

Mr. Charles M. Dugger  
 Vice President Operations  
 Entergy Operations, Inc.  
 P. O. Box B  
 Killona, LA 70066

February 17, 1999

SUBJECT: ISSUANCE OF AMENDMENT NO. 149 TO FACILITY OPERATING LICENSE  
 NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3 (TAC NO.  
 MA2330)

Dear Mr. Dugger:

The Commission has issued the enclosed Amendment No. 149 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 June 29, 1998, as supplemented by letter dated January 12, 1999.

The amendment changes the Appendix A TSs by modifying TS 3.7.6.1, "Control Room Emergency Air Filtration System" in Modes 1-4, TS 3.7.6.2, "Control Room Emergency Air Filtration System" in Modes 5 and 6, TS 3.7.6.3, "Control Room Air Temperature" in Modes 1-4, TS 3.7.6.4, "Control Room Air Temperature," in Modes 5 and 6, TS 3.7.6.5, "Control Room Isolation and Pressurization," and its associated basis. This amendment also modifies TS Tables 3.3-6 and 4.3-3 for the Control Room Intake Monitors.

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. 149 to NPF-38  
 2. Safety Evaluation

cc w/encls: See next page

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NAME	C. Patel	C. Hawes	W. Beckner	R. Brockman	J. Hannon
DATE	1/28/99	1/28/99	2/2/99	2/9/99	2/16/99
COPY	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO

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

February 17, 1999

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Vice President Operations  
Entergy Operations, Inc.  
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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. 149 to NPF-38  
2. Safety Evaluation

cc w/encls: See next page

Mr. Charles M. Dugger  
Entergy Operations, Inc.

Waterford 3

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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. 149  
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 June 29, 1998, as supplemented by letter dated January 12, 1999, 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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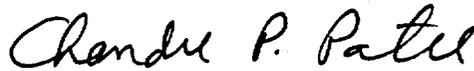
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-38 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 149, 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, 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: February 17, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 149

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 3-29  
3/4 3-32  
3/4 7-16  
3/4 7-18  
3/4 7-18a  
3/4 7-18b  
3/4 7-18c  
3/4 7-18d  
B 3/4 7-4a  
B 3/4 7-4b  
B 3/4 7-4c

INSERT PAGES

3/4 3-29  
3/4 3-32  
3/4 7-16  
3/4 7-18  
3/4 7-18a  
3/4 7-18b  
3/4 7-18c  
3/4 7-18d  
B 3/4 7-4a  
B 3/4 7-4b  
B 3/4 7-4c

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
<b>1. AREA MONITORS</b>					
a. Fuel Storage Pool Area Fuel Handling Building Ventilation System Isolation	2	*	≤ 100 mR/h	10 <sup>-1</sup> - 10 <sup>4</sup> mR/h	24
b. Containment - Purge & Exhaust Isolation	1/train	1, 2, 3, 4 & **	40 mR/h or ≤ 2x background whichever is Higher	20 - 5x10 <sup>5</sup> mR/h	25
<b>2. PROCESS MONITORS</b>					
a. Containment Atmosphere					
1) Gaseous Activity RCS Leakage Detection	1	1, 2, 3, & 4	Not Applicable	10 <sup>-8</sup> - 10 <sup>-1</sup> μCi/cc	23
2) Particulate Activity RCS Leakage Detection	1	1, 2, 3, & 4	Not Applicable	10 <sup>-11</sup> - 10 <sup>-6</sup> μCi/cc	23
b. Control Room Intake Monitors	1/intake	ALL MODES & ***	≤ 5.45x10 <sup>-8</sup> μCi/cc	10 <sup>-8</sup> - 10 <sup>-2</sup> μCi/cc	26
c. Steam Generator Blowdown Monitor	1	1, 2, 3, & 4	≤ 10 <sup>-3</sup> μCi/cc	10 <sup>-6</sup> - 10 <sup>-1</sup> μCi/cc	28
d. Component Cooling Water Monitors A&B	1/line	ALL MODES	≤ 10 <sup>-4</sup> μCi/cc	10 <sup>-7</sup> - 10 <sup>-2</sup> μCi/cc	28
e. Component Cooling Water Monitor A/B	1	1, 2, 3, & 4	≤ 10 <sup>-4</sup> μCi/cc	10 <sup>-7</sup> - 10 <sup>-2</sup> μCi/cc	28

\*With irradiated fuel in the storage pool.

