September 24, 1990

Docket No. 50-416

Mr. William T. Cottle
Vice President, Operations GGNS
Entergy Operations, Inc.
Post Office Box 756
Port Gibson, Mississippi 39150

Dear Mr. Cottle:

SUBJECT: ISSUANCE OF AMENDMENT NO. 70 TO FACILITY OPERATING LICENSE NO. NPF-29 - GRAND GULF NUCLEAR STATION, UNIT 1, REGARDING CHANGES TO TECHNICAL SPECIFICATIONS FOR COLD SHUTDOWN AND REFUELING CONDITIONS (TAC NO. 76758)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 70 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated April 27, 1990, as revised July 5, 1990, August 6, 1990, August 9, 1990, August 20, 1990, and September 11, 1990.

The amendment revises the Technical Specifications (TS) and Bases by adding requirements for the operation and use of the alternate decay heat removal system (ADHRS) during future outages. In addition, the amendment requires automatic isolation of the reactor vessel and automatic initiation and injection of water into the reactor for one of the two emergency core cooling system (ECCS) subsystems required to be operable during cold shutdown and refueling to mitigate inadvertent reactor vessel drainage.

A copy of the Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,
ORIGINAL SIGNED BY:
Lester L. Kintner, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 70-to NPF-29
2. Safety Evaluation

cc w/enclosures:
See next page

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LO-with changes as discussed w/ L. Kintner on 9/18/90

Changes made 9/19/90 JHC

DFO1

OFC	:PD4-1/LA	:PD4-1/PM	:SRXB/BC	:OTSB/BC	:OGC	:PD4-1/D(A)	:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

September 24, 1990

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L L Kintner

Lester L. Kintner, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 70 to NPF-29
2. Safety Evaluation

cc w/enclosures:
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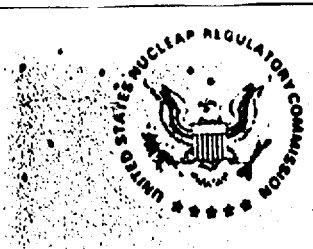

UNITED STATES
NUCLEAR REGULATORY COMMISS
WASHINGTON, D. C. 20555

ENTERGY OPERATIONS, INC.

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

MISSISSIPPI POWER AND LIGHT COMPANY

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 70
License No. NPF-29

1. The Nuclear Regulatory Commission (the Commission) has found that

   A. The application for amendment by the licensee dated April 27, 1990, and revised July 5, 1990, August 6, 1990, August 9, 1990, August 20, 1990, and September 11, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. NPF-29 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 70 , are hereby incorporated into this license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Theodore R. Quay

Theodore R. Quay, Acting Director
Project Directorate IV-1
Division of Reactor Projects - III
IV, V, and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 24, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 70

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised areas are indicated by marginal lines.

Remove	Insert
3/4 3-13	3/4 3-13
3/4 3-14	3/4 3-14
3/4 3-15	3/4 3-15
3/4 3-25	3/4 3-25
3/4 4-27	3/4 4-27
3/4 5-6	3/4 5-6
3/4 6-28	3/4 6-28
3/4 9-18	3/4 9-18
3/4 9-19	3/4 9-19
B 3/4 5-2	B 3/4 5-2
-	B 3/4 5-2a
B 3/4 9-2	B 3/4 9-2
-	B 3/4 9-2a

TABLE 3.3.2-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

TRIP FUNCTION	VALVE GROUPS OPERATED BY SIGNAL (a)	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (b)	APPLICABLE OPERATIONAL CONDITION	ACTION
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION				
i. RHR Equipment Room Ambient Temperature - High	4	1/room	1, 2, 3	27
j. RHR Equipment Room Δ Temp. - High	4	1/room	1, 2, 3	27
k. RHR/RCIC Steam Line Flow - High	4	1	1, 2, 3	27
l. Manual Initiation	4(k)	1	1, 2, 3	26
m. Drywell Pressure-High (ECCS-Division 1 and Division 2)	9(m)	1	1, 2, 3	27
6. RHR SYSTEM ISOLATION				
a. RHR Equipment Room Ambient Temperature - High	3	1/room	1, 2, 3	28
b. RHR Equipment Room Δ Temp. - High	3	1/room	1, 2, 3	28
c. Reactor Vessel Water Level - Low, Level 3	3 3(p)	2 2(p)	1, 2, 3 4, 5	28 31
d. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	3(1)	2	1, 2, 3	28
e. Drywell Pressure - High	3(1)	2	1, 2, 3	28
f. Manual Initiation	3	2	1, 2, 3	26

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

ACTION

ACTION 20 - Be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

ACTION 21 - Close the affected system isolation valve(s) within one hour or:
a. In OPERATIONAL CONDITION 1, 2, or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
b. In OPERATIONAL CONDITION *, suspend CORE ALTERATIONS, handling of irradiated fuel in the primary containment and operations with a potential for draining the reactor vessel.

ACTION 22 - Restore the manual initiation function to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION 23 - Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

ACTION 24 - Be in at least STARTUP within 6 hours.

ACTION 25 - Establish SECONDARY CONTAINMENT INTEGRITY with the standby gas treatment system operating within one hour.

ACTION 26 - Restore the manual initiation function to OPERABLE status within 8 hours or close the affected system isolation valves within the next hour and declare the affected system inoperable.

ACTION 27 - Close the affected system isolation valves within one hour and declare the affected system inoperable.

ACTION 28 - Within one hour lock the affected system isolation valves closed, or verify, by remote indication, that the valve is closed and electrically disarmed, or isolate the penetration(s) and declare the affected system inoperable.

ACTION 29 - Close the affected system isolation valves within one hour and declare the affected system or component inoperable or:
a. In OPERATIONAL CONDITION 1, 2 or 3 be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
b. In OPERATIONAL CONDITION # suspend CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

ACTION 30 - Declare the affected SLCS pump inoperable.

ACTION 31 - Isolate the shutdown cooling common suction line within one hour if it is not needed for shutdown cooling or initiate action within one hour to establish SECONDARY CONTAINMENT INTEGRITY.

NOTES

* When handling irradiated fuel in the primary or secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

** The low condenser vacuum MSIV closure may be manually bypassed during reactor SHUTDOWN or for reactor STARTUP when condenser vacuum is below the trip setpoint to allow opening of the MSIVs. The manual bypass shall be removed when condenser vacuum exceeds the trip setpoint.

\# During CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

\#\# With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

(a) See Specification 3.6.4, Table 3.6.4-1 for valves in each valve group.

TABLE 3.3.2-1 (Continued)
ISOLATION ACTUATION INSTRUMENTATION

NOTES (Continued)

(b) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.
(c) Also actuates the standby gas treatment system.
(d) Also actuates the control room emergency filtration system in the isolation mode of operation.
(e) Two upscale-Hi Hi, one upscale-Hi Hi and one downscale, or two downscale signals from the same trip system actuate the trip system and initiate isolation of the associated containment and drywell isolation valves.
(f) Also trips and isolates the mechanical vacuum pumps.
(g) Deleted.
(h) Also actuates secondary containment ventilation isolation dampers and valves per Table 3.6.6.2-1.
(i) Closes only RWCU system isolation valves G33-F001, G33-F004, and G33-F251.
(j) Actuates the Standby Gas Treatment System and isolates Auxiliary Building penetration of the ventilation systems within the Auxiliary Building.
(k) Closes only RCIC outboard valves. A concurrent RCIC initiation signal is required for isolation to occur.
(l) Valves E12-F037A and E12-F037B are closed by high drywell pressure. All other Group 3 valves are closed by high reactor pressure.
(m) Valve Group 9 requires concurrent drywell high pressure and RCIC Steam Supply Pressure-Low signals to isolate.
(n) Valves E12-F042A and E12-F042B are closed by Containment Spray System initiation signals.
(o) Also isolates valves E61-F009, E61-F010, E61-F056, and E61-F057 from Valve Group 7.
(p) Only required to isolate RHR system isolation valves E12-F008 and E12-F009. One trip system and/or isolation valve may be inoperable for up to 14 days without placing the trip system in the tripped condition provided the diesel generator associated with the OPERABLE isolation valve is OPERABLE.

TABLE 4.3.2.1-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION (Continued)				
h. Main Steam Line Tunnel Temperature Timer	NA	M	Q	1, 2, 3
i. RHR Equipment Room Ambient Temperature - High	S	M	A	1, 2, 3
j. RHR Equipment Room Δ Temp. - High	S	M	A	1, 2, 3
k. RHR/RCIC Steam Line Flow - High	S	M	R(c)	1, 2, 3
l. Manual Initiation	NA	M(a)	NA	1, 2, 3
m. Drywell Pressure-High (ECCS Division 1 and Division 2)	S	M	R(c)	1, 2, 3
6. RHR SYSTEM ISOLATION				
a. RHR Equipment Room Ambient Temperature - High	S	M	A	1, 2, 3
b. RHR Equipment Room Δ Temp. - High	S	M	A	1, 2, 3
c. Reactor Vessel Water Level - Low, Level 3	S	M	R(c)	1, 2, 3, 4, 5
d. Reactor Vessel (RHR Cut-in Permissive) Pressure - High	S	M	R(c)	1, 2, 3

LIMITING CONDITION FOR OPERATION

3.4.9.2 Two[#] shutdown cooling mode loops of the residual heat removal (RHR) system shall be OPERABLE[**] and, unless at least one recirculation pump is in operation, at least one shutdown cooling mode loop shall be in operation[*,##] with each loop consisting of at least:

a. One OPERABLE RHR pump, and

b. One OPERABLE RHR heat exchanger.

APPLICABILITY: OPERATIONAL CONDITION 4.

ACTION:

a. With less than the above required RHR shutdown cooling mode loops OPERABLE, within one hour and at least once per 24 hours thereafter, demonstrate the OPERABILITY of at least one alternate method capable of decay heat removal for each inoperable RHR shutdown cooling mode loop.

b. With no RHR shutdown cooling mode loop in operation, within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature and pressure at least once per hour.

SURVEILLANCE REQUIREMENTS

4.4.9.2 At least one shutdown cooling mode loop of the residual heat removal system or alternate method shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

[#]One RHR shutdown cooling mode loop may be inoperable for up to 2 hours for surveillance testing provided the other loop is OPERABLE and in operation.

*The shutdown cooling pump may be removed from operation for up to 2 hours per 8 hour period provided the other loop is OPERABLE.

##The shutdown cooling mode loop may be removed from operation during hydrostatic testing.

**One of the two shall have an OPERABLE associated diesel generator.

3/4 5.2 ECCS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.5.2 At least two** of the following shall be OPERABLE#:

a. The low pressure core spray (LPCS) system with a flow path capable of taking suction from the suppression pool and transferring the water through the spray sparger to the reactor vessel.

b. Low pressure coolant injection (LPCI) subsystem "A" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

c. Low pressure coolant injection (LPCI) subsystem "B" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

d. Low pressure coolant injection (LPCI) subsystem "C" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

e. The high pressure core spray (HPCS) system with a flow path capable of taking suction from one of the following water sources and transferring the water through the spray sparger to the reactor vessel:

1. From the suppression pool, or
2. When the suppression pool level is less than the limit or is drained, from the condensate storage tank containing at least 170,000 available gallons of water, equivalent to a level of 18 feet.

APPLICABILITY: OPERATIONAL CONDITION 4 and 5*.

ACTION:

a. With one of the above required subsystems/systems inoperable, provided an automatic subsystem/system is OPERABLE, restore at least two subsystems/systems to OPERABLE status within 4 hours or suspend all operations that have a potential for draining the reactor vessel. Otherwise, with no automatic subsystem/system OPERABLE, suspend all operations that have a potential for draining the reactor vessel.

b. With both of the above required subsystems/systems inoperable, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel. Restore at least one subsystem/system to OPERABLE status within 4 hours or establish SECONDARY CONTAINMENT INTEGRITY within the next 8 hours. OPERATIONAL CONDITION changes per Specification 3.0.4 are not permitted.

---

*The ECCS is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded, the reactor cavity and transfer canal gates in the upper containment pool are removed, and water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.

**One of the two required ECCS subsystems/systems shall have an OPERABLE associated diesel generator.

#One of the two required ECCS subsystems/systems may require manual realignment prior to initiation and injection.

3/4.6.4 CONTAINMENT AND DRYWELL ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.4 The containment and drywell isolation valves shown in Table 3.6.4-1 shall be OPERABLE with isolation times less than or equal to those shown in Table 3.6.4-1.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and #.

ACTION:

With one or more of the containment or drywell isolation valves shown in Table 3.6.4-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 4 hours either:

a. Restore the inoperable valve(s) to OPERABLE status, or

b. Isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolated position,* or

c. Isolate each affected penetration by use of at least one closed manual valve or blind flange*.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.**

*Isolation valves, except MSIVs, closed to satisfy these requirements may be reopened on an intermittent basis under administrative controls. OPERATIONAL CONDITION changes, as provided by Specification 3.0.4, are not allowed while isolation valves are open under these administrative controls.

#Isolation valves shown in Table 3.6.4-1 are also required to be OPERABLE when their associated actuation instrumentation is required to be OPERABLE per Table 3.3.2-1.

**Except for E12-F008 and E12-F009 in OPERATIONAL CONDITIONS 4 and 5 take action per Specification 3.3.2, Table 3.3.2-1, Trip Function 6.c.

3/4.9.11 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

HIGH WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.11.1 One of two of the following shall be OPERABLE# and, unless the alternate decay heat removal system (ADHRS) is in operation, at least one of the following two shall be in operation*:

a. residual heat removal (RHR) system shutdown cooling mode train "A", or

b. RHR system shutdown cooling mode train "B".

APPLICABILITY: OPERATIONAL CONDITION 5, when irradiated fuel is in the reactor vessel and the water level is greater than or equal to 22 feet 8 inches above the top of the reactor pressure vessel flange.

ACTION:

a. With no RHR shutdown cooling mode train OPERABLE, within one hour and at least once per 24 hours thereafter, demonstrate the OPERABILITY of at least one alternate method capable of decay heat removal. Otherwise, suspend all operations involving an increase in the reactor decay heat load and establish SECONDARY CONTAINMENT INTEGRITY within 4 hours.

b. With no RHR shutdown cooling mode train in operation, within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature at least once per hour.

SURVEILLANCE REQUIREMENTS

4.9.11.1 At least one shutdown cooling mode train of the residual heat removal system, ADHRS or alternate method shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

---

*The shutdown cooling pump or ADHRS may be removed from operation for up to 2 hours per 8-hour period.

#The one required shall have an OPERABLE associated diesel generator.

LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.11.2 Two of three of the following shall be OPERABLE# and at least one shall be in operation*:

a. residual heat removal (RHR) system shutdown cooling mode train "A", or

b. RHR system shutdown cooling mode train "B", or

c. alternate decay heat removal system (ADHRS) in the reactor cooling mode.

APPLICABILITY: OPERATIONAL CONDITION 5, when irradiated fuel is in the reactor vessel and the water level is less than 22 feet 8 inches above the top of the reactor pressure vessel flange.

ACTION:

a. With less than the above required shutdown cooling mode trains of the RHR system OPERABLE, within one hour and at least once per 24 hours thereafter, demonstrate the OPERABILITY of at least one alternate method capable of decay heat removal for each inoperable RHR shutdown cooling mode train. Otherwise, either raise water level to greater than or equal to 22 feet 8 inches above the top of the reactor pressure vessel flange within 12 hours of discovery of the inoperable system or alternate or suspend all operations involving an increase in the reactor decay heat load and initiate action within one hour to establish SECONDARY CONTAINMENT INTEGRITY.

b. With no RHR shutdown cooling mode train in operation, within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature at least once per hour.

SURVEILLANCE REQUIREMENTS

4.9.11.2 At least one shutdown cooling mode train of the residual heat removal system, ADHRS in the reactor cooling mode or alternate method shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

---

*The shutdown cooling pump or ADHRS may be removed from operation for up to 2 hours per 8-hour period.

#One of the two required shall have an OPERABLE associated diesel generator.

ECCS-OPERATING and SHUTDOWN (Continued)

The capacity of the system is selected to provide the required core cooling. The HPCS pump is designed to deliver greater than or equal to 1650/7115 gpm at differential pressures of 1147/200 psid. Initially, water from the condensate storage tank is used instead of injecting water from the suppression pool into the reactor, but no credit is taken in the safety analyses for the condensate storage tank water.

With the HPCS system inoperable, adequate core cooling is assured by the OPERABILITY of the redundant and diversified automatic depressurization system and both the LPCS and LPCI systems. In addition, the reactor core isolation cooling (RCIC) system, a system for which no credit is taken in the safety analysis, will automatically provide makeup at reactor operating pressures on a reactor low water level condition. The HPCS out-of-service period of 14 days is based on the demonstrated OPERABILITY of redundant and diversified low pressure core cooling systems.

The surveillance requirements provide adequate assurance that the HPCS system will be OPERABLE when required. Flow and total developed head values for surveillance testing include system losses to ensure design requirements are met. Although all active components are testable and full flow can be demonstrated by recirculation through a test loop during reactor operation, a complete functional test with reactor vessel injection requires reactor shutdown. The pump discharge piping is maintained full to prevent water hammer damage and to provide cooling at the earliest moment.

Upon failure of the HPCS system to function properly after a small break loss-of-coolant accident, the automatic depressurization system (ADS) automatically causes selected safety-relief valves to open, depressurizing the reactor so that flow from the low pressure core cooling systems can enter the core in time to limit fuel cladding temperature to less than 2200°F. ADS is conservatively required to be OPERABLE whenever reactor vessel pressure exceeds 135 psig even though LPCS has incipient flow into the reactor pressure vessel at 295 psid and 7115 gpm rated flow at 128 psid, and LPCI has incipient flow into the reactor pressure vessel at 229 psid and 7450 gpm rated flow at 24 psid.

ADS automatically controls eight selected safety-relief valves although the safety analysis only takes credit for seven valves. It is therefore appropriate to permit one valve to be out-of-service for up to 14 days without materially reducing system reliability.

In OPERATIONAL CONDITIONS 4 and 5 this specification permits one ECCS to be capable of manual realignment in order to perform its vessel injection function. The ECCS requiring manual realignment shall be capable of being realigned from control room panels within 20 minutes.

In OPERATIONAL CONDITIONS 4 and 5, LPCI "C" is prohibited from simultaneously operating with the alternate decay heat removal system (ADHRS).

3/4.5.3 SUPPRESSION POOL

The supression pool is required to be OPERABLE as part of the ECCS to ensure that a sufficient supply of water is available to the HPCS, LPCS and LPCI systems in the event of a LOCA. This limit on suppression pool minimum water volume ensures that sufficient water is available to permit recirculation cooling flow to the core. The OPERABILITY of the suppression pool in OPERATIONAL CONDITIONS 1, 2 or 3 is required by Specification 3.6.3.1.

Repair work might require making the suppression pool inoperable. This specification will permit those repairs to be made and at the same time give assurance that the irradiated fuel has an adequate cooling water supply when the suppression pool must be made inoperable, including draining, in OPERATIONAL CONDITION 4 or 5.

3/4.9.7 CRANE TRAVEL - SPENT FUEL AND UPPER CONTAINMENT FUEL STORAGE POOLS

The restriction on movement of loads in excess of the nominal weight of a fuel assembly over other fuel assemblies in the storage pools ensures that in the event this load is dropped (1) the activity release will be limited to that contained in a single fuel assembly, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the safety analyses.

3/4.9.8 and 3/4.9.9 WATER LEVEL - REACTOR VESSEL and WATER LEVEL - SPENT FUEL AND UPPER CONTAINMENT FUEL STORAGE POOLS

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. This minimum water depth is consistent with the assumptions of the accident analysis.

3/4.9.10 CONTROL ROD REMOVAL

These specifications ensure that maintenance or repair of control rods or control rod drives will be performed under conditions that limit the probability of inadvertent criticality. The requirements for simultaneous removal of more than one control rod are more stringent since the SHUTDOWN MARGIN specification provides for the core to remain subcritical with only one control rod fully withdrawn.

3/4.9.11 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

An OPERABLE residual heat removal (RHR) system shutdown cooling mode train consists of at least one OPERABLE RHR pump and one OPERABLE RHR heat exchanger train.

The requirement that at least one residual heat removal loop be OPERABLE and in operation or that an alternate method capable of decay heat removal be demonstrated and that an alternate method of coolant mixing be in operation ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during REFUELING, and (2) sufficient coolant circulation would be available through the reactor core to assure accurate temperature indication and to distribute and prevent stratification of the poison in the event it becomes necessary to actuate the standby liquid control system.

The requirement to have two shutdown cooling mode loops OPERABLE when there is less than 22 feet 8 inches of water above the reactor vessel flange ensures that a single failure of the operating loop will not result in a complete loss of residual heat removal capability. With the reactor vessel head removed and 22 feet 8 inches of water above the reactor vessel flange, a large heat sink is available for core cooling. Thus, in the event a failure of the operating RHR loop, adequate time is provided to initiate alternate methods capable of decay heat removal or emergency procedures to cool the core.

