



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

January 30, 2009

Vice President, Operations  
Entergy Operations, Inc.  
Waterford Steam Electric Station, Unit 3  
17265 River Road  
Killona, LA 70057-3093

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - ISSUANCE OF  
AMENDMENT RE: ALLOWED OUTAGE TIMES FOR CONTAINMENT  
ISOLATION VALVES FOR PENETRATIONS WITH CLOSED SYSTEMS  
(TAC NO. MD7693)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 217 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 January 2, 2008 (W3F1-2008-0001), and the supplemental letter dated January 22, 2009 (W3F1-2009-0003). Although the application requested that the proposed changes to the TSs be approved within 72 hours, or as soon as possible, the exigency of this request was withdrawn in a conference call from your staff to the NRC on January 7, 2008.

The amendment revised the required actions for inoperable containment isolation valves (CIVs) in TS 3/4.6.3, "Containment Isolation Valves," to increase the allowed outage time from 4 hours to 72 hours for inoperable CIVs for penetrations with closed systems inside containment.

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

Sincerely,

A handwritten signature in black ink that reads "Jack N. Donohew".

Jack N. Donohew, 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. 217 to NPF-38
2. Safety Evaluation

cc w/encls: Distribution via ListServ



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

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-382

WATERFORD STEAM ELECTRIC STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 217  
License No. NPF-38

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Entergy Operations, Inc. (EOI), dated January 2, 2008, as supplemented by the letter dated January 22, 2009, 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.

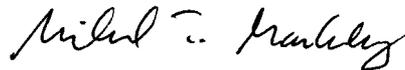
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.2 of Facility Operating License No. NPF-38 is hereby amended to read as follows:

2. Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 217, 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.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, 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: January 30, 2009

ATTACHMENT TO LICENSE AMENDMENT NO. 217

TO FACILITY OPERATING LICENSE NO. NPF-38

DOCKET NO. 50-382

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

Facility Operating License

REMOVE

INSERT

-4-

-4-

Technical Specifications

REMOVE

INSERT

3/4 6-19

3/4 6-19

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 I 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. 217, 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.

## CONTAINMENT SYSTEMS

### 3/4.6.3 CONTAINMENT ISOLATION VALVES

#### LIMITING CONDITION FOR OPERATION

---

3.6.3 Each containment isolation valve shall be OPERABLE.\*

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

ACTION:

With the isolation valve inoperable for penetration(s) with closed system(s) either:

- a. Restore the inoperable valve to OPERABLE status within 72 hours, or
- b. Isolate each affected penetration within 72 hours by use of at least one deactivated automatic valve secured in the isolation position and verify the affected penetration flow path is isolated once per 31 days, or
- c. Isolate each affected penetration within 72 hours by use of at least one closed manual valve or blind flange and verify the affected penetration flow path is isolated once per 31 days, or
- d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours

Note: Isolation devices in a high radiation area may be verified by use of administrative means.

For all other penetrations, with one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

- e. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or
- f. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position and verify the affected penetration flow path is isolated once per 31 days, or
- g. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange and verify the affected penetration flow path is isolated once per 31 days, or
- h. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 do not apply.

\* Locked or sealed closed valves may be opened on an intermittent basis under administrative control.

#### SURVEILLANCE REQUIREMENTS

---

4.6.3.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 217 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 January 2, 2008, and the supplemental letter dated January 22, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML080040073 and ML090270877, respectively), Entergy Operations, Inc. (the licensee), requested changes to the Technical Specifications (TSs) for the Waterford Steam Electric Station, Unit 3 (Waterford 3). The proposed amendment would revise the action requirements in TS 3/4.6.3, "Containment Isolation Valves," for inoperable containment isolation valves (CIVs) for penetrations with closed systems inside containment. This amendment would increase the allowed outage time (AOT) from 4 hours to 72 hours for CIVs associated with closed systems inside containment.

In its application, the licensee stated that the proposed change is consistent with Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler TSTF-30, Revision 3, "Extend the Completion Time for inoperable isolation valves to a closed system to 72 hours." This TSTF has been approved by the Nuclear Regulatory Commission (NRC) staff and been incorporated into the Improved Standard Technical Specifications (ISTS) for plants like Waterford 3. For Waterford 3, a Combustion Engineering plant, the ISTS is the ISTS in NUREG-1432 for Combustion Engineering plants.

