March 19, 2007

Mr. Kevin T. Walsh
Vice President of Operations
Entergy Operations, Inc.
17265 River Road
Killona, LA 70066-0751

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - ISSUANCE OF AMENDMENT RE: REACTOR COOLANT SYSTEM LEAKAGE DETECTION INSTRUMENTATION (TAC NO. MD4076)

Dear Mr. Walsh:

The Commission has issued the enclosed Amendment No. 212 to Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated September 26, 2006.

The amendment deletes reference to the containment fan cooler condensate flow switch from TS 3.4.5.1, “Reactor Coolant System Leakage - Leakage Detection Instrumentation,” and modifies or deletes associated actions. The Nuclear Regulatory Commission staff has determined that the remaining leak detection methods provide adequate means for detecting, and to the extent practical, identifying the location of the source of potential reactor coolant leakage.

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

Sincerely,

/RA/

Mel B. Fields, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosures: 1. Amendment No. 212 to NPF-38
2. Safety Evaluation

cc w/encls: See next page

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ENTERGY OPERATIONS, INC.

DOCKET NO. 50-382

WATERFORD STEAM ELECTRIC STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 212
License No. NPF-38

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

   A. The application for amendment by Entergy Operations, Inc. (EOI), dated September 26, 2006, 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-38.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

David Terao, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility Operating
License and Technical Specifications

Date of Issuance: March 19, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 212

TO FACILITY OPERATING LICENSE NO. NPF-38

DOCKET NO. 50-382

Replace Page 4 of Facility Operating License No. NPF-38 with the attached Page 4.

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by an amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
3/4 4-17	3/4 4-17
3/4 4-17a	3/4 4-17a
3/4 4-17b	----

or indirectly any control over (i) the facility, (ii) power or energy produced by the facility, or (iii) the licensees of the facility. Further, any rights acquired under this authorization may be exercised only in compliance with and subject to the requirements and restrictions of this operating license, the Atomic Energy Act of 1954, as amended, and the NRC's regulations. For purposes of this condition, the limitations of 10 CFR 50.81, as now in effect and as they may be subsequently amended, are fully applicable to the equity investors and any successors in interest to the equity investors, as long as the license for the facility remains in effect.

(b) Entergy Louisiana, LLC (or its designee) to notify the NRC in writing prior to any change in (i) the terms or conditions of any lease agreements executed as part of the above authorized financial transactions, (ii) any facility operating agreement involving a licensee that is in effect now or will be in effect in the future, or (iii) the existing property insurance coverages for the facility, that would materially alter the representations and conditions, set forth in the staff's Safety Evaluation enclosed to the NRC letter dated September 18, 1989. In addition, Entergy Louisiana, LLC or its designee is required to notify the NRC of any action by equity investors or successors in interest to Entergy Louisiana, LLC that may have an effect on the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter 1 and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

1. Maximum Power Level

EOI is authorized to operate the facility at reactor core power levels not in excess of 3716 megawatts thermal (100% power) in accordance with the conditions specified herein.

2. Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 212, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan. |

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 212 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 September 26, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML062720068), Entergy Operations, Inc. (the licensee), requested changes to the Technical Specifications (TSs) for Waterford Steam Electric Station, Unit 3 (Waterford 3).

The proposed TS changes would delete reference to the containment fan cooler condensate flow switch from TS 3.4.5.1, "Reactor Coolant System Leakage - Leakage Detection Instrumentation," and would modify or delete associated actions.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.90, "Application for amendment of license or construction permit," allows a licensee to amend the original license application. The regulations in 10 CFR 50.92, "Issuance of amendment," specifies that the Nuclear Regulatory Commission (NRC) staff will be guided by the considerations which govern the issuance of initial licenses to the extent applicable and appropriate in determining whether an amendment will be issued to the applicant.

The regulations in 10 CFR 50.36(c), "Technical specifications," requires that the TSs include items in five specific categories. These categories include: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. Furthermore, 10 CFR 50.36(c)(3) defines SRs as requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

General Design Criterion (GDC) 30, "Quality of reactor coolant pressure boundary," of Appendix A to 10 CFR Part 50, requires in part that, means be provided for detecting, and to the extent practical, identifying the location of the source of reactor coolant leakage. Regulatory Guide (RG) 1.45, "Reactor Coolant Pressure Boundary Leakage Detection

Systems," describes acceptable methods of implementing this requirement with regard to the selection of leakage detection systems for the reactor coolant boundary. The position of RG 1.45 is that at least three different detection methods should be employed. The RG recommends that the sensitivity and response time of each leakage detection system employed for unidentified leakage should be adequate to detect a leakage rate, or its equivalent, of 1 gallon per minute (gpm) in less than 1 hour.

3.0 TECHNICAL EVALUATION

TS 3.4.5.1 currently requires the following reactor coolant system (RCS) leakage detection systems to be operable:

a. One containment atmosphere particulate radioactivity monitor,
b. One containment sump monitor, and
c. One containment fan cooler condensate flow switch.

As reported in Licensee Event Report 2005-002-000 dated August 8, 2005 (ADAMS Accession No. ML052220111), the licensee determined that the containment fan cooler (CFC) condensate flow switches are not capable of quantifying a 1-gpm RCS leak in 1 hour, which does not comply with the recommendations of RG 1.45. The containment sump level and flow monitors and the containment building particulate monitors are capable of detecting a 1-gpm RCS leak in 1 hour.

The licensee's proposed changes to the TSs include:

1. Deleting the CFC condensate flow switch from TS 3.4.5.1.
2. Deleting the reference to the containment fan cooler condensate flow switch in TS 3.4.5.1 Action a.
3. Deletion of TS 3.4.5.1 Actions "c," "d," and "e."
4. Renaming of TS 3.4.5.1 Action "f" to action "c."
5. Deleting SR 4.4.5.1.c.

These proposed changes are described in detail in the licensee's September 26, 2006, application. Proposed changes 2, 3, 4, and 5, are required in order to be consistent with the proposed deletion of the CFC condensate flow switches.

The licensee stated that they utilize four separate methods of RCS leakage detection instrumentation. However, only two of the instruments meet the sensitivity requirements of RG 1.45 Position C.5. The licensee proposes to include in the TSs only those two detection methods that meet the Regulatory Guide sensitivity requirements. Consistent with the current licensing basis, the licensee proposed to credit the sump level and flow monitoring system; this is comprised of either the Containment Sump Level and Flow (Rate of Level Change) Monitor or the Measurement Tank Weir Flow Instrumentation and the particulate channel of the Containment Building Airborne Monitor.

RG 1.45 contains nine regulatory positions. The proposed TS changes only impact Regulatory Position C.3, which states:

> At least three separate detection methods should be employed and two of these methods should be (1) sump level and flow monitoring and (2) airborne particulate radioactivity monitoring. The third method may be selected from the following:
>
> a. monitoring of condensate flow rate from air coolers,
> b. monitoring of airborne gaseous radioactivity.
>
> Humidity, temperature, or pressure monitoring of the containment atmosphere should be considered as alarms or indirect indication of leakage to the containment.

The first two recommended methods (1) sump level and flow monitoring and (2) airborne particulate radioactivity monitoring are already part of the licensee's TSs.

The licensee has previously indicated that, due to improved fuel integrity and resultant-reduced RCS radioactivity levels, the gaseous radioactivity monitor has become less effective for RCS leakage detection. The current normal radioactivity concentration levels observed during typical operating cycles are now several orders of magnitude lower than those given in Table 11.1-3 of the Updated Final Safety Analysis Report, on which the particulate and gaseous radioactivity monitors' setpoints were originally based. The licensee has performed evaluations on gaseous monitors to determine if it meets the detection capability of 1 gpm in 1 hour specified in RG 1.45 based on the current RCS radioactivity concentration levels. The result of the evaluation indicates that due to the reduced RCS activity, the gaseous detector may not detect a 1-gpm leak within 1 hour. By letter dated July 30, 2004, the NRC staff approved the licensee's proposed TS change to delete the gaseous radioactivity monitor as an acceptable RCS leak detection method.

The licensee has determined that the CFC condensate flow switches are also not capable of quantifying a 1-gpm RCS leak in 1 hour and, therefore, requested to delete the method from the TSs. The CFC condensate flow switches monitor condensate flow from individual CFCs and do not sum the condensate flow from all CFCs. This condition has existed since the original Waterford 3 license was issued.

The CFC condensate flow switches are not capable of quantifying the flow, but the condensate flow from the CFCs is discharged into the containment sump where it is collected with the discharge of many other systems and quantified by the Containment Sump Level and Flow (Rate of Level Change) Monitor or the Measurement Tank Weir Flow Instrumentation.

The proposed deletion of the containment fan cooler condensate flow switch from TS 3.4.5.1 is an exception from the recommendations of RG 1.45. The NRC staff recognizes that the deletion of the CFC condensate flow switch from TS 3.4.5.1 represents a reduction in diversity of the leak detection methods and that the proposed TSs would no longer include the three separate detection methods recommended by Regulatory Position C.3 of RG 1.45. However, the NRC staff has determined that the remaining leak detection methods meet the intent of RG 1.45 and the requirements of GDC 30 by adequately providing means for detecting, and to the extent practical, identifying the location of the source of reactor coolant leakage. Therefore, the NRC staff finds the licensee's proposed change of deleting the CFC condensate flow switch from TS 3.4.5.1 to be acceptable.

Based on the considerations discussed above, the NRC staff finds the proposed TS changes meet the intent of RG 1.45 and the requirements of GDC 30 and, therefore, are acceptable.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the 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 the margin of safety. Based on its analysis, the NRC staff has concluded that:

1) The amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The purpose of the amendment is to allow the deletion of the CFC condensate flow switch from TS 3.4.5.1. The RCS leakage detection systems are passive monitoring systems, therefore the proposed change does not affect reactor operations or accident analyses and have no radiological consequences. The proposed change continues to require diverse methods of monitoring leakage. In addition, the gaseous radioactivity monitor and the CFC condensate flow switches, while not in the TSs, will be maintained functional and available.

Therefore, the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2) The amendment will not create the possibility of a new or different kind of accident from any previously analyzed.

The amendment to allow the deletion of the CFC condensate flow switch from TS 3.4.5.1 introduces no new mode of plant operation or any plant modification. The RCS leakage detection systems are used solely for monitoring purposes and are not part of plant control instruments or engineered safety feature actuation circuits. The change does not vary or affect any plant operating condition or parameter.

Therefore, the amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

3) The amendment will not involve a significant reduction in a margin of safety.

The amendment does not modify any of the RCS leakage detection systems. The proposed change continues to require diverse methods of monitoring leakage. In addition, although not required by TS, multiple means of diverse monitoring RCS leakage will remain functional and available.

Therefore, the amendment does not involve a significant reduction in a margin of safety.

Based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff has determined that the amendment request involves no significant hazards consideration.

5.0 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.

6.0 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 a surveillance requirement. 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 published on February 13, 2007 (72 FR 6782). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). 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.

7.0 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Hernandez

Date: March 19, 2007

cc:
Vice President, Operations Support
Entergy Operations, Inc.
P.O. Box 31995
Jackson, MS 39286-1995

Director
Nuclear Safety Assurance
Entergy Operations, Inc.
17265 River Road
Killona, LA 70057-3093

General Manager Plant Operations
Waterford 3 SES
Entergy Operations, Inc.
17265 River Road
Killona, LA 70057-3093

Manager, Licensing
Entergy Operations, Inc.
17265 River Road
Killona, LA 70057-3093

Resident Inspector/Waterford NPS
P.O. Box 822
Killona, LA 70066-0751

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Parish President Council
St. Charles Parish
P.O. Box 302
Hahnville, LA 70057

Executive Vice President &
Chief Operating Officer
Entergy Operations, Inc.
P.O. Box 31995
Jackson, MS 39286-1995

Director, Nuclear Safety & Licensing
Entergy Operations, Inc.
1340 Echelon Parkway
Jackson, MS 39213-8298

Louisiana Department of Environmental
Quality Radiological Emergency Planning
and Response Division
P.O. Box 4312
Baton Rouge, LA 70821-4312

Louisiana Department of Environmental
Quality
Office of Environmental Compliance
P.O. Box 4312
Baton Rouge, LA 70821-4312

Chairman
Louisiana Public Services Commission
P.O. Box 91154
Baton Rouge, LA 70825-1697

Richard Penrod, Senior Environmental
Scientist/State Liaison Officer
Office of Environmental Services
Northwestern State University
Russell Hall, Room 201
Natchitoches, LA 71497