

BEFORE THE
UNITED STATES NUCLEAR REGULATORY COMMISSION

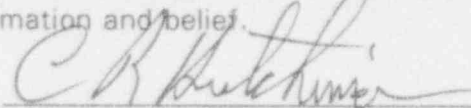
LICENSE NO. NPF-29

DOCKET NO. 50-416

IN THE MATTER OF
MISSISSIPPI POWER & LIGHT COMPANY
and
SYSTEM ENERGY RESOURCES, INC.
and
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION
and
ENTERGY OPERATIONS, INC.

AFFIRMATION


I, C. R. Hutchinson, being duly sworn, state that I am Vice President, Operations GGNS of Entergy Operations, Inc.; that on behalf of Entergy Operations, Inc., System Energy Resources, Inc., and South Mississippi Electric Power Association I am authorized by Entergy Operations, Inc. to sign and file with the Nuclear Regulatory Commission, this application for amendment of the Operating License of the Grand Gulf Nuclear Station; that I signed this application as Vice President, Operations GGNS of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information and belief.


C. R. Hutchinson

STATE OF MISSISSIPPI
COUNTY OF CLAIBORNE

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 17th day of August, 1993.

(SEAL)


Notary Public

My commission expires:

December 28, 1995

PROPOSED CHANGE TO THE OPERATING LICENSE

LOOSE PART DETECTION SYSTEM

(GGNS PCOL-93/07)

A. SUBJECT: Loose Part Detection System

Affected Technical Specifications: 3/4.3.7.10, B 3/4.3.7.10

Affected Technical Specification Pages: 3/4 3-90, B 3/4 3-6

B. DISCUSSION:

The Loose Part Detection System (LPDS) is a non-safety related system used to monitor and detect loose parts within primary plant systems which interface with the reactor vessel. As discussed by GGNS FSAR section 4.4.6.1.4, the LPDS is intended to be used for informational purposes only by Plant Operations personnel. The system is not solely relied upon for performance of any safety related activities.

The present system consists of sixteen sensors (accelerometers) located at various points on the external surface of the primary system. Eight of the sensor locations are designated as "active" channel locations, and are continuously monitored on-line by the system. The "active" sensors are supplemented by eight "passive" sensors, which are located in equivalent locations.

The current LPDS surveillance requirements implemented by Technical Specifications consist of the following:

- a. CHANNEL CHECK at least once per 24 hours
- b. CHANNEL FUNCTIONAL TEST at least once per 31 days
- c. CHANNEL CALIBRATION at least once per 18 months

The associated LCO 3.3.7.10 does not require entry into an Action Statement but requires submittal of a Special Report to the Commission within ten days if one or more LPDS channels are inoperable for more than thirty days.

The proposed change consists of relocating the stated surveillance requirements in its entirety to our administrative control as complemented by the Improved Standard Technical Specifications, NUREG 1434, Revision 0. Our ultimate goal is to evaluate the LPDS and eliminate overly restrictive redundant monitoring capability under 50.59. Implementation of the proposed change would maintain an LPDS testing program and an LPDS preventative maintenance program, which uses the vendor manual instructions as a bases for the remaining monitors.

C. JUSTIFICATION:

The LPDS testing program currently implemented by GGNS Technical Specifications is based on Regulatory Guide (RG) 1.133. The Regulatory Guide requires LPDS sensors to be strategically located on the exterior surface of the Reactor Coolant Pressure Boundary (RCPB).

The FSAR defines the RCPB as the area containing the following components:

- Nuclear boiler system
- Main steam
- Feedwater
- Reactor recirculation
- Reactor water cleanup
- Control rod drive
- Reactor core isolation cooling
- Standby liquid core spray
- Low pressure core spray
- High Pressure core spray
- Residual heat removal
- Main steam isolation valve leakage control
- Feedwater leakage control

The sensor locations equivalent to the systems described above installed at GGNS include the following:

Reactor vessel bottom control rod	(2 Active , 2 Passive)
Recirculation Water 'A' Pump suction	(1 Active)
Recirculation Water 'B' Pump suction	(1 Active)
Recirculation Water 'A' Pump discharge	(1 Passive)
Recirculation Water 'B' Pump discharge	(1 Passive)
Feedwater 'A' inlet pipe	(1 Passive)
Feedwater 'B' inlet pipe	(1 Passive)
High Pressure Core Spray (HPCS) inlet pipe	(1 Active)
Low Pressure Core Spray (LPCS) inlet pipe	(1 Active)
Steam Outlet 'A' pipe	(1 Active)
Steam Outlet 'B' pipe	(1 Active)
Steam Outlet 'C' pipe	(1 Passive)
Steam Outlet 'D' pipe	(1 Passive)

Conformance to RG 1.133 is discussed by AECM-86/0335 dated November 25, 1986 which was provided in response to GGNS Operating License Condition 2.C(14).