3/4.9.11 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION (continued)

The alternate decay heat removal system (ADHRS) is designed to provide decay heat removal via the plant service water system. ADHRS is capable of maintaining reactor coolant temperatures below technical specification limits during REFUELING operations. For specification 3.9.11.2 additional requirements are imposed during ADHRS operation since ADHRS is not designed as a safety-related system and has no onsite power supply capability. An OPERABLE ADHRS in the reactor cooling mode consists of two OPERABLE ADHRS pumps taking suction from reactor recirculation system loop "B", passing the water through two OPERABLE ADHRS heat exchangers and returning the water to the reactor vessel via the low pressure coolant injection "C" injection line.

In OPERATIONAL CONDITION 5, simultaneous operation of the ADHRS in the reactor cooling mode and RHR system shutdown cooling mode trains "A" and "B" is prohibited for certain alignments of these systems.

3/4.9.12 HORIZONTAL FUEL TRANSFER SYSTEM

The purpose of the horizontal fuel transfer system specification is to control personnel access to those potentially high radiation areas immediately adjacent to the system and to assure safe operation of the system.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 70 TO FACILITY OPERATING LICENSE NO. NPF-29

ENTERGY OPERATIONS, INC.

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated April 27, 1990, as revised July 5, 1990, August 6, 1990, August 9, 1990, August 20, 1990, and September 11, 1990, the licensee (System Energy Resources, Inc., before June 6, 1990, and Entergy Operations, Inc., on or after June 6, 1990), requested an amendment to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. The licensee's revised applications provided additional information regarding implementation of the proposed amendment but did not significantly alter the action previously noticed or affect the description of the action published in the Federal Register on July 25, 1990 (55 FR 30296).

The proposed amendment would revise the Grand Gulf Nuclear Station, Unit 1 (GGNS-1) Technical Specifications (TS) and Bases by adding requirements for the operation and use of the alternate decay heat removal system (ADHRS) during future GGNS-1 outages. In addition, the amendment would require automatic isolation of the reactor vessel and automatic injection of water into the reactor by one of the two emergency core cooling system (ECCS) subsystems required to be operable during Operational Condition (OC) 4 (cold shutdown) and OC 5 (refueling) to mitigate inadvertent reactor vessel drainage.

The changes which would be effected by the proposed TSs, are as follows:

TS 3/4.3.2 Isolation Actuation Instrumentation

Table 3.3.2-1 is revised to require the operability of the reactor vessel low water level (Level 3) trip function to isolate RHR system isolation valves E12-F008 and E12-F009 during Operational Conditions (OCs) 4 and 5. Note (p) is added to allow one trip system and/or isolation valve to be inoperable for 14 days, provided the diesel generator associated with the operable isolation valve is operable. Also, Action 31 is added to specify the measures to be taken if the trip function or the isolation valves become inoperable during OCs 4 and 5. Table 4.3.2.1-1 is revised to require surveillance testing of the reactor vessel low water level (Level 3) RHR system isolation trip function in OCs 4 and 5.

TS 3/4.4.9.2 Reactor Coolant System - Cold Shutdown

The Limiting Condition for Operation (LCO) of TS 3.4.9.2 is revised to specify that one of the two required RHR system shutdown cooling mode loops shall have an operable associated diesel generator. In addition, TS notations applicable only for RF03 are deleted.

TS 3/4.5.2 Emergency Core Cooling Systems (ECCS) - Shutdown

The LCO of TS 3.5.2 is revised by deleting the provision which allows manual realignment for the three LPCI subsystems and adding a note to the LCO which allows only one of the two required ECCS subsystems or systems to be manually realigned. Action "a." is modified to specify that operations that have a potential for draining the reactor vessel be suspended if the automatic ECCS subsystem/system required by the LCO is inoperable. In addition, TS notations applicable only for RF03 are deleted.

TS 3/4.6.4 Containment Systems - Containment and Drywell Isolation Valves

The Action of TS 3.6.4 is revised to provide remedial measures if the required automatic isolation valves, E12-F008 and E12-F009, become inoperable in OCs 4 and 5. In addition, TS notations applicable only for RF03 are deleted.

TS 3/4.9.11.1 Refueling Operations - Residual Heat Removal and Coolant Circulation, High Water Level

The LCO and Surveillance Requirements (SR) of TS 3/4.9.11.1 are revised to recognize the ADHRS reactor cooling mode in operation as an acceptable substitute for the previously required RHR shutdown cooling mode train being in operation provided one RHR shutdown cooling mode train and its associated diesel generator are operable. In addition, TS notations applicable only for RF03 are deleted.

TS 3/4.9.11.2 Refueling Operations - Residual Heat Removal and Coolant Circulation, Low Water Level

The LCO and SR of TS 3/4.9.11.2 are revised to recognize the ADHRS reactor cooling mode as an acceptable third shutdown cooling mode in addition to the two RHR shutdown cooling mode trains. A footnote is added specifying that one of the two required shutdown cooling modes must have an operable associated diesel generator. Action a. is revised to require that if the action cannot be taken, either water level must be raised to the high level, or all operations involving an increase in the reactor decay heat load must be suspended and action to establish Secondary Containment Integrity within one hour be initiated. In addition, TS notations applicable only for RF03 are deleted.

Bases 3/4.5.2 ECCS - Shutdown

A paragraph is added to reflect changes in TS 3/4.5.2 and state that the one ECCS subsystem or system requiring manual realignment shall be capable of being realigned from the control room panels within 20 minutes.

Another paragraph is added prohibiting LPCI line "C" from simultaneous operation with ADHRS.

Bases 3/4.9.11 Residual Heat Removal and Coolant Circulation

A paragraph is added stating that an operable RHR system shutdown cooling mode train includes an operable RHR pump and an operable RHR heat exchanger.

