

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

October 6 1999

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - ISSUANCE OF AMENDMENT RE: EMERGENCY FEEDWATER ACTUATION SIGNAL (TAC NO. MA2331)

Dear Mr. Dugger:

The Commission has issued the enclosed Amendment No. 154 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 July 2, 1998, as supplemented by letters dated July 7 and August 24, 1999.

The amendment changes the ACTION requirements for TS 3/4.3.2 for the Emergency Feedwater Actuation Signal (EFAS). This change revises the allowed outage time for a channel of process measurement circuit for EFAS to be in the tripped condition from "prior to entry into the applicable MODE(S) following the next COLD SHUTDOWN" to the more restrictive time limit of 48 hours and adds a shutdown requirement. Additionally, the TS 3.0.4 exemption is removed from the action statement for the tripped condition. A change to the TS Bases Section 3/4.3.2 is also included to support the changes.

The TS Bases change submitted by letter dated May 20, 1999, will be addressed under separate correspondence.

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

Sincerely,
 ORIGINAL SIGNED BY
 Chandu P. Patel, Project Manager, Section 1
 Project Directorate IV & Decommissioning
 Division of Licensing Project Management
 Office of Nuclear Reactor Regulation

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Docket No. 50-382

- Enclosures: 1. Amendment No. 154 to NPF-38
 2. Safety Evaluation

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Waterford Generating Station 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. 154
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 July 2, 1998, as supplemented by letters dated July 7 and August 24, 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. 154 , 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 and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Gramm, Chief, Section 1
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: October 6, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 154

TO FACILITY OPERATING LICENSE NO. NPF-38

DOCKET NO. 50-382

Replace the following pages of the 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.

Remove

3/4 3-16
3/4 3-17
3/4 3-18
3/4 3-18a

B 3/4 3-1
B 3/4 3-1a
B 3/4 3-1b

Insert

3/4 3-16
3/4 3-17
3/4 3-18
3/4 3-18a
3/4 3-18b
B 3/4 3-1
B 3/4 3-1a
B 3/4 3-1b
B 3/4 3-1c*

* no change - overflow page

TABLE 3.3-3 (Continued)

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>
7. EMERGENCY FEEDWATER (EFAS)					
a. Manual (Trip Buttons)	2 sets of 2 per steam generator	1 set of 2 per steam generator	2 sets of 2 per steam generator	1, 2, 3	15
b. SG Level (1/2) - Low and ΔP (1/2) - High	4/steam generator	2/steam generator	3/steam generator	1, 2, 3	19a*, 19b, 20
c. SG Level (1/2) - Low and No S/G Pressure - Low Trip (1/2)	4/steam generator	2/steam generator	3/steam generator	1, 2, 3	19a*, 19b, 20
d. Automatic Actuation Logic	4	2	3	1, 2, 3	12
e. Control Valve Logic (Wide Range SG Level - Low)	2/steam generator	1/steam generator	2/steam generator	1, 2, 3	15

TABLE 3.3-3 (Continued)

TABLE NOTATION

- (a) Trip function may be bypassed in this MODE when pressurizer pressure is less than 400 psia; bypass shall be automatically removed when pressurizer pressure is greater than or equal to 500 psia.
- (b) An SIAS signal is first necessary to enable CSAS logic.
- * The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

- ACTION 12 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- ACTION 13 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION and/or operation in the other applicable MODE(S) may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be documented by the Plant Operations Review Committee in accordance with plant administrative procedures. The channel shall be returned to OPERABLE status no later than prior to entry into the applicable MODE(S) following the next COLD SHUTDOWN.

With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below:

Process Measurement Circuit	Functional Unit Bypassed/Tripped
1. Containment Pressure - High	Containment Pressure - High (ESF) Containment Pressure - High (RPS)
2. Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator Δ P 1 and 2 (EFAS)

TABLE 3.3-3 (Continued)

TABLE NOTATION

ACTION 14 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE, STARTUP and/or POWER OPERATION and/or operation in the other applicable MODE(S) may continue provided the following conditions are satisfied:

- a. Verify that one of the inoperable channels has been bypassed and place the other inoperable channel in the tripped condition within 1 hour.
- b. All functional units affected by the bypassed/tripped channel shall also be placed in the bypassed/tripped condition as listed below.