The functional capability of the LPDS system components as discussed by the GGNS FSAR conforms to necessary seismic qualifications and functional operability requirements in harsh environments considering acceptability of equipment located in the drywell or other areas of high temperature/humidity although the system is not included in the Equipment Qualification Program.

The functional reliability of the system has been demonstrated by the system maintenance history which normally utilizes approximately 120 man-hours of maintenance time per year. Past history also reveals a limited number of system failures since commercial operation of GGNS.

Although the reliability of the system components reveals a low failure rate, the system indications are not always indicative of a loose part due to sensor sensitivity which may detect other system noise.

On February 6, 1987, the NRC published its Interim Policy Statement on Technical Specification Improvements for Nuclear Power Plants in the Federal Register (52 FR 3788). In late 1987, based on the Interim policy Statement, each of the four nuclear steam supply system (NSSS) owners groups submitted proposals identifying requirements in the existing Standard Technical Specifications (STS) that could be relocated from the TS to licensee controlled documents.

The staff reviewed these submittals and published its conclusion in the report "NRC Staff Review of Nuclear Steam Supply Vendors Owners Groups' Application of the Commission's Interim Policy statement Criteria to Standard Technical Specifications" (Split Report) dated May 9, 1988.

The NRC Interim Policy Statement provides criteria to be utilized in determining which requirements need to be governed by TS. The goal is to assure that TS requirements are consistent with 10CFR50.36 and have a sound safety basis. The split report identified which STS requirements must be retained in the new STS (having met one or more criteria) and those requirements which could be relocated (having met none of the criteria).

Following the guidance of the split report, the owners groups proposed improved STS which were subsequently approved and published by the staff as improved STS NUREG reports.

NEDO-31466 "Technical Specification Screening Criteria Application and Risk Assessment" dated November 1987, designated the Loose Part Detection System instrumentation LCO as a TS which may be relocated. This was reviewed and approved by the staff in the Split report. Therefore, GGNS proposes to relocate Loose Part Detection System Instrumentation requirements consistent with the NRC approved TS improvements. Upon approval of this change, LPDS currently located in the TS will be relocated to our administrative control and governed under the rigorous provisions of 10CFR50.59.

D. NO SIGNIFICANT HAZARDS CONSIDERATIONS:

Surveillance requirement 4.3.7.10 would be revised to relocate the present operability testing, channel check, and calibration requirements as stipulated in the Improved Standard Technical Specifications, NUREG 1434, Revision 0.

The testing requirements relocated to our administrative control will continue to be implemented by administrative procedures and the preventative maintenance program. The relocated requirements will be adequately controlled via the administrative requirements of Technical Specification 6.5.3. Those requirements include review of changes for unreviewed safety questions in accordance with the provisions of 10CFR50.59.

The Commission has provided standards for determining whether a no significant hazards consideration exists as stated in 10CFR50.92(c). A proposed amendment to an operating license involves a no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

Entergy Operations Inc. has evaluated the no significant hazards considerations in its request for a license amendment. In accordance with 10CFR50.91(a), Entergy Operations Inc. is providing the analysis of the proposed amendment against the three standards in 10CFR50.92(c). A description of the no significant hazards considerations determination follows:

1. The proposed change does not significantly increase the probability or consequences of an accident previously evaluated.

The proposed change relocates Loose-Part Detection System Instrumentation requirements from the TS to plant administrative control consistent with the NRC Interim Policy Statement on Technical Specification Improvements. Criterion 1 of the Policy Statement indicates that the TS should include installed instrumentation that is used to detect, and indicate in the control room, a significant degradation of the reactor coolant pressure boundary. This criterion is intended to ensure that the TS control those instruments specifically installed to detect excessive reactor coolant system leakage. This criterion is not interpreted to include instrumentation used to detect precursors to reactor coolant pressure boundary leakage (e.g., Loose Part Detection Instrumentation). The proposed change does not affect any material condition of the plant that could directly contribute to causing or mitigating the effects of an accident. Therefore, the proposed change will not involve a significant increase in the probability or consequences of any accident previously evaluated.