The supplemental letter dated January 22, 2009, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on January 29, 2008 (73 FR 5219).

Although the application requested that the proposed changes to the TSs be approved within 72 hours, or as soon as possible, the licensee withdrew its request to have the application reviewed within 72 hours and agreed to a routine review by the NRC staff in a conference call to the NRC on January 7, 2008.

## 2.0 REGULATORY EVALUATION

In Section 50.36 of Title 10 of the *Code of Federal Regulations* (10 CFR 50.36), the Commission established its regulatory requirements related to the content of the TSs. Pursuant to 10 CFR 50.36, the plant TSs are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls.

As stated in 10 CFR 50.36(c)(2)(i), LCOs are "the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications ..." The TSs specify the reactor modes of applicability in which the LCOs must be met for safe operation of the plant. When an LCO is not being met, the completion times (CTs) specified in the TSs are the time allowed in the TSs for completing the specified required actions. The remedial actions in the TSs are specified in terms of conditions, required actions, and CTs, or allowed outage times (AOTs), to complete the required actions. The conditions and required actions specified in the TSs must be acceptable remedial actions for the LCO not being met, and the CTs must be a reasonable time for completing the required actions while maintaining the safe operation of the plant. In the Waterford 3 TSs, the time to complete an action when the LCO is not met is called an AOT, as stated in the actions for TS 3.4.4, "Steam Generator (SG) Tube Integrity."

As required by 10 CFR 50.36(c)(2)(ii), an LCO must be included in TS for any item meeting one of the following four criteria:

- Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
- Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- Criterion 3: A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- Criterion 4: A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

Those items that do not fall within or satisfy any of the above criteria are not required to be included in the TSs.

As required by 10 CFR 50.36(c)(3), SRs are the requirements related 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 LCOs will be met.

As required by 10 CFR 50.36(c)(5), administrative controls are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner.

CIVs form part of the containment pressure boundary and provide a method for isolating fluid systems with piping lines that pass through containment pressure boundary. The CIVs provide a means to confine radioactivity within containment that may be released from the reactor coolant system following a reactor accident inside containment, thus preventing or limiting the release of radioactivity from the containment to the environment.

Appendix A, "General Design Criteria for Nuclear Power Plants," of 10 CFR Part 50, provides design requirement involving the reactor containment and isolation of penetrations through the containment. General Design Criterion (GDC) 57, "Closed system isolation valves," is on isolation of the containment by isolation valves on closed systems inside containment. GDC 57 requires that "[e]ach line that penetrates primary reactor containment and is neither part of the reactor coolant pressure boundary nor connected directly to the containment atmosphere shall have at least one CIV which shall be either automatic, or locked closed, or capable of remote manual operation. This valve shall be outside containment and located as close to the containment as practical. A simple check valve may not be used as the automatic isolation valve." Therefore, this GDC specifies the number, type, and positions of CIVs required for containment piping penetrations for closed systems inside containment. These requirements are not being changed by the proposed amendment.

The licensee stated in its application that at Waterford 3 the closed systems with piping penetrating containment meet GDC 57 and that the proposed amendment does not affect the compliance of these systems to GDC 57.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Background

LCO 3.6.3 requires that each CIV is operable in Modes 1, 2, 3, and 4. There are remedial actions (i.e., required or just actions as in the Waterford TSs) specified for when one or more of the CIVs are inoperable. The proposed amendment would revise these actions to have actions specified specifically for an inoperable CIV for penetrations with closed systems inside containment separate from the actions for other penetrations. Currently, the specified actions are for any inoperable CIVs on any penetration with no distinction made as to whether the system is closed within containment or not. The purpose of this change is to specify a different and longer AOT for closed systems inside containment.

The proposed amendment does not change the LCO requirement, how the CIVs are defined to be operable, the modes of applicability for the LCO, or the SRs in TS 3/4.6.3. Also, the statements in the current actions that (1) the provisions of Specification 3.0.4 do not apply, and (2) locked or sealed closed valves may be opened on an intermittent basis under administrative control are also not being changed by this amendment.

