: To meet the regulatory guide would require upgrading and qualifying the present systems to Class 1E status or replace the entire effluent radiation monitoring systems (includes the isokinetic sample system) with Class 1E systems and providing high reliable power with battery backup. NUREG-0737 does not require 1E qualified instruments. The vent monitoring flow rate does not meet 110% design flow for the containment vent and will need to be reset to handle maximum flow.

Cat.: 3 Type: E

GG Design: 1) 0-30%
 2) 0-20%/20-30% (To be added)
 3) Isotopic Analysis Non Class 1E. H₂ recorded on
 E61-AR- R602A/B. Isotopic Analysis² stored in computer
 and printed on readout equipment on demand.

Compliance: In compliance

Control Rm: Not applicable

MP&L Pos.: The existing Grand Gulf design complies with the
 requirement of this variable.