\*\*During CORE ALTERATIONS or movement of irradiated fuel within the containment.

\*\*\*During movement of irradiated fuel.

TABLE 3.3-6 (Continued)

ACTION STATEMENTS

- ACTION 23 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.5.1.
- ACTION 24 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.12.
- ACTION 25 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.
- ACTION 26 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, within 1 hour initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.
- ACTION 27 - With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirement, either restore the inoperable Channel(s) to OPERABLE status within 72 hours, or:
1. Initiate the preplanned alternate method of monitoring the appropriate parameter(s), and
  2. If the monitor is not restored to OPERABLE status within 7 days after the failure, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- ACTION 28 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirements, operation of the plant may continue for up to 30 days provided grab samples are taken once per 8 hours and these samples are analyzed for gross activity within 24 hours.
- If the monitor is not restored to OPERABLE status within 30 days after the failure, continue sampling and prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
<b>1. AREA MONITORS</b>				
a. Fuel Storage Pool Area Fuel Handling Building Ventilation System Isolation	S	R	Q	*
b. Containment - Purge & Exhaust Isolation	S	R	Q	1, 2, 3, 4 & **
<b>2. PROCESS MONITORS</b>				
a. Containment Atmosphere				
1) Gaseous Activity - RCS Leakage Detection	S	R	Q	1, 2, 3, & 4
2) Particulate Activity - RCS Leakage Detection	S	R	Q	1, 2, 3, & 4
b. Control Room Intake Monitors	S	R	Q	ALL MODES & ***
c. Steam Generator Blowdown	S	R	Q	1, 2, 3, & 4
d. Component Cooling Water Monitors A&B	S	R	Q	ALL MODES
e. Component Cooling Water Monitor A/B	S	R	Q	1, 2, 3, & 4

\*With irradiated fuel in the storage pool.

\*\*During CORE ALTERATIONS or movement of irradiated fuel within the containment.

\*\*\*During movement of irradiated fuel.

## PLANT SYSTEMS

### 3/4.7.6.1 CONTROL ROOM EMERGENCY AIR FILTRATION SYSTEM

#### LIMITING CONDITION FOR OPERATION

---

3.7.6.1 Both control room emergency air filtration trains (S-8) shall be OPERABLE.

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

#### ACTION:

- a. With one control room emergency air filtration train inoperable, either restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With both control room emergency air filtration trains inoperable, restore one train to OPERABLE status 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

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4.7.6.1 Each control room air filtration train (S-8) shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters on.
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
  1. Verifying that the filtration train satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 4225 cfm  $\pm$ 10%.
  2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

\*During movement of irradiated fuel assemblies, TS 3.7.6.2 is also applicable.

## PLANT SYSTEMS

### 3/4.7.6.2 CONTROL ROOM EMERGENCY AIR FILTRATION SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.7.6.2 Two control room emergency air filtration trains (S-8) shall be OPERABLE.

APPLICABILITY: MODES 5, 6, and during movement of irradiated fuel assemblies.

ACTION:

- a. With one control room emergency air filtration system inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE control room emergency air filtration system in the recirculation mode.
- b. With both control room emergency air filtration systems inoperable, or with the OPERABLE control room emergency air filtration system, required to be in the recirculation mode by ACTION a, not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS and movement of irradiated fuel assemblies.

#### SURVEILLANCE REQUIREMENTS

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4.7.6.2 The control room emergency air filtration trains (S-8) shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.7.6.1.



## PLANT SYSTEMS

### 3/4.7.6.4 CONTROL ROOM AIR TEMPERATURE

#### LIMITING CONDITION FOR OPERATION

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3.7.6.4 Two independent control room air conditioning units shall be OPERABLE.

APPLICABILITY: MODES 5, 6, and during movement of irradiated fuel assemblies.

#### ACTION:

- a. With one control room air conditioning unit inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE control room air conditioning unit.
- b. With both control room air conditioning units inoperable, or with the OPERABLE control room air conditioning unit, required to be in operation by ACTION a, not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS and movement of irradiated fuel assemblies.

#### SURVEILLANCE REQUIREMENTS

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4.7.6.4 The control room air conditioning units shall be demonstrated OPERABLE per the Surveillance Requirements of 4.7.6.3.