Process Measurement Circuit	Functional Unit Bypassed/Tripped
1. Containment Pressure Circuit	Containment Pressure - High (ESF) Containment Pressure - High (RPS)
2. Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator ΔP 1 and 2 (EFAS)

STARTUP and/or POWER OPERATION and/or operation in the other applicable MODE(S) may continue until the performance of the next required CHANNEL FUNCTIONAL TEST. Subsequent STARTUP and/or POWER OPERATION and/or operation in the other applicable MODE(S) may continue if one channel is restored to OPERABLE status and the provisions of ACTION 13 are satisfied.

ACTION 15 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channels to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

ACTION 16 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

TABLE 3.3-3 (Continued)

TABLE NOTATION

- ACTION 17** - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the tripped (D.C. Relay energized) condition within 1 hour, the remaining Emergency Diesel Generator is OPERABLE, and the inoperable channel is restored to OPERABLE status within the next 48 hours. Otherwise, be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the next 30 hours. The surveillance requirements of Table 4.3-2 are waived for all channels while this action requirement is in effect.
- ACTION 18** - With more than one channel inoperable, or if the inoperable channel cannot be placed in the trip (D.C. Relay energized) condition, declare the associated Emergency Diesel Generator inoperable and take the ACTION required by Specification 3.8.1.1. The surveillance requirements of Table 4.3-2 are waived for all channels while this action requirement is in effect.
- ACTION 19** - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION and/or operation in the other applicable MODE(S) may continue, provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour:
- a. If the inoperable channel is to remain in the bypassed condition, the desirability of maintaining this channel in the bypassed condition shall be documented by the Plant Operations Review Committee in accordance with plant administrative procedures. The channel shall be returned to OPERABLE status no later than prior to entry into the applicable MODE(S) following the next COLD SHUTDOWN.
 - b. If the inoperable channel is required to be placed in the tripped condition, within 48 hours either restore the channel to OPERABLE status or place the channel in the bypassed condition. If the tripped channel can not be returned to OPERABLE status in 48 hours, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours or place the tripped channel in bypass.
- With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below:

TABLE 3.3-3 (Continued)

TABLE NOTATION

	Process Measurement Circuit	Functional Unit Bypassed/Tripped
1.	Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator ΔP 1 and 2 (EFAS)
2.	Steam Generator Level	Steam Generator Level - Low Steam Generator Level - High Steam Generator ΔP (EFAS)

ACTION 20 - With the number of channels OPERABLE one less than the Minimum Channels OPERABLE, STARTUP and/or POWER OPERATION and/or operation in the other applicable MODE(S) may continue provided the following conditions are satisfied:

- a. Verify that one of the inoperable channels has been bypassed and place the other inoperable channel in the tripped condition within 1 hour. With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below:

	Process Measurement Circuit	Functional Unit Bypassed/Tripped
1.	Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator ΔP 1 and 2 (EFAS)
2.	Steam Generator Level	Steam Generator Level - Low Steam Generator Level - High Steam Generator ΔP (EFAS)

- b. Restore at least one of the inoperable channels to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Subsequent operation in the applicable MODE(S) may continue if one channel is restored to OPERABLE status and the provisions of ACTION 19 are satisfied.

3/4.3 INSTRUMENTATION

BASES

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE AND ENGINEERED SAFETY FEATURES ACTUATION SYSTEMS INSTRUMENTATION

The OPERABILITY of the Reactor Protective and Engineered Safety Features Actuation Systems instrumentation and bypasses ensures that (1) the associated Engineered Safety Features Actuation action and/or reactor trip will be initiated when the parameter monitored by each channel or combination thereof reaches its setpoint, (2) the specified coincidence logic is maintained, (3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and (4) sufficient system functional capability is available from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundancy, and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the safety analyses.

The redundancy design of the Control Element Assembly Calculators (CEAC) provides reactor protection in the event one or both CEACs become inoperable. If one CEAC is in test or inoperable, verification of CEA position is performed at least every 4 hours. If the second CEAC fails, the CPCs will use DNBR and LPD penalty factors to restrict reactor operation to some maximum fraction of RATED THERMAL POWER. If this maximum fraction is exceeded, a reactor trip will occur.

Table 3.3-3 ACTION 19 allows for continued operation in the applicable MODE(S) with one of the Refueling Water Storage Pool (RWSP) - Low or Steam Generator Δ P Emergency Feedwater Actuation Signal (EFAS) channels inoperable provided the channel is placed in the bypass or tripped condition within 1 hour. If an inoperable channel of the RWSP - Low or Steam Generator Δ P EFAS channel is required to be placed in the tripped condition within one hour, then within 48 hours the channel must either be restored to OPERABLE status or be placed in the bypassed condition. The bypassed channel must be restored to OPERABLE status prior to entering the applicable MODE(S) following the next MODE 5 entry. With one of the RWSP - Low or Steam Generator Δ P (EFAS) channels inoperable and in bypass, and a failure occurs or repairs are necessary on one of the remaining channels, ACTION 20 must be entered.

ACTION 19a is annotated with a 3.0.4 exemption to allow the changing of MODE(S) even though one channel is bypassed. MODE changes between MODES 1 and 4 with this configuration are allowed, to permit maintenance and testing on the inoperable channel. In this configuration, the protection system is in a two-out-of-three logic, and the probability of a random failure affecting two of the OPERABLE channels is remote. The tripped condition does not have this annotation as a single failure could cause the Emergency Core Cooling System and Containment Spray System suction to be supplied from the Safety Injection System Sump prematurely and loss of the Low Pressure Safety Injection Systems with a premature

3/4.3 INSTRUMENTATION

BASES (Cont'd)

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE AND ENGINEERED SAFETY FEATURE SAFETY ACTUATION SYSTEMS INSTRUMENTATION (Continued)

Recirculation Actuation Signal (RAS) or with an inadvertent EFAS could cause the automatic isolation of a faulted steam generator from Emergency Feedwater (EFW) to not occur as assumed by the Waterford 3 safety analysis.

Table 3.3-3 ACTION 20 allows for continued operation in the applicable MODE(S) with two of the RWSP - Low or Steam Generator Δ P (EFAS) channels inoperable provided that one of the inoperable channels is bypassed and the other inoperable channel is placed in the tripped condition within one hour.

One of the inoperable RWSP-Low channels must be restored to OPERABLE status within 48 hours to allow removal of the channel from the tripped condition. The allowed time is acceptable because operating experience has demonstrated the low probability of the following sequence of events occurring: the need to place one RWSP-Low channel in the tripped condition while another RWSP-Low channel is in bypass, the receipt of a valid Safety Injection Actuation Signal Actuation, and a coincident failure of one of the two remaining OPERABLE RWSP-Low channels. These conditions could cause the Emergency Core Cooling System and Containment Spray System suction to be supplied from the Safety Injection System Sump prematurely due to containment pressure being higher than RWSP outlet pressure and loss of the Low Pressure Safety Injection Systems.

One of the inoperable Steam Generator Δ P (EFAS) channels must be restored to OPERABLE status within 48 hours to allow removal of the channel from the tripped condition. The allowed time is acceptable because operating experience has demonstrated the low probability of the following sequence of events occurring: the need to place one Steam Generator Δ P (EFAS) channel in the tripped condition while another Steam Generator Δ P (EFAS) is in bypass, coincident with a failure of one of the two remaining OPERABLE Steam Generator Δ P (EFAS) channels, and the occurrence of a MSLB or FWLB. These conditions could cause the automatic isolation of a faulted steam generator from Emergency Feedwater (EFW) to not occur as assumed by the Waterford safety analysis.

When one of the inoperable channels is restored to OPERABLE status, subsequent operation in the applicable MODE(S) may continue in accordance with the provisions of ACTION 19.

3/4.3 INSTRUMENTATION

BASES (Cont'd)

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE AND ENGINEERED SAFETY FEATURE SAFETY ACTUATION SYSTEMS INSTRUMENTATION (Continued)

Because of the interaction between process measurement circuits and associated functional units as listed in the ACTIONS 19 and 20, placement of an inoperable channel of Steam Generator Level in the bypass or trip condition results in corresponding placements of Steam Generator ΔP (EFAS) instrumentation. Depending on the number of applicable inoperable channels, the provisions of ACTIONS 19 and 20 and the aforesaid scenarios for Steam Generator ΔP (EFAS) would govern.

The Surveillance Requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability. The quarterly frequency for the channel functional tests for these systems comes from the analyses presented in topical report CEN-327: RPS/ESFAS Extended Test Interval Evaluation, as supplemented.

Testing frequency for the Reactor Trip Breakers (RTBs) is described and analyzed in CEN NPSD-951. The quarterly RTB channel functional test and RPS logic channel functional test are scheduled and performed such that RTBs are verified OPERABLE at least every 6 weeks to accommodate the appropriate vendor recommended interval for cycling of each RTB.

RPS\ESFAS Trip Setpoints values are determined by means of an explicit setpoint calculation analysis. A Total Loop Uncertainty (TLU) is calculated for each RPS/ESFAS instrument channel. The Trip Setpoint is then determined by adding or subtracting the TLU from the Analytical Limit (add TLU for decreasing process value; subtract TLU for increasing process value). The Allowable Value is determined by adding an allowance between the Trip Setpoint and the Analytical Limit to account for RPS/ESFAS cabinet Periodic Test Errors (PTE) which are present during a CHANNEL FUNCTIONAL TEST. PTE combines the RPS/ESFAS cabinet reference accuracy, calibration equipment errors (M&TE), and RPS/ESFAS cabinet bistable Drift. Periodic testing assures that actual setpoints are within their Allowable Values. A channel is inoperable if its actual setpoint is not within its Allowable Value and corrective action must be taken. Operation with a trip set less conservative than its setpoint, but within its specified ALLOWABLE VALUE is acceptable on the basis that the difference between each trip Setpoint and the ALLOWABLE VALUE is equal to or less than the Periodic Test Error allowance assumed for each trip in the safety analyses.

The measurement of response time at the specified frequencies provides assurance that the protective and ESF action function associated with each channel is completed within the time limit assumed in the safety analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

3/4.3 INSTRUMENTATION

BASES (Cont'd)

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE AND ENGINEERED SAFETY FEATURE SAFETY ACTUATION SYSTEMS INSTRUMENTATION (Continued)

TABLE 3.3-1. Functional Unit 13. Reactor Trip Breakers

Response time may be demonstrated by any series of sequential, overlapping, or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by (1) in place, onsite, or offsite test measurements or (2) utilizing replacement sensors with certified response times.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 154 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 July 2, 1998, as supplemented by letters dated July 7 and August 24, 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 the ACTION requirements for TS 3/4.3.2 for the Emergency Feedwater Actuation Signal (EFAS). These changes would revise the allowed outage time for a channel of process measurement circuit (channel) for EFAS to be in the tripped condition from "prior to entry into the applicable MODE(S) following the next COLD SHUTDOWN" to the more restrictive time limit of 48 hours and add a shutdown requirement. The applicable process measurement circuit requirements in ACTION 13 will be placed in ACTIONS 19 and 20 for the EFAS change. Additionally, the TS 3.0.4 exemption will be removed from the ACTIONS 19b and 20 for the tripped condition. Some editorial changes are proposed in ACTIONS 13 and 14. A change to the TS Bases Section 3/4.3.2 is also included to support the changes.

The July 7 and August 24, 1999, letters provided additional information that did not change the scope of the July 2, 1998, application and the initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

There is one EFAS for each steam generator (SG) that, upon actuation, will provide emergency feedwater (EFW) to the required generator. The EFAS is actuated with the requisite channels of one of the following: (1) SG level - low coincident with SG differential pressure instrumentation (SGDPI) between the two SGs high or (2) SG level - low coincident with no SG pressure - low trip. Normally an EFAS will occur when two-out-of-four channels are actuated. Current TSs allow an inoperable channel to be placed in either bypass (resulting in two-out-of-three logic to actuate) or trip (resulting in one-out-of-three logic to actuate) for an indefinite period. With one channel in the tripped condition, and an MSLB then occurs on the associated SG coincident with a failure of another channel, EFW would be activated and sent to the faulted SG. The Waterford 3 safety analysis assumes that the excess reactor coolant system (RCS) cooldown and return to power associated with the MSLB will be terminated when the faulted SG empties. If additional EFW were added, the RCS cooldown would be extended

and the return to power may be more severe. This may result in exceeding the Waterford 3 departure from nucleate boiling ratio Limit. The event would then be terminated when operators take action to isolate the feedwater to the ruptured SG.

A similar postulated condition could occur when an inadvertent EFAS is activated during a feedwater line break (FLB). In this scenario, EFW would be activated to both SGs. However, since the EFW comes off a common header to both SGs, the majority of the EFW would flow out of the break. This would result in a total loss of feedwater, and would be terminated when the operators take manual action to isolate the feedwater to the faulted generator.