Another paragraph is added describing the ADHRS purpose, its acceptability as another shutdown cooling system during Refueling (OC 5), additional requirements imposed to compensate for its not being safety related and not being capable of being powered by a diesel generator, and defining an operable ADHRS as having two operable ADHRS pumps and two operable ADHRS heat exchangers.

A third paragraph is added to caution that simultaneous operation of the ADHRS reactor cooling mode and RHR system shutdown cooling mode trains "A" and "B" are prohibited for certain alignments in OC 5.

2.0 EVALUATION

The alternate decay heat removal system (ADHRS) was designed and built to supplement the residual heat removal (RHR) system shutdown cooling mode during Operational Condition (OC) 4, "Cold Shutdown," and OC 5, "Refueling." During each refueling outage, one or both of the RHR shutdown cooling mode loops are removed from service to perform maintenance or surveillance on the loops or on supporting systems. The ADHRS was approved by the NRC for one-time use during the third refueling outage (RF03), contingent upon the licensee's commitment to implement administrative controls to define operability requirements of the ADHRS in lieu of Technical Specifications (TS). The licensee also committed to implement administrative controls in lieu of TS for the automatic isolation of the reactor vessel, and the automatic injection of water into the reactor vessel in the event of inadvertent drainage of reactor coolant from the vessel. For the long term use of the ADHRS, in subsequent outages, the licensee committed to propose TS changes. The submittals identified in Section 1.0, provide the licensee's proposed TS changes and administrative controls for use of the ADHRS, automatic isolation of the reactor vessel, and automatic injection of water into the vessel.

The NRC staff's evaluation of the ADHRS design and one-time use in RF03 was reported in its Safety Evaluation supporting Amendment No. 59 to the Facility Operating License issued on March 27, 1989. The staff's evaluation of the TS and administrative controls for equipment needed to

mitigate a draindown event were reported in its Safety Evaluation supporting Amendment No. 58 to the Facility Operating License issued on March 16, 1989. This evaluation determines whether the TS and administrative controls, proposed for long term use of the ADHRS, meet the commitments and, resolve staff concerns identified in the March 16, and March 27, 1989 Safety Evaluations. The administrative controls, proposed for long term ADHRS use, are the same as those approved by the staff for one-time use in RF03, except for those superseded by the proposed TS changes.

2.1 Administrative Controls

The ADHRS is not a safety-related system and cannot be powered by an emergency diesel generator. The system has two pumps and two heat exchangers. Decay heat transported from the reactor fuel is transferred to plant service water in the two heat exchangers. The ADHRS can take suction from the reactor, the spent fuel pool, or the suppression pool; however, the flow path for shutdown cooling of the fuel in the reactor (called ADHRS reactor cooling mode in the proposed TS) takes suction through the RHR common suction line and discharges through the LPCI line "C." The ADHRS is designed to be used only during cold shutdown (OC 4) and refueling (OC 5). Heat removal capability is designed to maintain average reactor coolant temperature less than the OC 4 TS limit (200°F) at one day after shutdown and less than the OC 5 TS limit (140°F) at seven days after shutdown. The ADHRS can be operated from the control room. System flow can be varied from 1000 gpm to 3600 gpm. Reactor coolant temperature is monitored at the inlet and outlet of the heat exchangers. A radiation monitor in the plant service water line is included in the present TS.

The licensee has incorporated the ADHRS in the Updated Final Safety Analysis Report as another system designed for shutdown cooling. In addition, the RHR System Operating Instruction (SOI) and the Off-Normal Event Procedure (ONEP) 05-1-01-III-1 have been revised to incorporate the use of ADHRS into its operating procedures, off normal procedures (such as loss of decay heat removal), and restrictions and administrative controls. These procedures prohibit the use of ADHRS in OC 1 "Power Operation," OC 2 "Startup," and OC 3 "Hot Shutdown." In addition, these procedures require that the valves which isolate the ADHRS from connected plant systems during these Operational Conditions be either locked closed or deenergized. The procedures require the ADHRS to be stopped and manually isolated if loss of shutdown cooling occurs during OC 4 when the reactor vessel head is on to prevent over pressurization of the ADHRS. Potentially adverse effects due to simultaneous operation of the ADHRS and certain alignments of the RHR System shutdown cooling mode trains "A" and "B," and simultaneous operation of the ADHRS and LPCI subsystem "C" are prohibited. Manually-aligned ECCS subsystems must be capable of being properly aligned with pumps running and injecting water into the reactor

vessel within 20 minutes to be considered operable. Some of these administrative controls are included in the proposed TS Bases. The staff concludes that administrative controls for potentially adverse system interactions have been adequately addressed by the licensee.

One staff concern to be resolved for long-term ADHRS use, identified in its previous Safety Evaluations dated March 16 and March 27, 1989, was resolved by the licensee's submittals. The jockey pumps which keep the discharge lines of LPCI lines "A," "B," and "C" full of water must be turned off when the ADHRS is in operation. Turning the jockey pumps off is necessary when operating ADHRS because a valve upstream of the suction to the jockey pumps must be closed. In its submittals, the licensee stated that during RF03 operation of the ADHRS, the keep-fill line pressure alarms did not actuate for LPCI "A" or "B" discharge lines. However, if LPCI "A" or "B" did become inoperable for this reason during ADHRS operation, the Operations Annunciator Response Instruction adequately addresses actions to be taken. Turning the LPCI "C" jockey pump off was a concern because it is designed to keep the reference leg filled with water for one division of suppression pool water level instrumentation. Based on a review of the design and operational characteristics of the ADHRS, the licensee has determined that the ADHRS, while operating, produces sufficient pressure to keep the reference leg of the water level instrumentation filled with water. The licensee concluded, and the staff agrees, that this concern has been resolved.