## PLANT SYSTEMS

### 3/4.7.6.5 CONTROL ROOM ISOLATION AND PRESSURIZATION

#### LIMITING CONDITION FOR OPERATION

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3.7.6.5 The control room envelope isolation and pressurization boundaries shall be OPERABLE.

APPLICABILITY: All MODES and during movement of irradiated fuel assemblies.

#### ACTION:

- a. With either control room envelope isolation valve in a normal outside air flow path inoperable, maintain at least one isolation valve in the flowpath OPERABLE, and either restore the inoperable valve to OPERABLE status with 7 days or isolate the affected flow path within the following 6 hours.
- b. With any Control Room Emergency Filter Outside Air Intake valve(s) inoperable, maintain at least one of the series isolation valves in a flowpath OPERABLE, and either restore the inoperable valve(s) to OPERABLE status within 7 days or isolate the affected flow path within the following 6 hours.
- c. With more than one Control Room Emergency Filter Outside Air Intake flow path inoperable, maintain at least one flow path per intake operable and restore an additional flow path to operable status within 7 days or, be in HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
- d. With the control room envelope inoperable as a result of causes other than those addressed by ACTION (a), (b), or (c) above:
  1. Within 1 hour and at least once per 12 hours thereafter while the control room envelope is inoperable, verify that the Emergency Breathing Airbanks pressure is greater than or equal to 1800 psig.
  2. MODES 1-4:
    - a. If the cause of control room envelope inoperability is due to a known breach in the envelope of less than or equal to one square foot total area or the breach is associated with a permanent sealing mechanism (e.g., blocking open or removing a door) then operation may continue for up to 7 days after the control room envelope is declared inoperable. Otherwise, be in HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

## PLANT SYSTEMS

### LIMITING CONDITION FOR OPERATION

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#### ACTION: (Continued)

- b. If the cause of control room envelope inoperability is unknown identify the cause within 48 hours. If the cause of the failure is due to a breach within the allowable limits of ACTION d.2.a then operation may continue for up to 7 days after the control room envelope is declared inoperable. Otherwise, be in HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
  - c. Should a toxic gas event occur, take immediate steps to restore control room envelope integrity.
3. MODES 5, 6, and during movement of irradiated fuel assemblies:
- a. Suspend all operations involving CORE ALTERATIONS and movement of irradiated fuel assemblies, and if a toxic gas event occurs, take immediate steps to restore control room envelope integrity.

### SURVEILLANCE REQUIREMENTS

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- 4.7.6.5 The control room envelope isolation and pressurization boundaries shall be demonstrated OPERABLE at least once per 18 months by:
- a. Verifying that the control room envelope can be maintained at a positive pressure of greater than or equal to 1/8 inch water gauge relative to the outside atmosphere with a make-up air flowrate less than or equal to 200 cfm during system operation.
  - b. Verifying that on a toxic gas detection test signal, the system automatically switches to the isolation mode of operation.
  - c. Verifying that on a safety injection actuation test signal or a high radiation test signal, normal outside air flow paths isolate.

## PLANT SYSTEMS

### BASES

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#### 3/4.7.5 FLOOD PROTECTION

The limitation on flood protection ensures that facility protective actions will be taken in the event of flood conditions. The limit of elevation 27.0 ft Mean Sea Level is based on the maximum elevation at which the levee provides protection, the nuclear plant island structure provides protection to safety-related equipment up to elevation +30 ft Mean Sea Level.

#### 3/4.7.6.1 and 3/4.7.6.2 CONTROL ROOM EMERGENCY AIR FILTRATION SYSTEM

During an emergency, both S-8 units are started to provide filtration and adsorption of outside air and control room envelope recirculated air (reference: FSAR 6.4.3.3). Dosages received after a full power design basis LOCA were calculated to be orders of magnitude higher than other accidents involving radiation releases to the environment (reference: FSAR Tables 15.6-18, 15.7-2, 15.7-4, 15.7-5, 15.7-7).

The OPERABILITY of this system and control room design provisions are based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix A, 10 CFR Part 50.

The ACTION to suspend all operations involving movement of irradiated fuel assemblies shall not preclude completion of movement to a safe conservative position.

