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RELATED CORRESPONDENCE

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UNITED STATES NUCLEAR REGULATORY COMMISSION

MISSISSIPPI POWER & LIGHT COMPANY

MIDDLE SOUTH ENERGY, INC., AND

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

DOCKET NO. 50-416

NOTICE OF ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

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The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of a partial exemption from the requirements of Appendices A and J to 10 CFR Part 50 to the Mississippi Power and Light Company, Middle South Energy, Inc., and South Mississippi Electric Power Association (the licensee) for the Grand Gulf Nuclear Station, Unit 1, located at the licensee's site in Claiborne County, Mississippi.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action: The exemptions would (a) eliminate the full pressure test required after normal door opening by paragraph III.D.2(b)(ii) of Appendix J and substitute a seal leakage test when the reactor is in a shut-down or refueling mode, and (b) grant delays in implementing design changes to the Division 1, 2 and 3 diesel generators to bring them into compliance with GDC-17 of Appendix A. These design changes involve the following: (1) the emergency override of the test mode for the Division 3 diesel engine, (2) the second level of undervoltage protection for the Division 3 diesel engine and (3) the generator ground overcurrent trip function for the Division 1 and 2 diesel generators. The NRC is also considering an exemption to Appendix J to relax the acceptance criterion for Type B and C leakage testing in paragraph III.B.3(a) and III.C.3.

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The proposed exemptions are in accordance with the licensee's requests dated July 28, 1984, as supplemented by letters dated August 2 and 7, 1984.

The Need for the Proposed Action: The proposed exemptions are required to (a) provide the licensee with greater plant availability over the lifetime of the plant and (b) allow the licensee to begin ascension to full power while awaiting delivery of components to modify the protective systems on the diesel generators.

Environmental Impacts of the Proposed Action:

The proposed exemption grants the substitution of an airlock seal test for an airlock pressure test while the reactor is in a shutdown or refueling mode. With respect to this exemption from Appendix J, the increment of environmental impact is related solely to the potential increased probability of containment leakage during an accident. This could lead to higher offsite and control room doses. However, this potential increase is very small, due to the added seal leakage tests and the protection against excessive leakage afforded by the other tests required by Appendix J.

With respect to the exemption under consideration relating to relaxation of the acceptance criterion for Type B and C leakage testing, the potential increase in risk would be very small. This would be due to the compensatory features which could be provided and to the protection against excessive leakages afforded by the other tests required by Appendix J.

With respect to the exemption from GDC 17, the increment of environmental impact is related primarily to the increased probability of the Division 3 (HPCS) diesel generator failing on demand due to the lack of a second level of undervoltage protection or an emergency test mode override and to the increased

probability of the Division 1 and 2 (Standby) diesel generators tripping on generator ground overcurrent during accident conditions.

To facilitate this environmental assessment, all accident and transient events analyzed in Chapter 15 of the FSAR can be divided into two general categories. One category of events includes those events which have been addressed in a previous risk assessment study of Grand Gulf (RSSMAP)⁽¹⁾. These events are the most significant in terms of the radiological consequences and include, generally, accidents involving loss of coolant and certain transients which may lead to degraded decay heat removal capability. External events are not included in the RSSMAP study. However, external events, such as earthquakes, could cause core melt only by initiating a sequence of events of the type considered in the study. More detailed treatments of the risk from severe core damage events than those given by the Grand Gulf RSSMAP would not change the conclusions, in our judgment. The second category of events includes the non-RSSMAP events which are predicted to result in some radiological consequences, such as fuel handling accidents, offgas system failure, etc. These events result in consequences significantly below those predicted in the RSSMAP events; however, they are treated here because of their inclusion in the FSAR Chapter 15 events.

A review of the dominant contributors for the accident sequences, in the RSSMAP study above, indicates that the unavailability of the Division 1, 2 or 3 diesel generators represents only a partial contribution to the total core

(1) NUREG/CR-1659, "Reactor Safety Study Methodology Application Program: Grand Gulf #1 BWR Power Plant," October, 1981

melt frequency for these sequences. Because the missing specific features of the diesel generator control systems are only one of the many possible contributors to diesel generator unavailability, it can be concluded that the change in core melt frequency due to diesel generator failure based on the absence of these additional protective features would be extremely small.

For the non-RSSMAP events, Division 1, 2 and 3 diesel generators are not required to mitigate the consequences. Thus, there can be no significant impact on the environment.

With respect to non-radiological effluents, such as toxic or hazardous gas, the Division 1, 2 and 3 diesel generators play no role in mitigating the consequences of events leading to non-radiological effluent releases. The same applies to other non-radiological hazards, e.g., noise. For these reasons, the proposed exemptions are considered to have no environmental impact in the area of non-radiological hazards, effluent releases or any other aspect.

In summary, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with these proposed exemptions.

Alternative to the Proposed Action: Because we have concluded that there is no measurable environmental impact associated with the proposed exemptions, any alternatives to these exemptions will have either no environmental impact or greater environmental impact.

The principal alternative would be to deny the requested exemptions. This would not reduce environmental impacts of plant operations and would result in reduced operational flexibility and unwarranted delays in power ascension.

Alternative Use of Resources: This action does not involve the use of

resources not previously considered in connection with the "Final Environmental Statement Relating to Operation of Grand Gulf Station, Units 1 and 2," dated September 1981.

Agencies and Persons Consulted: The NRC staff reviewed the licensee's requests that support the proposed exemptions. The NRC staff did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed exemptions.

Based upon the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the requests for the exemptions dated July 28, 1984, as supplemented by letters dated August 2 and 7, 1984, which are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., and at the Hinds Jr. College, George M. McLendon Library, Raymond, Mississippi 39154.

Dated at Bethesda, Maryland, this 16th day of August 1984.

FOR THE NUCLEAR REGULATORY COMMISSION



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