The licensee has committed to include calculated thermal performance of the ADHRS as a function of time after reactor shutdown in administrative procedures that control the use of ADHRS to assure that its use will be within design heat removal capability. The ADHRS will not be used unless prior performance calculations indicate the TS limitation on average reactor water temperature will be met. In addition, when the ADHRS is used for new conditions, the performance will be demonstrated by recording relevant thermal and hydraulic parameters. The ADHRS heat exchangers should be included in the periodic performance testing recommended in Generic Letter 89-13 "Service Water System Problems Affecting Safety-Related Equipment." For long-term usage, plant service water may cause fouling of the tubes and tubes may need to be plugged if they leak.

2.2 RHR System Shutdown Cooling Mode Train

In its submittals, the licensee stated that "RHR system shutdown cooling mode train" as used in TS 3.4.9.2, TS 3.9.11.1, and TS 3.9.11.2 identifies two flow paths for return of reactor coolant to the reactor vessel; (1) through the feedwater spargers, or (2) through the LPCI lines. This is a change in the normal flow path used for shutdown cooling and would allow greater flexibility in scheduling maintenance work during the outage. The Updated Final Safety Analysis Report (UFSAR) was revised in 1989 based on a 10 CFR 50.59 safety analysis to reflect this changed definition of RHR system shutdown cooling mode train. The staff has reviewed the bases for this change in the coolant return flow path and the licensee's analyses to justify it.

The licensee's 10 CFR 50.59 analysis addressed the mechanical design of the LPCI nozzles, flow deflectors, and thermal shields for limited usage of the LPCI injection line for shutdown cooling. A total of 60 cycles of 15 minutes duration in OC4 and 60 cycles of 14 days duration in OC5 was analyzed and found to have usage factors below design allowables and stresses below ASME Code limits. Other submittals state that administrative controls are required in OC5 to prevent removal of fuel assemblies near the injection outlet so as to prevent mechanical damage to incore instrumentation and control rods. However, reactor coolant circulation and mixing were not addressed.

The licensee was requested to provide an evaluation of the adequacy of returning reactor coolant via the LPCI injection line versus return flow via the feedwater sparger, with respect to effective coolant circulation and temperature monitoring. The licensee provided an evaluation by letter dated August 9, 1990. The evaluation demonstrated that the return of coolant via the LPCI injection line by either RHR or by ADHRS during OCs 4 and 5 is acceptable for maintaining coolant circulation, mixing, heat removal, and temperature monitoring and control. The staff agrees with this conclusion.

The staff concludes that coolant return paths through LPCI injection lines are acceptable when using the RHR for shutdown cooling in OC 4 or OC5. As provided in the licensee's administrative controls, usage of these flow paths is limited to that analyzed in the 10 CFR 50.59 analysis, and these flow paths are not used during removal of fuel assemblies near injection line outlets.

2.3 Changes to Technical Specifications

The licensee has proposed changes to the TS and Bases to implement limiting conditions for operation and surveillance requirements for: (1) long-term use of the ADHRS and RHR system in shutdown cooling, and (2) automatic isolation of the reactor and injection of water using an ECCS pump in an inadvertent draindown of reactor water. These changes are addressed separately below.

2.3.1 Shutdown Cooling Requirements (TS 3/4.4.9.2, TS 3/4.9.11.1, TS 3/4.9.11.2 and TS Bases 3/4.9.11)

The ADHRS can only be powered by offsite power and uses plant service water. Thus, the ADHRS is more vulnerable to loss of heat removal capability than an RHR shutdown cooling mode loop. In addition, the present TS do not require on-site emergency diesel generator power for an operable RHR shutdown cooling mode loop or train. For one-time usage of ADHRS in RF03, the licensee proposed administrative requirements, which the staff approved. The approved requirements were:

1. For TS 3.4.9.2 which is applicable to the cold shutdown reactor condition (OC4) and TS 3.9.11.2 which is applicable to the refueling condition (OC5 with a low water level), two shutdown cooling systems were required - one operable and one operating. Additional requirements were:

a. One of the two required systems shall be capable of being powered by an onsite diesel generator.

b. To provide for loss of the operating system, the operable system shall be capable of being placed in service in accordance with relevant TS Action Statements.

c. To provide for loss of the operating system and loss of offsite power, an ECCS system shall be operable and capable of being powered by an onsite diesel generator.

2. For TS 3.9.11.1, which is applicable to the refueling condition (OC5 with a high water level), one operating shutdown cooling system is required. To provide for loss of offsite power, if the required system is not capable of being powered by an onsite diesel generator (e.g., the ADHRS), an RHR system and its associated onsite diesel generator shall be operable.

The proposed TS changes meet these requirements. The limiting conditions for operation (LCOs) of TS 3/4.4.9.2, TS 3/4.9.11.1, and TS 3/4.9.11.2 would be modified to require at least one RHR system shutdown cooling mode train and its associated diesel generator to be operable. In addition, the LCOs, TS 3/4.9.11.1, and TS 3/4.9.11.2 would be changed to include the ADHRS as an acceptable system for shutdown cooling. An operable ADHRS would be defined in the Bases to TS Bases 3/4.9.11 as having two pumps and two heat exchangers, taking suction from the reactor coolant "B" recirculation loop and discharging through the LPCI "C" line to the reactor.