Operation of the system with the heaters on for at least 10 hours continuous over a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. Obtaining and analyzing charcoal samples after 720 hours of adsorber operation (since the last sample and analysis) ensures that the adsorber maintains the efficiency assumed in the safety analysis and is consistent with Regulatory Guide 1.52.

#### 3/4.7.6.3 and 3/4.7.6.4 CONTROL ROOM AIR TEMPERATURE

Maintaining the control room air temperature less than or equal to 80°F ensures that (1) the ambient air temperature does not exceed the allowable air temperature for continuous duty rating for the equipment and instrumentation in the control room, and (2) the control room will remain habitable for operations personnel during plant operation.

The Air Conditioning System is designed to cool the outlet air to approximately 55°F. Then, non-safety-related near-room heaters add enough heat to the air stream to keep the rooms between 70 and 75°F. Although 70 to 75°F is the normal control band, it would be too restrictive as an LCO. Control Room equipment was specified for a more general temperature range to 45 to 120°F. A provision for the CPC microcomputers, which might be more sensitive to heat, is not required here. Since maximum outside air make-up flow in the normal ventilation mode comprises less than ten percent of the air flow from an AH-12 unit, outside air

## PLANT SYSTEMS

### BASES

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#### CONTROL ROOM AIR TEMPERATURE (Continued)

temperature has little affect on the AH-12s cooling coil heat load. Therefore, the ability of an AH-12 unit to maintain control room temperature in the normal mode gives adequate assurance of its capability for emergency situations.

The ACTION to suspend all operations involving movement of irradiated fuel assemblies shall not preclude completion of movement to a safe conservative position.

#### 3/4.7.6.5 CONTROL ROOM ISOLATION AND PRESSURIZATION

This specification provides the operability requirements for the control room envelope isolation and pressurization boundaries. The Limiting Condition for Operation (LCO) specifies specific ACTION STATEMENTS for inoperable components of the control room ventilation systems, separate from the S-8 and AH-12 units. The operability of the remaining parts of the system affect the ability of the control room envelope to pressurize.

ACTION STATEMENTS a and b focus on maintaining isolation characteristics. The valves in the flow path referred to in ACTION a are HVC-102 & HVC-101. The Outside Air Intake (OAI) "series isolation valves" of ACTION b and c are as follows:

NORTH OAI -	HVC-202B & HVC-201A HVC-202A & HVC-201B
SOUTH OAI -	HVC-204B & HVC-203A HVC-204A & HVC-203B

ACTION STATEMENT c preserves the operator action (i.e., manually initiated filtered pressurization) that maintains the control room envelope at a positive pressure during a radiological emergency. As indicated above each OAI series isolation valve is powered by the opposite train. With more than one OAI flow path inoperable a single failure (i.e., train A or B) could prohibit the ability to maintain the control envelope at a positive pressure. Therefore, in the specified condition, ACTION c requires an additional flow path to be returned to service within 7 days.

ACTION STATEMENT d.2.a is intended to address an intentional breach in the control room pressurization boundary as necessary to support maintenance or modification. A breach of this nature shall be limited in size and governed under administrative controls. The size restrictions as stated in the ACTION are such that should a toxic event occur control room integrity can be immediately restored as described below. ACTION STATEMENT d.2.b is intended to restore pressurization ability as soon as possible for unintended breaches in the envelope. The 48 hours to locate an unidentified breach is based on an evaluation that considered troubleshooting tasks that would be performed as necessary should the integrity of the Control Room Envelope pressure boundary fall into question. Estimated times associated with each task were based on sound engineering judgement. The ACTION statements also

## PLANT SYSTEMS

### BASES

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#### CONTROL ROOM ISOLATION AND PRESSURIZATION (Continued)

recognize the MODE-independent nature of the toxic chemical threat and provides for operator protection in the event of a toxic chemical release concurrent with a breach in the control room envelope. In addition, provisions have been added to the specification that, in the event of a toxic chemical event that threatens control room habitability while in the ACTION statements, "immediate steps" will be initiated to place the plant in a safe condition. In this context, the phrase "immediate steps" is taken to mean that the operators should immediately take reasonable action to restore a known breach in the envelope to an air-tight condition. Amplifying instructions are provided in Waterford 3 Administrative procedures, which impose special controls for work that will breach the control room envelope.

The ACTION to suspend all operations involving movement of irradiated fuel assemblies shall not preclude completion of movement to a safe conservative position.

#### 3/4.7.7 CONTROLLED VENTILATION AREA SYSTEM

The OPERABILITY of the controlled ventilation area system ensures that radioactive materials leaking from the penetration area or the ECCS equipment within the pump room following a LOCA are filtered prior to reaching the environment. The operation of this system and the resultant effect on offsite dosage calculations was assumed in the safety analyses.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 149 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 June 29, 1998, as supplemented by letter dated January 12, 1999, 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 modify TS 3.7.6.1, "Control Room Emergency Air Filtration System" in Modes 1-4, TS 3.7.6.2, "Control Room Emergency Air Filtration System" in Modes 5 and 6, TS 3.7.6.3, "Control Room Air Temperature" in Modes 1-4, TS 3.7.6.4, "Control Room Air Temperature," in Modes 5 and 6, TS 3.7.6.5, "Control Room Isolation and Pressurization," and its associated basis. The requested changes will also modify TS Tables 3.3-6 and 4.3-3 for the Control Room Intake Monitors.

This TS change request proposes to delete the TS Action to suspend all operations involving positive reactivity changes in TS 3.7.6.2, 3.7.6.4 and 3.7.6.5, consistent with NUREG-1432, "Standard Technical Specifications Combustion Engineering Plants." Also, an Applicability and Action will be added to be consistent with NUREG-1432. The TS Bases will be changed to clarify the Actions and to be consistent with the TSs. The applicability of TS 3.7.6.1 and 3.7.6.3 will be changed to reference the applicability of TS 3.7.6.2 and 3.7.6.4, respectively, during the movement of irradiated fuel assemblies. The requested changes will also modify TS Tables 3.3-6 and 4.3-3 for the Control Room Intake Monitors to add the requirement that these monitors are operable during movement of irradiated fuel.

The January 12, 1999, letter provided additional information that did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

The current Waterford 3 TS 3.7.6.2, 3.7.6.4, and 3.7.6.5 contain the Action statement that requires to "suspend all operations involving CORE ALTERATIONS or positive reactivity changes" when both control room emergency filtration trains are inoperable (TS 3.7.6.2), when both control room air conditioning units are inoperable (TS 3.7.6.4), or when the control room envelope is inoperable (TS 3.7.6.5). The Action statement to "suspend all operations involving positive reactivity changes" has caused some confusion at Waterford 3 with respect to

performing normal plant operations (i.e., makeup to the reactor coolant system [RCS], changing RCS temperature, etc.) and the requirement to suspend all operations involving positive reactivity changes. Specifically, an event occurred at Waterford 3 during the eighth refueling outage which caused a positive reactivity change to occur when both control room emergency filtration units were inoperable and Actions were entered to suspend positive reactivity changes. Licensee Event Report (LER) 97-022-00 was sent to the Nuclear Regulatory Commission on July 18, 1997, describing this event.

The proposed change revises the Action statement to read "suspend all operations involving CORE ALTERATIONS and movement of irradiated fuel assemblies." The licensee also proposed to change the word "or" to "and" in the Action to ensure that both Actions are suspended and not just one of the two.

The licensee stated that the proposed changes will ensure that the appropriate actions are taken to suspend activities that could result in the control room being exposed to a radioactive release and that these changes are consistent with NUREG-1432.

The licensee provided the following additional explanation in support of these changes:

Deleting the requirement to suspend positive reactivity changes is a less restrictive change. However, this change is acceptable, because although adding positive reactivity, via a boron dilution event, may result in the release of radioactivity, the instrumentation (which is credited in the safety analysis) to detect a criticality event is required to be Operable and capable of alerting the control room. After being alerted of the event, the control room will terminate it prior to any release of radioactivity (Final Safety Analysis Report Section 15.4.1.5). These instruments, credited in the safety analysis, are required to be Operable and if one is inoperable, positive reactivity changes are required to be suspended. If both instruments become inoperable, along with suspension of positive reactivity changes, boron concentration is required to be determined at frequencies specified in the Core Operating Limits Report (only when source range neutron flux monitors are inoperable). Also, the Shutdown Margin (SDM) is required to be met. If the SDM requirements are not met, action must be taken to borate (addition of negative reactivity) until the SDM is restored. Action to suspend the movement of irradiated fuel assemblies ensure the suspension of the activity that is the precursor to a fuel handling accident. The fuel handling accident is an event that assumes a release of radioactivity with the potential to expose control room personnel. Therefore, the Actions to suspend positive reactivity are not required when the control room ventilation systems (ventilation, temperature, or envelope) are inoperable.

