

Mr. Ross P. Barkhurst
Vice President Operations
Entergy Operations, Inc.
P. O. Box B
Killona, LA 70066

August 3, 1995

SUBJECT: ISSUANCE OF AMENDMENT NO. 110 TO FACILITY OPERATING LICENSE
NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3 (TAC NO. M88325)

Dear Mr. Barkhurst:

The Commission has issued the enclosed Amendment No. 110 to Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated May 12, 1995.

The amendment changes the Appendix A TSs by removing the specific scheduling requirements for Type A containment leakage rate tests from the TSs and replaces these requirements with a requirement to perform Type A testing in accordance with Appendix J to 10 CFR Part 50. The proposed changes adopt the wording for primary containment integrated leak rate testing that is consistent with the requirements of the Combustion Engineering Improved Standard Technical Specifications (NUREG-1432). The proposed changes also include several administrative changes.

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

Sincerely,

ORIGINAL SIGNED BY:

Chandu P. Patel, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosures: 1. Amendment No. 110 to NPF-38
2. Safety Evaluation

cc w/encls: See next page

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

August 3, 1995

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Vice President Operations
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A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

A handwritten signature in cursive script that reads "Chandu P. Patel".

Chandu P. Patel, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosures: 1. Amendment No. 110 to NPF-38
2. Safety Evaluation

cc w/encs: See next page

Mr. Ross P. Barkhurst
Entergy Operations, Inc.

Waterford 3

cc:

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

ENERGY OPERATIONS, INC.

DOCKET NO. 50-382

WATERFORD STEAM ELECTRIC STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 110
License No. NPF-38

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee) dated May 12, 1995, 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-38 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 110, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee 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 to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Chandu P. Patel

Chandu P. Patel, Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: August 3, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 110
TO FACILITY OPERATING LICENSE NO. NPF-38
DOCKET NO. 50-382

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 areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE PAGES

3/4 6-2
3/4 6-3
3/4 6-4
B 3/4 6-1

INSERT PAGES

3/4 6-2
3/4 6-3
3/4 6-4
B 3/4 6-1

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

- a. At least once per 31 days by verifying that all penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.
- b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.
- c. After each closing of each penetration subject to Type B testing, except containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at P_a , 44 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2d for all other Type B and C penetrations, the combined leakage rate is less than or equal to $0.60 L_a$.

* Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of:
 1. Less than or equal to L_a , 0.50 percent by weight of the containment air per 24 hours at P_a , 44 psig, or
 2. Less than or equal to L_t , 0.25 percent by weight of the containment air per 24 hours at a reduced pressure of P_t , 22 psig.
- b. A combined leakage rate of less than or equal to $0.60 L_a$ for all penetrations and valves subject to Type B and C tests when pressurized to P_a .
- c. A combined bypass leakage rate of less than or equal to $0.06 L_a$ for all penetrations that are secondary containment bypass leakage paths when pressurized to P_a .

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding $0.75 L_a$ or $0.75 L_t$, as applicable, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding $0.60 L_a$, or (c) with the combined bypass leakage rate exceeding $0.06 L_a$, restore the overall integrated leakage rate to less than or equal to $0.75 L_a$ or less than or equal to $0.75 L_t$, as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than or equal to $0.60 L_a$, and the bypass leakage rate to less than or equal to $0.06 L_a$ prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated as follows:

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- a. Type A tests shall be conducted in accordance with the schedule and criteria specified in 10 CFR 50, Appendix J, as modified by approved exemptions.
- b. Type B and C tests shall be conducted with gas at P_a , 44 psig, at intervals no greater than 24 months except for tests involving:
 1. Air locks,
 2. Purge supply and exhaust isolation valves with resilient material seals.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.7.2. |
- f. The combined bypass leakage rate shall be determined to be less than or equal to $0.06 L_a$ by applicable Type B and C tests at least once per 24 months except for penetrations which are not individually testable; penetrations not individually testable shall be determined to have no detectable leakage when tested with soap bubbles while the containment is pressurized to P_a , 44 psig, during each Type A test. |
- e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3. |
- f. The provisions of Specification 4.0.2 are not applicable. |

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 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 safety 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 safety analyses at the peak accident pressure, P_a . As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to $0.75 L_a$ or less than or equal to $0.75 L_t$, as applicable during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance requirements for measuring leakage rates are consistent with the requirements of 10 CFR 50, Appendix J and performed in accordance with the methods and provisions of ANSI N45.4-1972.

Secondary containment bypass leakage paths previously, Table 3.6-1, have been incorporated into plant procedure UNT-005.026.

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 CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

CONTAINMENT SYSTEMS

BASES

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that (1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the annulus atmosphere of 0.65 psid, (2) the containment peak pressure does not exceed the design pressure of 44 psig during either LOCA or steam line break conditions, and (3) the minimum pressure of the ECCS performance analysis (BTP CSB 61) is satisfied.

The maximum peak pressure expected to be obtained from an MSLB event is 42.3 psig. The limit for initial positive containment pressure of +27 inches water (approximately 1.0 psig) will limit the total pressure to less than 44 psig which is less than the design pressure and is consistent with the safety analyses. The limit for initial positive containment pressure includes a correction of 1.20 inches water for possible instrument error and an additional 6.8 inches water for conservatism.

The limit of 14.375 psia for initial negative containment pressure ensures that the minimum containment pressure is consistent with the ECCS performance analysis ensuring core reflood under LOCA conditions.

3/4.6.1.5 AIR TEMPERATURE

The limitation on containment average air temperature ensures that the containment peak air temperature does not exceed the design temperature of 269.3°F during LOCA conditions and 413.5°F during MSLB conditions and is consistent with the safety analyses.

3/4.6.1.6 CONTAINMENT VESSEL STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment steel vessel will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the vessel will withstand the maximum pressure of 43.76 psig in the event of a main steam line break accident. A visual inspection in conjunction with Type A leakage test is sufficient to demonstrate this capability.

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The use of the containment purge valves is restricted to 90 hours per year in accordance with Standard Review Plan 6.2.4 for plants with the Safety Evaluation Report for the Construction License issued prior to July 1, 1975. The purge valves have been modified to limit the opening to approximately 52° to ensure the valves will close during a LOCA or MSLB; and therefore, the SITE BOUNDARY doses are maintained within the guidelines of 10 CFR Part 100. The purge valves, as modified, comply with all provisions of BTP CSB 6-4 except for the recommended size of the purge line for systems to be used during plant operation.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 110 TO

FACILITY OPERATING LICENSE NO. NPF-38

ENTERGY OPERATIONS, INC.

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

1.0 INTRODUCTION

By application dated May 12, 1995, Entergy Operations, Inc. (the licensee), submitted a request for changes to the Waterford Steam Electric Station, Unit 3 (Waterford 3), Technical Specifications (TSs). The requested changes would remove the specific scheduling requirements for Type A containment leakage rate tests from the TSs and replace these requirements with a requirement to perform Type A, testing in accordance with Appendix J to 10 CFR Part 50. The proposed changes adopt the wording for primary containment integrated leak rate testing that is consistent with the requirements of the Combustion Engineering Improved Standard Technical Specifications (NUREG-1432). The proposed changes also include several administrative changes.

2.0 EVALUATION

Waterford 3 TS 4.6.1.2.a. currently requires that a set of three Type A tests be performed specifically at 40 ± 10 -month intervals during each 10-year service period, with the third test of each set performed during the shutdown for the 10-year plant inservice inspection. Section III.D. of Appendix J to 10 CFR Part 50 requires that Type A tests of the containment be scheduled as a set of three tests, to be performed at approximately equal intervals, during each 10-year service period, with the third test to coincide with the shutdown for the 10-year plant inservice inspection. While the Waterford 3 TSs essentially duplicate the requirements of Appendix J to 10 CFR Part 50, the TSs contain the additional requirement that Type A testing be performed at 40 ± 10 -month intervals. For units, such as Waterford 3, on 18-month fuel cycles the 40 ± 10 -month requirement essentially requires performance of a test every two fuel cycles as three cycles would be 54 months which exceeds the allowance. Since a test is required every two cycles over a 10-year period, this necessitates either the performance of a fourth test or the request for a period extension between two of the tests. Due to this scheduling difficulty the licensee has proposed to revise the TS requirement for Type A tests to simply reference the requirements of Appendix J to 10 CFR Part 50, as modified by approved exemptions. Satisfactory leakage results are a requirement for the establishment of containment operability. The required number of Type A tests would not be changed by the proposed changes and the

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Appendix J requirement that the tests be performed "at approximately equal intervals" remains in effect. Also, the maximum allowable leakage rate at the calculated peak containment pressure would not be changed. Only the detailed 40 ± 10 -month test interval would be eliminated to provide more flexibility. Type A test acceptance criteria would not be changed. The proposed changes do not impact the design basis of the containment and would not change the response of containment during a design basis accident. Finally, the testing method and acceptance criteria are not changed by the proposed revisions to the TSs. The Basis section of the TSs has been appropriately revised to reflect the changes. Therefore, based on all of the above, the staff finds the revision to TS 4.6.1.2.a. to be acceptable.

TS 4.6.1.2.b., 4.6.1.2.c.1., 4.6.1.2.c.2. contain additional testing requirements regarding the schedule for retesting if a test fails to meet the $0.75 L_a$ requirement and supplemental testing to verify accuracy of Type A tests. These testing requirements in the TSs and in Appendix J to 10 CFR Part 50 are essentially identical. The licensee has proposed to delete these TSs for simplicity. Since the regulatory and TSs requirements are essentially identical, the proposed deletion is administrative and acceptable.

TS 4.6.1.2.c.3. provides specific testing direction regarding the quantity of gas to be displaced during a supplemental Type A tests. The licensee stated that these Type A test requirements are also specified in Appendix J to 10 CFR Part 50 and need not be reiterated in the TSs. However, Surveillance Requirement 4.6.1.2.c.3. is not specified in Appendix J to the same level of detail. While 4.6.1.2.c.3. mandates a specific quantity of gas to be displaced from containment during a supplemental test, Appendix J refers to Appendix C of ANSI N45.4-1972 for guidance on an acceptable supplemental test. Although the requirements are not specified in the same level of detail in Appendix J as in the TS surveillance requirement, the requirement for a supplemental test and general requirements for the accuracy of the test are specified in Appendix J. In addition, it is not necessary for the TSs to contain the level of detail specified in sections 4.6.1.2.c.3. For example, the improved Standard Technical Specifications for Combustion Engineering Plants, NUREG-1432, are consistent with the licensee's proposal in this respect. Based on the above, the staff finds the deletion of TS 4.6.1.2.c.3. to be acceptable.

Finally, the licensee has proposed to remove the footnotes identified by the single asterisk and double asterisk. The removal of single asterisk note is an administrative change as it no longer applies. The note with double asterisk will no longer be required under the proposed changes. The staff finds both of these changes to be acceptable. Other minor editorial changes are also acceptable to the staff.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Louisiana State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC 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 offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (60 FR 29876). Accordingly, the 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 the amendment.

5.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: C. Patel

Date: August 3, 1995