3.0 EVALUATION

Current TS ACTION 13 in Table 3.3-3 requires that, with one inoperable channel, the channel be placed in the bypass or tripped condition within 1 hour. With two channels inoperable, TS ACTION 14 requires that one inoperable channel be placed in trip and the other inoperable channel be placed in bypass. In ACTION 13, continued operation is allowed in this configuration until entry into the applicable MODE(S) following the next COLD SHUTDOWN. If the failure occurs at the start of an operating cycle, there is a potential for a channel to be in the tripped condition for up to a maximum of 18 months. In ACTION 14, continued operation is allowed in the tripped condition until performance of the next required CHANNEL FUNCTIONAL TEST, which could be in 3 months.

The proposed change will limit the time that one channel can be in the tripped condition to 48 hours. The applicable ACTIONS will be changed to ACTIONS 19 and 20. ACTION 19 refers to the condition of one inoperable channel. The channel may be placed in the bypassed condition until the next entry into COLD SHUTDOWN. As the bypass function places EFAS in a two-out-of-three logic, use of the bypass feature is acceptable because with the resulting logic a single failure would not cause an inadvertent EFAS. If placed in the tripped condition, a time limit of 48 hours is being imposed until the channel must be removed from the tripped condition. The licensee stated that 48 hours for the channel to be in the tripped condition is based on operating experience, which has demonstrated that a random failure of a second channel occurring during the 48-hour period is a low probability event. This allowed outage time for the tripped condition is consistent with the currently allowed time for the analog Combustion Engineering (CE) plants that do not have indefinite bypass. Waterford 3 is considered to be a digital plant utilizing an Engineered Safety Features Actuation System (ESFAS) designed by CE and, therefore, does not have a specified time that a channel of ESFAS can remain in the tripped or bypassed condition. The licensee also stated that the Waterford 3 ESFAS is designed for channel independence and provides physical separation of the channels, thereby minimizing the common mode failures in which a single event could remove or negate a protective function.

The proposed time of 48 hours to maintain the affected channel in the tripped condition is more restrictive than the current TSs for Waterford 3. The more restrictive time of 48 hours is desirable because it limits the time the plant is vulnerable to a design-basis accident combined with a single failure (failure of a second channel) that has the potential to affect the feedwater control to the SGs. Considering the low probability of the three conditions (one channel in tripped condition, the coincident MSLB or FLB, and the failure of another channel) to occur at

the same time within 48 hours, and considering the design of the ESFAS at Waterford 3, the proposed allowed outage time of 48 hours is acceptable to the staff.

ACTION 20 addresses the condition in which two channels are inoperable. One channel must be placed in the bypassed condition and the other placed in the tripped condition. The proposed change will revise the allowed outage time when two channels are inoperable (provided one channel is tripped and the other is bypassed) from "until performance of the next required CHANNEL FUNCTIONAL TEST," which could be up to a maximum of 3 months, to 48 hours. This change is acceptable because it is more restrictive. The more restrictive time is desirable for the same vulnerability previously discussed above for ACTION 19 when one inoperable channel is put in the tripped condition.

The TS 3.0.4 exemption, which allows entry into an operational mode when the limiting condition for operation is not met, is being removed for the condition of a tripped channel. This is acceptable because there is now a specific allowed outage time for a tripped channel. This change is also more restrictive. The TS 3.0.4 exemption is still applicable for the bypassed condition as the allowed outage time for the bypassed condition remains until entry into the applicable MODE(S) following the next entry into COLD SHUTDOWN, as before. This is specified in the ACTIONS and explained in the Bases.

In addition, the licensee has proposed to make a few editorial changes in ACTIONS 13 and 14. In ACTION 14, Steam Generator Level - High is incorrectly listed as a Functional Unit affected by the Steam Generator Pressure - Low process measurement circuit and will be removed as a typographical error in this proposed change. Also in ACTION 14, the Functional Unit Bypassed/Tripped corresponding to the Steam Generator Pressure - Low process measurement circuit, "Steam Generator ΔP (EFAS)," will be changed to "Steam Generator ΔP 1 and 2 (EFAS)." This change will explicitly identify the affected functional units rather than being implicitly identified. Also, since the required actions for Steam Generator Level and its Functional Unit were changed to ACTIONS 19 and 20, they are removed from ACTIONS 13 and 14. These and other minor typographical changes are editorial changes, and therefore acceptable to the staff.

The licensee has also proposed changes to the related Bases section. The staff has reviewed the proposed Bases and finds that they are consistent with the changes to the TSs described above, and are, therefore, 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. 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 69339 dated December 16, 1998). 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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