Mr. Charles M. Dugger
Vice President Operations
Entergy Operations, Inc.
P. O. Box B
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February 12, 19

SUBJECT: ISSUANCE OF AMENDMENT NO. 122 TO FACILITY OPERATING LICENSE NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3 (TAC NO. M95886)

Dear Mr. Dugger:

The Commission has issued the enclosed Amendment No. 122 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 27, 1996.

The amendment changes the Appendix A TSs by modifying TS 3/4.3.3.6, "Accident Monitoring Instrumentation," to reflect the Combustion Engineering improved Standard Technical Specification (STS) approved and issued as NUREG-1432. This amendment revises the TS to include Accident Monitoring Instrumentation recommended in Regulatory Guide (RG) 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During an Following an Accident," Revision 3.

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. 122 to NPF-38
2. Safety Evaluation

cc w/encls: See next page

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Waterford 3

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

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-382

WATERFORD STEAM ELECTRIC STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 122
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 27, 1996, 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. 122, 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 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Chandu P. Patel

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 12, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 122

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	INSERT PAGES
3/4 3-45	3/4 3-45
3/4 3-45a	3/4 3-45a
3/4 3-46	3/4 3-46
B 3/4 3-3	B 3/4 3-3
B 3/4 3-3a	B 3/4 3-3a

TABLE 3.3-10

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	ACTION
1. Containment Pressure (Wide Range)	2	1	29,30
2. Containment Pressure (Wide Wide Range)	2	1	29,30
3. Reactor Coolant Outlet Temperature -T_{Hot} (Wide Range)	2	1	29,30
4. Reactor Coolant Inlet Temperature - T_{Cold} (Wide Range)	2	1	29,30
5. Reactor Coolant Pressure - Wide Range	2	1	29,30
6. Pressurizer Water Level	2	1	29,30
7. Steam Generator Water Level - Narrow Range	2/steam generator	1/steam generator	29,30
8. Steam Generator Water Level - Wide Range	2/steam generator	1/steam generator	29,30
9. Containment Water Level (Wide Range)	2	1	29,30
10. Core Exit Thermocouples	4/core quadrant	2/core quadrant	29,30
11. Containment Isolation Valve Position Indicators*	1/valve	N/A	29
12. Condensate Storage Pool Level	2	1	29,30
13. Reactor Vessel Level Monitoring System**	2	1	29,31
14. Log Power Indication (Neutron Flux)***	2	1	29,30

*If the containment isolation valve is declared inoperable and the provisions of Specification 3.6.3 are complied with, action requirements of this specification are not applicable.

**A channel is eight sensors in a probe. A channel is operable if four or more sensors, one or more in the upper three and three or more in the lower five, are operable.

***Channels C and D only (ENIIJI0001C and ENIIJI0001D). These instruments are also covered by Specification 3.3.1, "Reactor Protective Instrumentation."

TABLE 3.3-10

ACTION STATEMENTS

ACTION 29 - With the number of OPERABLE accident monitoring channels less than the Required Number of Channels shown in Table 3.3-10, either restore the inoperable channel to OPERABLE status within 30 days, or prepare and submit a Sepcial Report to the Commission pursuant to Specification 6.9.2 within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels to OPERABLE status.

ACTION 30 - With the number of OPERABLE accident monitoring channels less than the Minimum Channels OPERABLE requirements of Table 3.3-10; either restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION 31 - With the number of OPERABLE accident monitoring channels less than the Minimum Channels OPERABLE in Table 3.3-10, either restore the inoperable channel(s) to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels to OPERABLE status.

TABLE 4.3-7

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Containment Pressure (Wide Range)	M	R
2. Containment Pressure (Wide Wide Range)	M	R
3. Reactor Coolant Outlet Temperature - T_{Hot} (Wide Range	M	R
4. Reactor Coolant Inlet Temperature - T_{Cold} (Wide Range)	M	R
5. Reactor Coolant Pressure - Wide Range	M	R
6. Pressurizer Water Level	M	R
7. Steam Generator Water Level - Narrow Range	M	R
8. Steam Generator Water Level - Wide Range	M	R
9. Containment Water Level (Wide Range)	M	R
10. Core Exit Thermocouples	M	R
11. Containment Isolation Valve Position	M	R
12. Condensate Storage Pool Level	M	R
13. Reactor Vessel Level Monitoring System	M	R
14. Log Power Indication (Neutron Flux)	M	R

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. The availability of accident monitoring instrumentation is important so that responses to corrective actions can be observed and the need for, and magnitude of, further actions can be determined. These essential instruments are identified by plant specific documents addressing the recommendations of Regulatory Guide 1.97, as required by Supplement 1 to NUREG-0737, "TMI Action Items." Table 3.3.10 includes most of the plant's RG 1.97 Type A and Category 1 variables. The remaining Type A/Category 1 variables are included in their respective specifications. Type A variables are included in this LCO because they provide the primary information required to permit the control room operator to take specific manually controlled actions, for which no automatic control is provided, that are required for safety systems to accomplish their safety functions for Design Basis Accidents (DBAs). Category 1 variables are the key variables deemed risk significant because they are needed to: (1) Determine whether other systems important to safety are performing their intended functions; (2) Provide information to the operators that will enable them to determine the potential for causing a gross breach of the barriers to radioactivity release; and (3) Provide information regarding the release of radioactive materials to allow for early indication of the need to initiate action necessary to protect the public as well as to obtain an estimate of the magnitude of any impending threat.

With the number of OPERABLE accident monitoring channels less than the Required Number of Channels shown in Table 3.3-10, the inoperable channel should be restored to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience and takes into account the remaining OPERABLE channel (or in the case of a Function that has only one required channel, other non-Regulatory Guide 1.97 instrument channels to monitor the Function), the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring accident monitoring instrumentation during this interval. If the 30 day AOT is not met, a Special Report approved by PORC is required to be submitted to the NRC within the following 14 days. This report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative Actions. This Action is appropriate in lieu of a shutdown requirement, given the likelihood of plant conditions that would require information provided by this instrumentation. Also, alternative Actions are identified before a loss of functional capability condition occurs.

With the number of OPERABLE accident monitoring channels less than the Minimum Channels OPERABLE requirements of Table 3.3-10; at least one of the inoperable channels should be restored to OPERABLE status within 7 days. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrumentation operation and the availability of alternate means to obtain the required information.

Continuous operation with less than the Minimum Channels OPERABLE requirements is not acceptable because the alternate indications may not fully meet all performance qualification requirements applied to the accident

monitoring instrumentation. Therefore, requiring restoration of one inoperable channel limits the risk that the variable will be in a degraded condition should an accident occur. If the 7 day requirement is not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 4 within 12 hours. The completion time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

TS 3/4.3.3.6 applies to the following instrumentation: ESFIPI6750 A, ESFIPR6750 B, ESFIPR6755 A&B, RC ITI0122 HA, RC ITI0112 HB, RC ITI0122 CA, RC ITI0112 CB, RC IPI0102 A,B,C,&D, RC ILI0110 X&Y, SG ILI1113 A,B,C,&D, SG ILI1123 A,B,C,&D, SG ILI1115 A2&B2, SG ILI1125 A2&B2, SI ILI7145 A, SI ILR7145 B, all CET's, all Category 1 Containment Isolation Valve Position Indicators, EFWILI9013 A&B, HJTC's, and ENIIJI0001 C&D.

3/4.3.3.7 CHEMICAL DETECTION SYSTEMS

The chemical detection systems are the chlorine and broad range toxic gas detection systems.

The OPERABILITY of the chemical detection systems ensures that sufficient capability is available to promptly detect and initiate protective action in the event of an accidental chemical release.

The chemical detection systems provide prompt detection of toxic gas releases which could pose an actual threat to safety of the nuclear power plant or significantly hamper site personnel in performance of duties necessary for the safe operation of the plant.

The broad range toxic gas detection system operates on the principle of gas photoionization, and therefore, the system is sensitive to a broad range of gases.* The system is therefore sensitive to both atmospheric and chemical composition normal fluctuations affecting the Waterford 3 site. The setpoint for the system is thus based on testing and operating experience, and the setpoint is set at the lowest achievable IDLH gas concentration providing reliable operation and the optimum detection of toxic gases. The setpoint is therefore subject to change wherein necessitated by operating experience such as a result of changes in the Waterford 3 area chemical atmospheric profile. The setpoint is established and controlled by procedure.

3/4.3.3.8 This section deleted

3/4.3.3.9 This section deleted

*Including Amononia

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 122 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 27, 1996, Entergy Operations, Inc. (the licensee), submitted a request for changes to the Waterford Steam Electric Station, Unit 3, Technical Specifications (TSs). The requested changes would modify TS 3/4.3.3.6, "Accident Monitoring Instrumentation," to reflect the Combustion Engineering improved Standard Technical Specification (STS) approved and issued as NUREG-1432. This change revises the TS to include Accident Monitoring Instrumentation recommended in Regulatory Guide (RG) 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During an Following an Accident," Revision 3.

2.0 EVALUATION

The proposed change modifies TS 3/4.3.3.6, "Accident Monitoring Instrumentation," by removing instrumentation from the TS which is not RG 1.97 Type A or Category 1 and by adding other instrumentation that is not currently addressed by TS 3/4.3.3.6. The change also extends the allowed outage times for post accident monitoring instrumentation and replaces the HOT SHUTDOWN requirement with a Special Report requirement.

The primary purpose of the accident monitoring instrumentation is to display plant variables that provide information required by the control room operators during accident situations. This information provides the necessary support for the operator to take manual actions, for which no automatic control is provided, that are required for safety systems to accomplish their safety functions for Design Basis Events. The OPERABILITY of post accident monitoring (PAM) instrumentation ensures that there is sufficient information available on selected plant parameters to monitor and assess plant status and behavior following an accident.

The availability of post accident monitoring (PAM) instrumentation is important so that responses to corrective actions can be observed and the need for, and magnitude of, further actions can be determined. These essential instruments have been identified by Waterford 3 per the recommendations of Regulatory Guide 1.97, as required by Supplement 1 to NUREG-0737, "TMI Action

Items". By letter dated February 28, 1991, Waterford 3 changed its commitment from RG 1.97, Revision 2 to Revision 3 and submitted information regarding the implementation of RG 1.97, Revision 3. The NRC staff's safety evaluation dated July 12, 1993, accepted the Waterford 3 submittal as being in conformance with, or justified in deviating from, the guidance of RG 1.97, Revision 3. As discussed in NUREG-1432, only Type A and Category 1, non-Type A, instrumentation are expected to be included in the TSs for accident monitoring instrumentation.

In addition to Type A and Category 1 instruments, the current Waterford 3 TS 3/4.3.3.6 includes the following RG 1.97 Category 2 instruments: Steam Generator Pressure, Refueling Water Storage Pool Water Level, Emergency Feedwater Flow Rate, Reactor Coolant System Saturation Margin Monitor, Safety Valve Position Indicator, and Containment Water Level (Narrow Range). The proposed change will remove these Category 2 instruments from the requirements of TS 3/4.3.3.6. This change is consistent with the CE improved STS and associated safety analyses which require only RG 1.97 Type A and Category 1, non-Type A instrumentation, and the staff considers this acceptable.

The proposed change also adds Containment Pressure (Wide-Wide Range) instrumentation to TS 3/4.3.3.6 to distinguish this instrumentation from the Containment Pressure (Wide Range) instrumentation. The current Waterford 3 TS 3/4.3.3.6 requires 2 channels for Containment Pressure, but does not specify between Wide Range and Wide-Wide Range instrumentation. Both variables are required by RG 1.97, and both are designated as Category 1. The staff finds this change acceptable.

The proposed change further revises the number of required channels of Steam Generator Water Level (Wide Range) from 1/steam generator to 2/steam generator. This is consistent with NUREG-1432, and the staff considers this acceptable.

Other Type A and/or Category 1 instrumentation that is not included in TS 3/4.3.3.6 is included in other TS. This instrumentation is Containment Area High Range Radiation (TS 3/4.3.3.1), