

October 21, 1997

Mr. Joseph J. Hagan
Vice President, Operations GGNS
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR
GRAND GULF NUCLEAR STATION, UNIT 1 (TAC NO. M96177)

Dear Mr. Hagan:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application of July 15, 1996, (GNRO-96/00082), as supplemented by letters dated March 7 and April 29, 1997, (GNRO-97/00021 and 00035), for an exemption from the criticality monitoring requirements of 10 CFR 70.24(a), "Criticality Accident Requirements." The exemption is requested for the storage areas containing special nuclear material (SNM) in the form of (1) not-in-use in-core nuclear instrumentation (e.g., source range monitors) and (2) unirradiated fuel. For unirradiated fuel, the exemption is requested for the unirradiated fuel that is packaged in accordance with 10 CFR Part 71, "Packaging and Transportation of Radioactive Material," while the fuel is taken from the shipping trucks to the spent fuel pool area to be removed from the packaging, and the unirradiated fuel that is stored in the new fuel vault.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,
Jack N. Donohew
Jack N. Donohew, Senior Project Manager 10/21/97
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosure: Environmental Assessment

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Vice President, Operations GGNS
Entergy Operations, Inc.
P. O. Box 756
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The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in black ink that reads "Jack N. Donohew".

Jack N. Donohew, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosure: Environmental Assessment

cc w/encl: See next page

Mr. Joseph J. Hagan
Entergy Operations, Inc.

Grand Gulf Nuclear Station

cc:

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UNITED STATES NUCLEAR REGULATORY COMMISSION
ENERGY OPERATIONS, INC.
SYSTEM ENERGY RESOURCES, INC.
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION
ENERGY MISSISSIPPI, INC.
DOCKET NO. 50-416
GRAND GULF NUCLEAR STATION, UNIT 1
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC or the Commission) is considering the issuance of an exemption to Facility Operating License No. NPF-29, which was issued to Entergy Operations, Inc. (the licensee), for operation of the Grand Gulf Nuclear Station, Unit 1, (GGNS) located in Claiborne County, Mississippi.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would exempt the licensee from the criticality monitoring requirement in 10 CFR 70.24(a), "Criticality Accident Requirements," which requires a monitoring system that will energize clear audible alarms if accidental criticality occurs in each area in which special nuclear material (SNM) is handled, used, or stored. The proposed action is for monitoring the storage of SNM in the form of (1) not-in-use in-core nuclear instrumentation (e.g., source range monitors), which contain very small quantities of SNM, and (2) unirradiated fuel. For the unirradiated fuel, the exemption is requested for the unirradiated fuel that is packaged in

accordance in with 10 CFR Part 71, "Packaging and Transportation of Radioactive Material," while the fuel is onsite and taken from the shipping trucks to the spent fuel pool area to be removed from the packaging, and the unirradiated fuel that is stored in the new fuel vault. The unirradiated fuel that would be stored in the spent fuel pool would have the required 70.24(a) criticality accident monitoring system.

The proposed action is in accordance with the licensee's application dated July 15, 1996, as supplemented by the letters dated March 7 and April 29, 1997.

The Need for the Proposed Action:

The proposed action would allow the licensee an exemption from the requirement to provide criticality accident monitoring for the above two forms of SNM, listed in its application, while the forms are being stored at the site within the security fence in different plant areas (in-core nuclear instrumentation), or in the new fuel vault (unirradiated fuel), or while the unirradiated fuel is being transferred from shipping trucks to the spent fuel pool area to be removed from the Part 71 packaging.

The licensee stated that compliance to the criticality accident monitoring system requirements of 10 CFR 70.24(a) would result in a considerable expenditure of resources to install, maintain and operate a criticality monitoring system for the storage of the two forms of SNM, and there should be no concern about criticality ever occurring with the two forms of SNM as they are being stored onsite. There is too small a quantity of SNM, in the form of very thin coatings, present in the nuclear instrumentation for criticality, and unirradiated fuel assemblies would only be removed from the

NRC-approved (i.e., Part 71) packaging before being stored in the spent fuel pool where criticality monitors are in use, or in the new fuel vault where there are no criticality monitors.

In the new fuel vault, the unirradiated fuel would be stored in racks which are designed, as Safety Class 2 and Seismic Category I, to withstand all credible loadings to prevent damage and distortion of the racks, and to keep the subcriticality margin of at least 0.95 whether the vault is dry or flooded with water. The new fuel vault is in a concrete, Seismic Category I building that is designed to preclude the deleterious effects on the fuel by natural phenomena such as earthquakes, tornados, hurricanes, tornado missiles and floods.

The Part 71 package design ensures that a geometrically safe configuration for the fuel is maintained during transport, handling, storage and accident conditions, and precludes introduction of any moderating agents due to leak-tight construction, and; therefore, criticality is precluded due to the construction of the package and the storage configuration of the fuel in the package.

Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the proposed action and concludes that there is no significant environmental impacts if the exemption is granted. Inadvertent or accidental criticality will be precluded through compliance with the Technical Specifications (TS), the design of the fuel storage racks providing geometric spacing of unirradiated fuel assemblies in their storage locations, and administrative controls imposed on fuel handling procedures and the in-core nuclear instrumentation. TS requirements specify

reactivity limits for the fuel storage racks and minimum spacing between the fuel assemblies in the storage racks.

The proposed exemption to 10 CFR 70.24(a) does not affect the design or operation of the plant, does not involve any modifications to the plant or any increase in the licensed power for the plant, and will not create any new or unreviewed environmental impacts that were not considered in the Final Environmental Statement (FES) related to the operation of GGNS, NUREG-0777, dated September 1981. The proposed action will not increase the probability or consequences of any accidents. No changes are being made to any structure, system, or component in the plant, to how the plant is operated, in the types or amounts of any effluents that may be released offsite, and in the allowable individual or cumulative occupational radiation exposure for the plant. The amount of radioactive waste would not be changed by the proposed exemption. Accordingly, the Commission concludes that the proposed exemption would not result in any significant radiological impacts.

With regard to potential nonradiological impacts, the proposed action involves features located entirely within the restricted area as defined in 10 CFR Part 20. It does not affect the nonradiological plant effluents and has no other environmental impact. Accordingly, the Commission concludes that there are no significant nonradiological environmental impacts associated with the proposed action.

Alternatives to the Proposed Action:

Since the Commission has concluded there is no measurable environmental impact associated with the proposed action, any alternatives with equal or greater environmental impact need not be evaluated.

As an alternative to the proposed action, the staff considered denial of the proposed action. Denial of the request would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the FES for the GGNS.

Agencies and Persons Consulted:

In accordance with its stated policy, on October 20, 1997, the staff consulted with the Mississippi State official, Robert Goff of the Division of Radiological Health, State Board of Health, regarding the environmental impact of the proposed action. The State official had no comments.

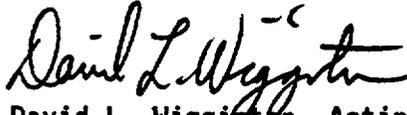
FINDING OF NO SIGNIFICANT IMPACT

Based upon the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letters dated July 15, 1996, March 7 and April 29, 1997, which are available for public inspection at the Commission's Public Document Room, The Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Judge George W. Armstrong Library, 220 S. Commerce Street, Natchez, Mississippi 39120.

Dated at Rockville, Maryland, this 21st day of October, 1997.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, reading "David L. Wigginton". The signature is written in dark ink and is positioned above the typed name.

David L. Wigginton, Acting Director
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation