

April 22, 1994

Docket No. 50-382

Mr. Ross P. Barkhurst  
Vice President Operations  
Entergy Operations, Inc.  
Post Office Box B  
Killona, Louisiana 70066

Dear Mr. Barkhurst:

SUBJECT: ISSUANCE OF AMENDMENT NO. 94 TO FACILITY OPERATING LICENSE  
NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3 (TAC NO. M88854)

The Commission has issued the enclosed Amendment No. 94 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

The amendment changes the Appendix A TSs by moving the reactor trip system and engineered safety feature actuation system response time limits from the TS to the updated final safety analysis report. This change is in response to Generic Letter 93-08 dated December 29, 1993.

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:  
David L. Wigginton, Senior Project Manager  
Project Directorate IV-1  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 94 to NPF-38
- 2. Safety Evaluation

cc w/enclosures:  
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C. Grimes (11E22) J. Roe (13A2) OPA (2G5)  
OC/LFMB (4503) B. Reckley

\*See previous concurrence.

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\*See previous concurrence.

OFC	LA:PD4-1	PM:PD4-1	PM:PD4-2*	OGC	D:PD4-1
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

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The amendment changes the Appendix A TSs by moving the reactor trip system and engineered safety feature actuation system response time limits from the TS to the updated final safety analysis report. This change is in response to Generic Letter 93-08 dated December 29, 1993.

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 black ink, appearing to read "D. Wigginton".

David L. Wigginton, Senior Project Manager  
Project Directorate IV-1  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 94 to NPF-38
2. Safety Evaluation

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Mr. Ross P. Barkhurst  
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. 94  
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 February 14, 1994, 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. 94 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION



William D. Beckner, Director  
Project Directorate IV-1  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: April 22, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 94

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

XX  
3/4 3-1  
3/4 3-8  
3/4 3-9  
3/4 3-13  
3/4 3-22  
3/4 3-23  
3/4 3-24

INSERT PAGES

XX  
3/4 3-1  
3/4 3-8  
-  
3/4 3-13  
3/4 3-22  
-  
-

INDEX

LIST OF FIGURES

<u>FIGURE</u>		<u>PAGE</u>
3.1-0	SHUTDOWN MARGIN AS A FUNCTION OF COLD LEG TEMPERATURE.....	3/4 1-3a
3.1-1	REQUIRED STORED BORIC ACID VOLUME AS A FUNCTION OF CONCENTRATION.....	3/4 1-13
3.1-1A	REQUIRED POWER REDUCTION AFTER SINGLE CEA DEVIATION	3/4 1-20a
3.1-2	CEA INSERTION LIMITS VS THERMAL POWER.....	3/4 1-27
3.1-3	PART LENGTH CEA INSERTION LIMIT VS THERMAL POWER...	3/4 1-28a
3.2-1	ALLOWABLE PEAK LINEAR HEAT RATE VS T <sub>c</sub> .....	3/4 2-2
3.2-1A	ALLOWABLE PEAK LINEAR HEAT RATE VS T <sub>c</sub> FOR COLSS OUT OF SERVICE.....	3/4 2-2A
3.2-2	DNBR MARGIN OPERATING LIMIT BASED ON CORE PROTECTION CALCULATORS (COLSS OUT OF SERVICE, CEACs OPERABLE)..	3/4 2-8
3.2-3	DNBR MARGIN OPERATING LIMIT BASED ON CORE PROTECTION CALCULATORS (COLSS OUT OF SERVICE CEACs INOPERABLE).....	3/4 2-9
3.4-1	DOSE EQUIVALENT I-131 PRIMARY COOLANT SPECIFIC ACTIVITY LIMIT VERSUS PERCENT OF RATED THERMAL POWER WITH THE PRIMARY COOLANT SPECIFIC ACTIVITY >1.0 μCi/GRAM DOSE EQUIVALENT I-131.....	3/4 4-27
3.4-2	REACTOR COOLANT SYSTEM PRESSURE/TEMPERATURE LIMITATIONS FOR 0-8 EFFECTIVE FULL POWER YEARS (HEATUP).....	3/4 4-30
3.4-3	REACTOR COOLANT SYSTEM PRESSURE/TEMPERATURE LIMITATIONS FOR 0-8 EFFECTIVE FULL POWER YEARS (COOLDOWN).....	3/4 4-31
4.7-1	SAMPLING PLAN FOR SNUBBER FUNCTIONAL TEST.....	3/4 7-26
5.1-1	EXCLUSION AREA.....	5-2
5.1-2	LOW POPULATION ZONE.....	5-3
5.1-3	SITE BOUNDARY FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS.....	5-4
6.2-1	OFFSITE ORGANIZATION FOR MANAGEMENT AND TECHNICAL SUPPORT.....	6-3
6.2-2	PLANT OPERATIONS ORGANIZATION.....	6-4



INDEX

LIST OF TABLES

<u>TABLE</u>		<u>PAGE</u>
1.1	FREQUENCY NOTATION.....	1-9
1.2	OPERATIONAL MODES.....	1-10
2.2-1	REACTOR PROTECTIVE INSTRUMENTATION TRIP SETPOINT LIMITS.....	2-3
2.2-2	CORE PROTECTION CALCULATOR ADDRESSABLE CONSTANTS.....	2-5
	MONITORING FREQUENCIES FOR BORON DILUTION DETECTION	
3.1-1	$K_{eff} > 0.98$ .....	3/4 1-17
3.1-2	$0.98 \geq K_{eff} > 0.97$ .....	3/4 1-17a
3.1-3	$0.97 \geq K_{eff} > 0.96$ .....	3/4 1-17b
3.1-4	$0.96 \geq K_{eff} > 0.95$ .....	3/4 1-17c
3.1-5	$K_{eff} \leq 0.95$ .....	3/4 1-17d
3.3-1	REACTOR PROTECTIVE INSTRUMENTATION.....	3/4 3-3
4.3-1	REACTOR PROTECTIVE INSTRUMENTATION SURVEILLANCE REQUIREMENTS.....	3/4 3-10
3.3-3	ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-14
3.3-4	ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES.....	3/4 3-19
4.3-2	ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS.....	3/4 3-25
3.3-6	RADIATION MONITORING INSTRUMENTATION.....	3/4 3-29
4.3-3	RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS.....	3/4 3-32
3.3-7	SEISMIC MONITORING INSTRUMENTATION.....	3/4 3-36
4.3-4	SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS.....	3/4 3-37
3.3-8	METEOROLOGICAL MONITORING INSTRUMENTATION.....	3/4 3-39

### 3/4.3 INSTRUMENTA UN

#### 3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION

##### LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the reactor protective instrumentation channels and bypasses of Table 3.3-1 shall be OPERABLE.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

##### SURVEILLANCE REQUIREMENTS

4.3.1.1 Each reactor protective instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-1.

4.3.1.2 The logic for the bypasses shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total bypass function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by bypass operation.

4.3.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Neutron detectors are exempt from response time testing. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

4.3.1.4 The isolation characteristics of each CEA isolation amplifier and each optical isolator for CEA Calculator to Core Protection Calculator data transfer shall be verified at least once per 18 months during the shutdown per the following tests:

- a. For the CEA position isolation amplifiers:
  1. With 120 volts AC (60 Hz) applied for at least 30 seconds across the output, the reading on the input does not exceed 0.015 volts DC.

## INSTRUMENTATION

### SURVEILLANCE REQUIREMENTS (Continued)

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2. With 120 volts AC (60 Hz) applied for at least 30 seconds across the input, the reading on the output does not exceed 15.0 volts DC.
    - b. For the optical isolators: Verify that the input to output insulation resistance is greater than 10 megohms when tested using a megohmmeter on the 500 volt DC range.
- 4.3.1.5 The Core Protection Calculator System and the Control Element Assembly Calculator System shall be determined OPERABLE at least once per 12 hours by verifying that less than three auto restarts have occurred on each calculator during the past 12 hours.
- 4.3.1.6 The Core Protection Calculator System shall be subjected to a CHANNEL FUNCTIONAL TEST to verify OPERABILITY within 12 hours of receipt of a High CPC Cabinet Temperature alarm.

TABLE 3.3-1 (Continued)

ACTION STATEMENTS

2. Within 4 hours:
    - a) All full-length and part-length CEA groups are withdrawn to and subsequently maintained at the "Full Out" position, except during surveillance testing pursuant to the requirements of Specification 4.1.3.1.2 or for control when CEA group 6 may be inserted no further than 127.5 inches withdrawn.
    - b) The "RSPT/CEAC Inoperable" addressable constant in the CPCs is set to the inoperable status.
    - c) The Control Element Drive Mechanism Control System (CEDMCS) is placed in and subsequently maintained in the "Off" mode except during CEA group 6 motion permitted by a) above, when the CEDMCS may be operated in either the Manual Group" or "Manual Individual" mode.
  3. At least once per 4 hours, all full-length and part-length CEAs are verified fully withdrawn except during surveillance testing pursuant to Specification 4.1.3.1.2 or during insertion of CEA group 6 as permitted by 2.a) above, then verify at least once per 4 hours that the inserted CEAs are aligned within 7 inches (indicated position) of all other CEAs in its group.
- ACTION 7 - With three or more auto restarts of one non-bypassed calculator during a 12-hour interval, demonstrate calculator OPERABILITY by performing a CHANNEL FUNCTIONAL TEST within the next 24 hours.
- ACTION 8 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement restore the inoperable channel to OPERABLE status within 48 hours or open the reactor trip breakers within the next hour.

TABLE 3.3.2 has been deleted.

TABLE 4.3-1  
REACTOR PROTECTIVE INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
1. Manual Reactor Trip	N.A.	N.A.	R and S/U(1)	1, 2, 3*, 4*, 5*
2. Linear Power Level - High	S	D(2,4), M(3,4), Q(4)	Q	1, 2
3. Logarithmic Power Level - High	S	R(4)	Q and S/U(1)	2#, 3, 4, 5
4. Pressurizer Pressure - High	S	R	Q	1, 2
5. Pressurizer Pressure - Low	S	R	Q	1, 2
6. Containment Pressure - High	S	R	Q	1, 2
7. Steam Generator Pressure - Low	S	R	Q	1, 2
8. Steam Generator Level - Low	S	R	Q	1, 2
9. Local Power Density - High	S	D(2,4), R(4,5)	Q, R(6)	1, 2
10. DNBR - Low	S	S(7), D(2,4), M(8), R(4,5)	Q, R(6)	1, 2
11. Steam Generator Level - High	S	R	Q	1, 2
12. Reactor Protection System Logic	N.A.	N.A.	Q and S/U(1)	1, 2, 3*, 4*, 5*

## INSTRUMENTATION

### 3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.2 The Engineered Safety Features Actuation System (ESFAS) instrumentation channels and bypasses shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4.

APPLICABILITY: As shown in Table 3.3-3.

#### ACTION:

- a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

#### SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.2 The logic for the bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The total bypass function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by bypass operation.

4.3.2.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.

TABLE 3.3-3

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. SAFETY INJECTION (SIAS)					
a. Manual (Trip Buttons)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3, 4	12
b. Containment Pressure - High	4	2	3	1, 2, 3	13*, 14*
c. Pressurizer Pressure - Low	4	2	3	1, 2, 3(a)	13*, 14*
d. Automatic Actuation - Logic	4	2	3	1, 2, 3	12
2. CONTAINMENT SPRAY (CSAS)					
a. Manual (Trip Buttons)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3, 4	12
b. Containment Pressure -- High - High	4	2(b)	3	1, 2, 3	13*, 14*
c. Automatic Actuation Logic	4	2	3	1, 2, 3	12
3. CONTAINMENT ISOLATION (CIAS)					
a. Manual CIAS (Trip Buttons)	2 sets of 2	1 set of 2	2 sets of 2	1, 2, 3, 4	12
b. Containment Pressure - High	4	2	3	1, 2, 3	13*, 14*
c. Pressurizer Pressure - Low	4	2	3	1, 2, 3(a)	13*, 14*
d. Automatic Actuation Logic	4	2	3	1, 2, 3	12



TABLE 3.3-4 (Continued)

TABLE NOTATIONS

- (1) Value may be decreased manually, to a minimum of 100 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer and this value is maintained at less than or equal to 400 psi; the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer is greater than or equal to 500 psia.
- (2) Value may be decreased manually as steam generator pressure is reduced, provided the margin between the steam generator pressure and this value is maintained at less than or equal to 200 psi; the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.
- (3) % of this distance between steam generator upper and lower level instrument nozzles.
- (4) Requires corresponding permissive trip signal of item 7.c., 7.d., or 7.e. to actuate EFAS.
- (5) Requires corresponding EFAS trip to actuate control valves.

TABLE 3.3.5 has been deleted.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 94 TO  
FACILITY OPERATING LICENSE NO. NPF-38  
ENTERGY OPERATIONS, INC.  
WATERFORD STEAM ELECTRIC STATION, UNIT 3  
DOCKET NO. 50-382

1.0 INTRODUCTION

By letter dated February 14, 1994, Entergy Operations, Inc. (the licensee), submitted a request for changes to the Waterford Steam Electric Station, Unit 3 Technical Specifications (TSs). The requested amendment would change the TSs to modify the requirements of TS 3.3.1 and TS 3.3.2 and relocate Tables 3.3-2 and 3.3-5, which provide the response time limits for the reactor trip system (RTS) and the engineered safety features actuation system (ESFAS) instruments, from the TSs to the updated Final Safety Analysis Report (FSAR). The licensee has stated that the next update of the FSAR will include these tables. The NRC provided guidance to all holders of operating licenses or construction permits for nuclear power reactors on the proposed TS changes in Generic Letter 93-08, "Relocation of Technical Specification Tables of Instrument Response Time Limits," dated December 29, 1993.

2.0 BACKGROUND

The NRC staff undertook efforts in the early 1980's to address problems related to the content of nuclear power plant TSs. These projects have resulted in the issuance of various reports, proposed rulemakings, and Commission policy statements. Line item improvements became a mechanism for TS improvement as part of the implementation of the Commission's interim policy statement on TS improvements published on February 6, 1987 (52 FR 3788). The final Commission policy statement on TS improvements was published July 22, 1993 (58 FR 39132). The final policy statement provided criteria which can be used to establish, more clearly, the framework for TSs. The staff has maintained the line item improvement process, through the issuance of generic letters, in order to improve the content and consistency of TSs and to reduce the licensee and staff resources required to process amendments related to those specifications being relocated from the TSs to other licensee documents as a result of the implementation of the Commission's final policy statement.

Section 50.36 of Title 10 of the Code of Federal Regulations establishes the regulatory requirements for licensees to include TSs as part of applications

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for operating licenses. The rule requires that TSs include items in five specified categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls. In addition, the Commission's final policy statement on TS improvements and other Commission documents provide guidance regarding the required content of TSs. The fundamental purpose of the TSs, as described in the Commission's final policy statement, is to impose those conditions or limitations upon reactor operation necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety by identifying those features that are of controlling importance to safety and establishing on them certain conditions of operation which cannot be changed without prior Commission approval.

The Commission's final policy statement recognized, as had previous statements related to the staff's TS improvement program, that implementation of the policy would result in the relocation of existing TS requirements to licensee controlled documents such as the updated FSAR. Those items relocated to the updated FSAR would in turn be controlled in accordance with the requirements of 10 CFR 50.59, "Changes, tests and experiments." Section 50.59 of Title 10 of the Code of Federal Regulations provides criteria to determine when facility or operating changes planned by a licensee require prior Commission approval in the form of a license amendment in order to address any unreviewed safety questions. NRC inspection and enforcement programs also enable the staff to monitor facility changes and licensee adherence to updated FSAR commitments and to take any remedial action that may be appropriate.

### 3.0 EVALUATION

The licensee has proposed changes to TS 3.3.1 and TS 3.3.2 that remove the references to Tables 3.3-2 and 3.3-5 and deletes these tables from the TSs. The licensee committed to relocate the tables on response time limits to the updated FSAR in the next periodic update.

Tables 3.3-2 and 3.3-5 contain the values of the response time limits for the RTS and ESFAS instruments. The limiting conditions for operation for the RTS and ESFAS instrumentation specify these systems shall be operable with the response times as specified in these tables. These limits are the acceptance criteria for the response time tests performed to satisfy the surveillance requirements of TS 4.3.1.3 and TS 4.3.2.3 for each applicable RTS and ESFAS trip function. These surveillances ensure that the response times of the RTS and ESFAS instruments are consistent with the assumptions of the safety analyses performed for design basis accidents and transients. The changes associated with the implementation of Generic Letter 93-08 involve only the relocation of the RTS and ESFAS response time tables but retain the surveillance requirement to perform response time testing. The updated FSAR will now contain the acceptance criteria for the required RTS and ESFAS response time surveillances. Because it does not alter the TS requirements to ensure that the response times of the RTS and ESFAS instruments are within their limits, the staff has concluded that relocation of these response time limit tables from the TSs to the updated FSAR is acceptable.

The staff's determination is based on the fact that the removal of the specific response time tables does not eliminate the requirements for the licensee to ensure that the protection instrumentation is capable of performing its safety function. Although the tables containing the specific response time requirements are relocated from the TSs to the updated FSAR, the licensee must continue to evaluate any changes to response time requirements in accordance with 10 CFR 50.59. Should the licensee's determination conclude that an unreviewed safety question is involved due to either: (1) an increase in the probability or consequences of accidents or malfunctions of equipment important to safety, (2) the creation of a possibility for an accident or a malfunction of a different type than any evaluated previously, or (3) a reduction in the margin of safety, NRC approval and a license amendment would be required prior to implementation of the change.

The staff's review concluded that 10 CFR 50.36 does not require the response time tables to be retained in TSs. Requirements related to the operability, applicability, and surveillance requirements, including performance of testing to ensure response times, for RTS and ESFAS systems are retained due to those systems' importance in mitigating the consequences of an accident. However, the staff determined that the inclusion of specific response time requirements for the various instrumentation channels and components addressed by Generic Letter 93-08 was not required. The response times are considered to be an operational detail related to the licensee's safety analyses which are adequately controlled by the requirements of 10 CFR 50.59. Therefore, the continued processing of license amendments related to revisions of the affected instrument or component response times, where the revisions to those requirements do not involve an unreviewed safety question under 10 CFR 50.59, would afford no significant benefit with regard to protecting the public health and safety. Further, the response time requirements do not constitute a condition or limitation on operation necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety, in that the ability of the RTS and ESFAS systems to perform their safety functions are not adversely impacted by the relocation of the response time tables from the TSs to the updated FSAR.

These TS changes are consistent with the guidance provided in Generic Letter 93-08 and the TS requirement of 10 CFR 50.36. The staff has determined that the proposed changes to the TSs for the Waterford Steam Electric Station, Unit 3, are acceptable.

#### 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 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 (59 FR 12360). 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.

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