The containment isolation system (CIS), which includes the CIVs on lines in penetrations through the containment pressure boundary, is addressed in Section 6.2.4 of the Waterford 3 Final Safety Analysis Report (FSAR). A list of the containment penetrations and CIVs, which are part of the CIS, is given in Table 6.2-32, "Containment Penetrations and Isolation Valves." The CIS is not being changed by the amendment; however, the amendment involves systems with piping that goes through the Class 3 containment penetrations. The Class 3 penetrations, as defined in FSAR Section 6.2.4.1.2, are the penetrations for lines of systems that are not connected to the reactor coolant pressure boundary or connected directly to the containment atmosphere. This is the definition of a closed system inside containment that is specified in GDC 57.

The licensee listed the following containment penetrations for the closed systems that meet GDC 57 at Waterford 3: Penetrations 1 and 2 (main steam, emergency steam generator (SG) feed pump turbines, atmospheric steam dump, main steam sample, main steam drains, main steam nitrogen blanket, and main steam isolation valve bypass), Penetrations 3 and 4 (main feedwater and emergency feedwater), Penetrations 5 and 6 (SG blowdown), Penetrations 15 through 22 (component cooling water for containment fan coolers), and Penetrations 52 and 68 (secondary sampling). These are the only Class C penetrations in FSAR Table 6.2-32 that are for lines in closed systems inside containment meeting GDC 57.

The NRC staff has provided criteria for a closed system inside containment to be considered one of the isolation barriers to releases of radioactivity from containment in Standard Review Plan (SRP) Section 6.2.4, "Containment Isolation System," of NUREG-0800. These criteria are the following:

- a. The system does not connect with either the reactor coolant system or the containment atmosphere,
- b. The system is protected against missiles and pipe whip,
- c. The system is designated seismic category I,
- d. The system is classified Quality Group B,
- e. The system is designed to withstand temperatures equal to at least that of the containment design,
- f. The system is designed to withstand the external pressure from the containment structural acceptance test, and
- g. The system is designed to withstand the loss-of-coolant accident transient and environment.

In its application, the licensee stated that the closed systems associated with the above listed penetrations are (1) subject to Type A leak rate tests (in accordance with Appendix J of 10 CFR Part 50), (2) designed as safety class 2, seismic category I, and missile protected inside containment, and (3) meet the above acceptance criteria in SRP 6.2.4.

### 3.2 Description of Current TS

The current actions in the TSs for an inoperable CIV are the following:

With one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

- a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or
- b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or
- c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange, or
- d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The words that are defined in Section 1.0, "Definitions," of the Waterford 3 TSs are capitalized within the TSs as shown above for OPERABLE, HOT STANDBY, and COLD SHUTDOWN.

The current AOT, as stated above, to either restore an inoperable CIV to operable status or isolate the affected penetration, is 4 hours. The proposed amendment is to extend the AOT from 4 hours to 72 hours for penetrations with closed systems inside containment.

The closed system is defined in GDC 57 as a system that is neither part of the reactor coolant pressure boundary nor connected directly to the containment atmosphere (i.e., a closed system inside containment). This is defined as a Class C penetration in Section 6.2.4.1.2 of the Waterford 3 FSAR where such penetrations are for lines "which are neither connected the reactor coolant pressure boundary nor connected directly to the containment atmosphere but connected to a closed seismic Category I system inside containment."

### 3.3 Proposed Changes to TS 3/4.6.3

In its application and supplemental letter, the licensee proposed to specify separate actions for inoperable CIVs for containment penetrations with closed systems inside containment. The proposed actions for these inoperable CIVs are the following:

With the isolation valve inoperable for penetration(s) with closed system(s) either:

- a. Restore the inoperable valve to OPERABLE status within 72 hours, or
- b. Isolate each affected penetration within 72 hours by use of at least one deactivated automatic valve secured in the isolation position

and verify the affected penetration flow path is isolated once per 31 days, or

- c. Isolate each affected penetration within 72 hours by use of at least one closed manual valve or blind flange and verify the affected penetration flow path is isolated once per 31 days, or
- d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

**Note: Isolation devices in a high radiation area may be verified by use of administrative means.**

The actions for inoperable CIVs for all other penetrations would be the same as the existing actions in TS 3/4.6.3 (i.e., the AOT remains at 4 hours) except that (1) the action steps would be re-numbered and (2) a requirement (stated in **bold**) is added to verify that the penetration flow paths have been isolated once per 31 days has been added, as follows:

For all other penetrations, with one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

- e. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or
- f. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position **and verify the affected penetration flow path is isolated once per 31 days**, or
- g. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange **and verify the affected penetration flow path is isolated once per 31 days**, or
- h. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### 3.4 Required Actions for Inoperable CIVs on Closed Systems Inside Containment

The licensee stated that the proposed actions to address the actions to be taken for one or more penetration flow paths with one inoperable CIV that is connected to a closed system inside containment separate from the actions to be taken for inoperable CIVs for other penetrations are "new" actions.

The licensee revised the current required actions for an inoperable CIV to state the following for the affected penetrations having closed systems inside containment to state the following:

With the isolation valve inoperable for penetration(s) with closed system(s) either:

- a. Restore the inoperable valve to OPERABLE status within 72 hours, or
- b. Isolate each affected penetration within 72 hours by use of at least one deactivated automatic valve secured in the isolation position and verify the affected penetration flow path is isolated once per 31 days, or
- c. Isolate each affected penetration within 72 hours by use of at least one closed manual valve or blind flange and verify the affected penetration flow path is isolated once per 31 days, or
- d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The changes to the current required actions in TS 3.6.3 are shown underlined. Therefore, except for (1) having a new introductory statement to the remedial action, (2) extending the CT from 4 hours to 72 hours, and (3) adding a new requirement to verify the affected penetration flow path is isolated once per 31 days, the "new" actions for the closed systems inside containment are the same as the current actions in TS 3.6.3.

The introductory statement is revised to specify that the licensee has to follow the above actions a. through d. only for the CIVs for penetrations with closed systems inside containment. These penetrations and systems are listed in Section 3.1 of this safety evaluation. The word "penetration(s)" is used to address the case that there can be one or more penetrations that are affected.

The proposed required actions are to restore the inoperable valve to operable status within 72 hours, isolate the affected penetration, or shut down the plant. The proposed extension of the AOT for the closed systems from 4 hours to 72 hours is addressed in Section 3.5 below of this safety evaluation.

The licensee stated that the proposed additional requirement to verify that the affected penetration flow path is isolated once per 31 days will ensure leak tightness of containment through periodic verification that the affected penetrations (with an inoperable CIV) are in fact isolated and, therefore, that containment penetrations requiring isolation following an accident are isolated. Also, the periodic verification of once per 31 days is considered an appropriate interval for verification because the valves are operated under administrative controls and the probability of their misalignment is low. This requirement is specified in the required actions in (1) ISTS 3.6.3, "Containment Isolation Valves (Atmospheric and Dual)," in NUREG-1432, the ISTS for Combustion Engineering plants like Waterford 3, and (2) the traveler TSTF-30, which gives NRC-approved required actions for inoperable CIVs for closed systems inside containment. The reference to "Atmospheric and Dual" in the title of ISTS 3.6.3 is a reference to the containment being either an atmospheric or dual containment. These are two different

containments and the containment for Waterford 3 is an atmospheric containment, but the required actions for inoperable CIVs are the same. Based on its review, the NRC staff agrees with the licensee on the basis for having the proposed new verification requirement.

The licensee also proposed a note to allow "[i]solation devices in a high radiation area may be verified by use of administrative means." This note is in TSTF-30 and ISTS 3.6.3. This note applies to valves and blind flanges that are located in high radiation areas and allows these devices to be verified closed by use of administrative means. Since access to high radiation areas is restricted, the probability of misalignment of these devices, once they have been isolated, is considered small. The use of administrative means to verify the devices are isolated will reduce occupational exposure and keep the exposure to as low as is reasonably achievable in accordance with 10 CFR Part 20. Therefore, because of the restrictions on entering the high radiation areas and the requirements to keep radiation exposure as low as is reasonably achievable, the NRC staff concludes that the use of administrative means for verification in high radiation areas is acceptable.

Because the required actions for an inoperable CIV on a closed system inside containment are the current actions specified in the Waterford TS 3.6.3 and the proposed new action ensures the isolated penetration remains isolated while the CIV remains inoperable, the NRC staff concludes that the proposed required actions for closed systems inside containment are acceptable. The NRC staff further concludes that the proposed required actions meet 10 CFR 50.36 for remedial actions when the LCO is not met.

### 3.5 Extend AOT for a Closed System Inside Containment to 72 Hours

There is a requirement for only one CIV in GDC 57 for the penetration through containment for a closed system inside containment because the pressure boundary of the closed system is the second barrier to a release of radioactivity from containment to the atmosphere outside containment. The CIV requirement in GDC 55 for the reactor coolant pressure boundary penetrating containment and GDC 56 for primary containment isolation is for two CIVs on such lines through containment penetrations because the CIVs would be the only barriers for such systems to a release of radioactivity from containment to the atmosphere outside containment.

The closed systems inside containment would have the pressure boundary of the system inside containment to the first barrier to a release of radioactivity from containment to the atmosphere and the single CIV on the penetration through containment as the second barrier. If the closed system inside containment and the associated CIV were both failed and inoperable, then by the Waterford TSs the plant would be in LCO 3.0.3 since there is no specific condition in TS 3.6.3 or TS 3.6.1.1 on primary containment integrity for this situation, and the plant would be required to shut down within 36 hours.

The licensee stated that the proposed 72-hour AOT, to try to restore the inoperable CIV to operable status, is based on this longer time period (1) being consistent with the loss of one train of redundancy in a two-train system, or loss of one barrier of two barriers to a release of radioactivity to the environment, in the TSs and (2) providing sufficient time to perform repairs on a failed CIV. This is the same justification in the NRC-approved TSTF-30 for extending the

AOT to 72 hours for an inoperable CIV on a line penetrating containment for a closed system inside containment.

Based on its review, the NRC staff agrees with the licensee that the closed inside containment forms one barrier to radioactive material being released from containment in that the system is not connected to the containment atmosphere and not connected to the reactor coolant pressure boundary. Therefore, the single CIV on the line penetrating containment would be the second barrier and, with that CIV being inoperable, only one train of a two-train system is inoperable.

Therefore, based on (1) the associated systems for the affected penetrations that meet GDC 57 meet the criteria in SRP 6.2.4 for a closed system inside containment, and (2) the barrier that exists in a closed system inside containment and the CIV form two means of containment isolation for these systems, and that the inoperability of the CIV only removes one of these means, the NRC staff concludes that the AOT for the inoperable CIV should be consistent with the loss of a single train in a two-train system. Because of this and since the AOT in the ISTS and the Waterford TSs for loss of one train of two-train redundancy is typically 72 hours, the NRC staff concludes that the proposed 72 hours in the NRC-approved TSTF-30 is acceptable. Based on this, the NRC staff also concludes that the proposed extended AOT of 72 hours meets 10 CFR 50.36.

### 3.6 Required Actions for Systems Other Than Closed Systems Inside Containment

In separating the inoperable CIVs for closed systems inside containment from the current required actions for inoperable CIVs, the remaining systems are those that are not closed systems inside containment and not listed in the application and Section 3.1 of this safety evaluation. The licensee proposed to keep the current required actions in the Waterford TS 3.6.3, but revise the introductory statement to the actions. The licensee proposed to add the phrase "For all other penetrations" to the current required actions to state the following:

For all other penetrations, with one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

- e. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or
- f. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or
- g. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange, or
- h. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The required actions are re-numbered to be the following: e. through h. instead of the current a. through d. The current a. through d. is being used in the proposed required actions for only

the closed systems inside containment. The above required actions are the same as that in the current Waterford TS 3.6.3 with only the introductory phrase being added and the specified actions re-numbered to account for the separate required actions for the closed systems inside containment. These two changes are administrative in nature and do not change the current action requirements in TS 3.6.3 on restoring a CIV to operable status within 4 hours; or isolate the penetration by a deactivated automatic valve, closed manual valve, or closed blind flange; or shut down the plant. The current AOT of 4 hours for inoperable CIVs for these systems is not being changed.

Because the proposed changes to the current actions TS 3.6.3 are to have the current actions apply to penetrations for systems other than closed systems inside containment and do not change the current actions on these other systems (i.e., systems not closed inside containment), the NRC staff concludes that the proposed changes to the current actions are acceptable and meet 10 CFR 50.36.

### 3.7 Additional Change Identified for Actions for Systems not Closed Inside Containment

In the current required actions for systems other than closed systems inside containment, the required actions are the same for closed systems inside containment except that the AOT is 4 hours and the current actions do not include the requirement to verify once per 31 days that the isolated affected penetration flow path remains isolated. The extension of the AOT from 4 hours to 72 hours for only closed systems inside containment is addressed in Section 3.5 above of this safety evaluation.

