



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

ENERGY 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. 89  
License No. NPF-29

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Energy Operations, Inc. (the licensee) dated June 25, 1991, 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.

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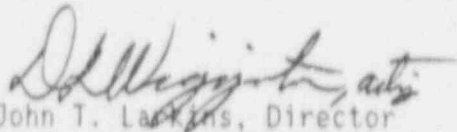
2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. NPF-29 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 89 , 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



John T. Laskins, Director  
Project Directorate IV-1  
Division of Reactor Projects - III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical Specifications

Date of Issuance: February 20, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 89

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 pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE PAGES

3/4 6-3

B 3/4 6-1

INSERT PAGES

3/4 6-3

B 3/4 6-1

## CONTAINMENT SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

#### ACTION (Continued)

- b. The combined leakage rate for all penetrations and all valves<sup>#</sup> subject to Type B and C tests to less than or equal to  $0.60 L_a$ , and
- c. The leakage rate to less than 100 scf per hour for all four main steam lines through the isolation valves, and
- d. The combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment to less than or equal to 1 gpm times the total number of such valves, prior to increasing reactor coolant system temperature above 200°F.

#### SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4 - 1972:

- a. Three Type A Overall Integrated Containment Leakage Rate tests shall be conducted at 40 + 10 month intervals<sup>\*</sup> during shutdown at  $P_a$ , 11.5 psig, during each 10-year service period.
- b. If any periodic Type A test fails to meet  $0.75 L_a$ , the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet  $0.75 L_a$ , a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet  $0.75 L_a$ , at which time the above test schedule may be resumed.
- c. The accuracy of each Type A test shall be verified by a supplemental test which:
  1. Confirms the accuracy of the test by verifying that the containment leakage rate,  $L'_v$ , calculated in accordance with ANSI N-45.4-1972, Appendix C, is within 25 percent of the containment leakage rate,  $L_v$ , measured prior to the introduction of the superimposed leak.
  2. Has duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.
  3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be between  $0.75 L_a$  and  $1.25 L_a$ .

<sup>#</sup>Includes all valves listed in Table 3.6.4-1, except for those that are hydrostatically leak tested.

<sup>\*</sup>The third Type A test within the first 10-year service period shall be conducted prior to startup following the sixth refueling outage. This is an exemption from 10 CFR Part 50, Appendix J Requirements.

## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

- d. Type B and C tests shall be conducted with gas at  $P_a$ , 11.5 psig,\* at intervals no greater than 24 months except for tests involving:
1. Air locks,
  2. Main steam line isolation valves,
  3. Penetrations using continuous leakage monitoring systems,
  4. Valves pressurized with fluid from a seal system,
  5. Containment isolation valves in hydrostatically tested lines which penetrate the primary containment, and
  6. Purge supply and exhaust isolation valves with resilient material seals.
- e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.
- f. Main steam line isolation valves shall be leak tested at least once per 18 months.
- g. Type B tests for penetrations employing a continuous leakage monitoring system shall be conducted at  $P_a$ , 11.5 psig, at intervals no greater than once per 3 years.
- h. Leakage from isolation valves that are sealed with fluid from a seal system may be excluded, subject to the provisions of Appendix J, Section III.C.3, when determining the combined leakage rate provided the seal system and valves are pressurized to at least 1.10  $P_a$ , 12.65 psig, and the seal system capacity is adequate to maintain system pressure for at least 30 days.
- i. Containment isolation valves in hydrostatically tested lines which penetrate the primary containment shall be leak tested at least once per 18 months.
- j. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.9.2.
- k. The provisions of Specification 4.0.2 are not applicable to Specifications 4.6.1.2.a, 4.6.1.2.b, 4.6.1.2.c, 4.6.1.2.d, 4.6.1.2.e, and 4.6.1.2.g.

\*Unless a hydrostatic test is required per Table 3.6.4-1.

## 3/4.6 CONTAINMENT SYSTEMS

### BASES

#### 3/4.6.1 PRIMARY CONTAINMENT

##### 3/4.6.1.1 PRIMARY CONTAINMENT INTEGRITY

PRIMARY CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the site boundary radiation doses to within the limits of 10 CFR Part 100 during accident conditions.

##### 3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure of 11.5 psig, P. As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to 0.75 L during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leakage tests.

Operating experience with the main steam line isolation valves has indicated that degradation has occasionally occurred in the leak tightness of the valves; therefore the special requirement for testing these valves.

The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J to 10 CFR 50 with the exception of exemptions granted for testing the airlocks after each opening, and uncoupling the third Type A test of each 10-year service period from the last outage of that period.

##### 3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on PRIMARY CONTAINMENT INTEGRITY and the containment leakage rate given in Specifications 3.6.1.1 and 3.6.1.2. The specification makes allowances for the fact that there may be long periods of time when the air locks will be in a closed and secured position during reactor operation. Only one closed door in each air lock is required to maintain the integrity of the containment. Verification that each air lock door inflatable seal system is OPERABLE by the performance of a local leak-detection test for a period of less than 48 hours is permissible if it can be demonstrated that the leakage rate can be accurately determined for this shorter period. (This is in accordance with Sections 6.4 and 7.6 of ANSI N45.4-1972.)

##### 3/4.6.1.4 MSIV LEAKAGE CONTROL SYSTEM

Calculated doses resulting from the maximum leakage allowance for the main steamline isolation valves in the postulated LOCA situations would be a small fraction of the 10 CFR 100 guidelines, provided the main steam line system from the isolation valves up to and including the turbine condenser remains intact. Operating experience has indicated that degradation has occasionally occurred in the leak tightness of the MSIV's such that the specified leakage requirements have not always been maintained continuously. The requirement for the leakage control system will reduce the untreated leakage from the MSIVs when isolation of the primary system and containment is required.



## CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.1.5 FEEDWATER LEAKAGE CONTROL SYSTEM

The feedwater leakage control system consists of two independent subsystems designed to eliminate through-line leakage in the feedwater piping by pressurizing the feedwater lines to a higher pressure than the containment and drywell pressure. This ensures that no release of radioactivity through the feedwater line isolation valves will occur following a loss of all offsite power coincident with the postulated design basis loss-of-coolant accident.

#### 3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the unit. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 11.5 psig in the event of a LOCA. A visual inspection in conjunction with Type A leakage tests is sufficient to demonstrate this capability.

#### 3/4.6.1.7 CONTAINMENT INTERNAL PRESSURE

The limitations on containment-to-Auxiliary Building and Enclosure Building differential pressure ensure that the containment peak pressure of 11.5 psig does not exceed the design pressure of 15.0 psig during LOCA conditions or that the external pressure differential does not exceed the design maximum external pressure differential of 3.0 psid. The limit of -0.1 to 1.0 psid for initial containment-to-Auxiliary Building and Enclosure Building differential pressure will limit the containment pressure to 11.5 psid which is less than the design pressure and is consistent with the safety analysis.

#### 3/4.6.1.8 CONTAINMENT AVERAGE AIR TEMPERATURE

The limitation on containment average air temperature ensures that the containment peak air temperature does not exceed the design temperature of 185°F during LOCA conditions and is consistent with the safety analysis.

#### 3/4.6.1.9 CONTAINMENT PURGE SYSTEM

The continuous use of the containment purge lines during all operational conditions is restricted to the 6-inch purge supply and exhaust isolation valves; whereas, continuous containment purge using the 20-inch purge system is limited to only OPERATIONAL CONDITIONS 4 and 5. Intermittent use of the 20-inch purge system during OPERATIONAL CONDITIONS 1, 2 and 3 is allowed only to reduce airborne activity levels and shall not exceed 1000 hours of use per 365 days.

The design of the 6-inch purge supply and exhaust isolation valves meets the requirements of Branch Technical Position CSB 6-4, "Containment Purging During Normal Plant Operations."