2. This change would not create the possibility of a new or different kind of accident from any previously analyzed.

The proposed change which does not involve any plant design changes (i.e., administrative only) will be adequately controlled by the 10CFR50.59 process which would not allow requirement or system modifications which would place the plant in an unanalyzed condition. The proposed change will not alter the operation of the plant or the manner in which it is operated. Therefore, the proposed change will create the possibility of a new or different kind of accident from any previously evaluated.

Further, the evaluation summarized in NEDO-31466 determined the loss of this instrumentation to be a non-significant risk contributor to core damage frequency and offsite release.

3. This change would not involve a significant reduction in the margin of safety.

The system maintenance history reveals that the reliability of the system is adequately demonstrated by the low failure rate of system components.

The proposed change will relocate Loose Part Detection System instrumentation from the TS to our administrative control. The proposed change will have no adverse impact on the reactor coolant system pressure boundary nor will any other system protective boundary or safety limit be affected. Therefore, the proposed change will not involve a significant reduction in a margin of safety.

Based on above evaluation in accordance with 10CFR50.92(c), Entergy Operations, Inc. has concluded that operation in accordance with the proposed amendment involves no significant hazards considerations.

MARKED-UP TECHNICAL SPECIFICATION PAGES

LOOSE PART DETECTION SYSTEM

(GGNS PCOL-93/07)

9308160330

INSTRUMENTATIONLOOSE-PART DETECTION SYSTEMLIMITING CONDITION FOR OPERATION~~DELETED~~

3.3.7.10 The loose-part detection system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one or more loose part detection system channels inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS~~DELETED~~

4.3.7.10 Each channel of the loose-part detection system shall be demonstrated OPERABLE by performance of a:

- a. CHANNEL CHECK at least once per 24 hours,
- b. CHANNEL FUNCTIONAL TEST at least once per 31 days, and
- c. CHANNEL CALIBRATION at least once per 18 months.

BASES

DELETED

3/4.3.7.10 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the loose-part detection system ensures that sufficient capability is available to detect loose metallic parts in the primary system and avoid or mitigate damage to primary system components. The system consists of 16 sensors, of which only 8 are selected and need to be OPERABLE at a time, to provide the inputs to the 8 monitoring channels. The remaining 8 sensors may be used as replacement sensor inputs for failed sensors or to provide a change in location of the area being monitored. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.7.12 MAIN CONDENSER OFFGAS TREATMENT SYSTEM - EXPLOSIVE GAS MONITORING SYSTEM INSTRUMENTATION

The explosive gas monitoring system instrumentation of the main condenser off-gas treatment system is provided to monitor the concentrations of potentially explosive gas mixtures in the main condenser offgas treatment system. This instrumentation is calibrated in accordance with plant procedures.

3/4.3.8 PLANT SYSTEMS ACTUATION INSTRUMENTATION

The plant systems actuation instrumentation is provided to initiate action to mitigate the consequences of accidents that are beyond the ability of the operator to control. The LPCI mode of the RHR system is automatically initiated on a high drywell pressure signal and/or a low reactor water level, level 1, signal. The containment spray system will then actuate automatically following high drywell and high containment pressure signals. Negative barometric pressure fluctuations are accounted for in the trip setpoints and allowable values specified for drywell and containment pressure-high. A 10-minute minimum, 13-minute maximum time delay exists between initiation of LPCI and containment spray actuation. A high reactor water level, level 8, signal will actuate the feedwater system/main turbine trip system. The suppression pool makeup system is automatically initiated on a low low suppression pool water level signal with a concurrent LOCA signal or following a specified time delay after receipt of a LOCA signal. The low low suppression pool water level Trip Setpoint and Allowable Value are relative to the surface floor of the suppression pool (93'0 $\frac{1}{2}$ " above mean sea level).

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications", February 1991.

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INFORMATIONAL COPY OF PROPOSED TECHNICAL SPECIFICATION PAGES
LOOSE PART DETECTION SYSTEM
(GGNS PCOL-93/07)

INSTRUMENTATION

LOOSE-PART DETECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.3.7.10 (Deleted) |

SURVEILLANCE REQUIREMENTS

4.3.7.10 (Deleted) |

INSTRUMENTATIONBASES

3/4.3.7.10 LOOSE-PART DETECTION SYSTEM

(Deleted)

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