The staff has reviewed the licensee's reasoning for the above changes and concluded that the proposed changes will clarify the subject TSs at Waterford 3 and it will protect the control room operators from the activities that could result in a release of radioactivity that might enter the control room when control room ventilation systems are not operable. Also, the definition of core alteration in Waterford 3 TSs adequately controls changes in core reactivity as required by Action statement. In addition, there are other TSs to provide adequate protections for reactivity controls at Waterford 3. The proposed changes are also consistent with NUREG-1432. Therefore, these changes are acceptable to the staff.

The current Waterford 3 TS 3.7.6.2 and 3.7.6.4 are applicable in "MODES 5 and 6," and TS 3.7.6.5 is applicable in "All MODES." The proposed change revises the Applicability for TS

3.7.6.2 and 3.7.6.4 to "MODES 5, 6, and during movement of irradiated fuel assemblies," and for TS 3.7.6.5 to "All MODES and during movement of irradiated fuel assemblies." Also, Action d.3 in TS 3.7.6.5 will be revised to reflect the Applicability during movement of irradiated fuel assemblies.

These changes are more restrictive and it make the control room ventilation TS Applicability consistent with NUREG-1432. Therefore, these changes are acceptable to the staff.

The licensee has proposed to add footnotes to TS 3.7.6.1 and TS 3.7.6.3. The proposed footnote, "During movement of irradiated fuel assemblies, TS 3.7.6.2 is also applicable," will be added to Technical Specification 3.7.6.1 Applicability. Also, the proposed footnote, "During movement of irradiated fuel assemblies, TS 3.7.6.4 is also applicable," will be added to Technical Specification 3.7.6.3 Applicability. These changes are proposed to ensure that operations personnel in the control room are aware of the applicability of TS 3.7.6.2 and TS 3.7.6.4 during movement of irradiated fuel assemblies in Modes 1, 2, 3, and 4 when the control room ventilation system is inoperable.

These changes are conservative, and therefore, acceptable to the staff.

The licensee has requested to change TS Tables 3.3-6 and 4.3-3 for the Control Room Intake Monitors to add the requirement that these monitors are operable during movement of irradiated fuel. These changes are necessary since these radiation monitors are required for isolation of control room air intake.

These changes are conservative, and therefore, are acceptable to the staff

The licensee has proposed to add the following statement to Technical Specification Bases Sections 3/4.7.6.1, 3/4.7.6.2, 3/4.7.6.3, 3/4.7.6.4, and 3/4.7.6.5:

The ACTION to suspend all operations involving movement of irradiated fuel assemblies shall not preclude completion of movement to a safe conservative position.

Licensee stated that this statement is added to clarify that irradiated fuel assemblies must be placed in a safe conservative position to minimize events that may cause a radioactive release. This clarification is consistent with the Waterford 3 definition of Core Alteration which states the suspension of Core Alterations does not preclude completion of movement of a component to a safe conservative position. Licensee stated that this is a less restrictive change to the bases to clarify the TS Actions. However, this change enables the irradiated fuel assembly to be placed in a position such that the precursor to a fuel handling accident is precluded. The licensee considers this change to be similar to clarifying language in the Bases for Actions in NUREG-1432.

The licensee has proposed to delete the following statement from TS Bases Section 3/4.7.6.1 and 3/4.7.6.2 to makes the Bases consistent with the TS:

Because the consequences of a full power design basis LOCA are more severe than those occurring during COLD SHUTDOWN and REFUELING, a separate specification, 3/4.7.6.2, requires only one OPERABLE S-8 unit to guard against accidents during Modes 5 and 6.

The above statement was not deleted when the TS were changed as Amendment 115 for Waterford 3. In addition, licensee has made some minor editorial changes in Bases Sections 3/4.7.6.3 and 3/4.7.6.4.

The above changes to the Bases Sections are consistent with Waterford 3 TSs, and they are 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 (63 FR 56247). 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.

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Date: February 17, 1999