A new requirement would be added to Action "a." of TS 3/4.9.11.2 (OC 5 with low water level) to require raising the water level to the high water level of TS 3/4.9.11.1 if the Action requirements cannot be met. This would result in placing the plant in a safer configuration because only one shutdown cooling system is required with a high water level versus two required with a low water level.

The Surveillance Requirement (SR) 4.9.11.1 and SR 4.9.11.2 would be changed to include the ADHRS. This surveillance requires verification at least once per 12 hours that the shutdown cooling system required to be operating is circulating reactor coolant. In addition, the notes to the LCO wound be changed to include the ADHRS. The notes permit the removal of the shutdown cooling pump from operation for up to 2 hours per an 8 hour period.

The staff concludes that with the proposed TS changes and administrative controls described in Sections 2.1 and 2.2, the use of the ADHRS for shutdown cooling meets or exceeds administrative requirements proposed by the licensee, and approved by the staff in its Safety Evaluation dated March 27, 1989. The staff further concludes that the proposed TS meet or exceed the level of safety in current TS for shutdown cooling. Accordingly, the proposed changes for TS 3/4.4.9.2, TS 3/4.9.11.1, TS 3/4.9.11.2 and TS Bases 3/4.9.11, are acceptable.

2.2.2 Draindrown Event Requirements (TS 3/4.3.2, TS 3/4.5.2, TS 3/4.6.4 and TS Bases 3/4.5.2)

The present TS for ECCS in OC 4 and for reactor vessel isolation in OC 4 and OC 5 allow manual actuation of ECCS and manual reactor vessel isolation for mitigation of a draindown event.

For one-time usage of an exception to TS 3.0.4 in RF03 to allow draindown of the water level during refueling (OC 5) while using the ADHRS for shutdown cooling, the licensee proposed, and the staff approved, administrative controls for automatic ECCS initiation and water injection. In addition, the licensee proposed, and the staff approved, administrative controls for requiring operable isolation valves in the RHR common mode suction level (E12-F008 and E12-F009), and operable isolation actuation instrumentation (RHR system isolation on reactor vessel low water level-Level 3). The approved requirements were:

1. For TS 3.5.2, which is applicable to cold shutdown (OC 4), at least one ECCS subsystem or system was required to be capable of automatic initiation and water injection.

2. For TS 3.3.2 and TS 3.6.4, at least one of the isolation valves and associated isolation actuation instrumentation was required to be operable during OC 4 and OC 5.

The proposed changes to TS 3.5.2 meet or exceed these requirements. The LCO of TS 3.5.2 would be revised to delete the provision for manual alignment of the three LPCI subsystems, and to allow manual alignment of only one of the two required ECCS subsystems or systems. In addition, the LCO would require one of the two required ECCS subsystems or systems to have an operable associated diesel generator. Action "a." of TS 3.5.2 would be revised to require suspension of operations having a potential to drain the reactor vessel in the event the automatic ECCS subsystem or system is inoperable. The Bases for TS 3.5.2 would be revised to state that an operable manually-aligned ECCS subsystem or system must be capable of being aligned within 20 minutes. This time interval is based on the licensee's analysis of a draindown event. The Bases for TS 3.5.2 would also prohibit LPCI "C" ECCS subsystem from simultaneous operation with the ADHRS.

The proposed changes to TS 3/4.3.2 and TS 3/4.6.4 meet or exceed the previously approved requirements. Operability and surveillance of both RHR system isolation valves and both trip systems of the RHR system isolation instrumentation (Level 3 of the Reactor vessel water level instrumentation), would be required in OC 4 and OC 5. An added note would allow one valve and/or trip system to be inoperable for 14 days provided the diesel generator associated with the operable isolation valve is operable. An added Action statement for an inoperable instrumentation channel would require the isolation valve to be closed, if the line is

not needed for shutdown cooling, or to establish secondary containment integrity. A footnote would be added to the Action statement of TS 3.6.4 to require use of the Action statement of TS 3.3.2 if one of the isolation valves becomes inoperable.

The staff concludes that with the administrative controls described in Sections 2.1 and 2.2, the proposed changes for TS 3/4.3.2, TS 3/4.5.2, TS 3/4.6.4, and TS Bases 3/4.5.2 meet or exceed the administrative requirements proposed by the licensee, and approved by the staff in its Safety Evaluations dated March 16 and March 27, 1989. The staff further concludes that the proposed TS meet or exceed the level of safety in current TS for an inadvertent draindown event. Accordingly, the proposed changes to these TS and TS Bases are acceptable.

2.4 Summary

The staff concludes that the proposed TS changes meet or exceed the administrative requirements implemented by the licensee for one-time use of the ADHRS during the third refueling outage and approved by the staff in its Safety Evaluations dated March 16 and March 27, 1989. The staff further concludes that technical concerns raised in the previous review regarding the design and use of the ADHRS have been resolved by the submittals. The licensee has committed to incorporate administrative controls into procedures to assure the use of ADHRS will be within design heat removal capability.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes the surveillance requirements. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released off site, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration, and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration, which was published in the Federal Register on July 25, 1990 (55 FR 30296), and consulted with the State of Mississippi. No public comments or requests for hearing were received, and the State of Mississppi did not have any comments.

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of this amendment will not be inimical to the common defense and the security, or to the health and safety of the public.

Date: September 24, 1990

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