The additional requirement to verify that the affected penetration flow path is isolated once per 31 days is considered by the NRC staff as necessary to ensure leak tightness of containment through periodic verification that the affected penetrations (with an inoperable CIV) are in fact isolated and, therefore, that containment penetrations requiring isolation following an accident are isolated. The periodic verification of once per 31 days is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low.

This requirement is in ISTS 3.6.3 and the NRC-approved TSTF-30, but is not in the current Waterford TS 3.6.3. However, after discussions with the licensee, the licensee proposed the additional requirement in its supplemental letter dated January 22, 2009. Base on the above discussion, the NRC staff concludes that the additional requirement to verify once per 31 days that affected penetration flow paths remain isolated is acceptable and meet 10 CFR 50.36.

### 3.8 Conclusions

In the above evaluations in Sections 3.4 through 3.7 of this safety evaluation, the NRC staff concluded that the proposed changes to the required actions in TS 3.6.3 were acceptable and met 10 CFR 50.36. Based on this conclusion, the NRC staff further concludes that the proposed amendment is acceptable.

In Attachment 3 to its application and Attachment 3 to its supplemental letter dated January 22, 2009, the licensee identified changes to the TS 3/4.6.3 Bases of the TSs. Changes to the TS Bases for amendments are controlled by TS 5.5.14, "Technical Specifications (TS) Bases

Control Program," and are not approved by the NRC staff. However, the NRC staff reviews such changes to the TS Bases for technical accuracy and to ensure that there are no technical problems caused by the changes. The NRC staff has no disagreement with the identified changes to the TS Bases for this amendment.

There are no regulatory commitments made by the licensee for this amendment.

#### 4.0 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.

#### 5.0 ENVIRONMENTAL CONSIDERATIONS

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. 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 in the *Federal Register* on January 29, 2008 (73 FR 5219). 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.

#### 6.0 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: Jack Donohew

Date: January 30, 2009

January 30, 2009

Vice President, Operations  
Entergy Operations, Inc.  
Waterford Steam Electric Station, Unit 3  
17265 River Road  
Killona, LA 70057-3093

**SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - ISSUANCE OF AMENDMENT RE: ALLOWED OUTAGE TIMES FOR CONTAINMENT ISOLATION VALVES FOR PENETRATIONS WITH CLOSED SYSTEMS (TAC NO. MD7693)**

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 217 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 January 2, 2008 (W3F1-2008-0001), and the supplemental letter dated January 22, 2009 (W3F1-2009-0003). Although the application requested that the proposed changes to the TSs be approved within 72 hours, or as soon as possible, the exigency of this request was withdrawn in a conference call from your staff to the NRC on January 7, 2008.

The amendment revised the required actions for inoperable containment isolation valves (CIVs) in TS 3/4.6.3, "Containment Isolation Valves," to increase the allowed outage time from 4 hours to 72 hours for inoperable CIVs for penetrations with closed systems inside containment.

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

Sincerely,  
/RA/

Jack N. Donohew, 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. 217 to NPF-38
  2. Safety Evaluation
- cc w/encls: Distribution via ListServ

DISTRIBUTION:

PUBLIC  
LPLIV r/f  
RidsAcrsAcnw\_MailCTR Resource  
RidsNrrDirsltsb Resource  
RidsNrrDssScvb Resource

RidsNrrDoriDpr Resource  
RidsNrrDoriLpl4 Resource  
RidsNrrLAJBurkhardt Resource  
RidsNrrPMWaterford Resource  
RidsOgcRp Resource

RidsRgn4MailCenter Resource  
MHamm, NRR/DIRS/ITSB  
WCartwright, NRR/DIRS/ITSB

**ADAMS Accession No. ML080040260**

(\* SE input memo

(\*\*) Previously concurred

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NRR/DIRS/ITSB	NRR/DSS/SCVB	OGC - NLO	NRR/LPL4/BC	NRR/LPL4/PM
NAME	JDonohew**	JBurkhardt**	RElliott**	RDennig**	AJones**	MMarkley**	JDonohew
DATE	1/30/09	01/30/09	01/14/09	01/08/09	01/29/09	1/30/09	1/30/09

OFFICIAL AGENCY RECORD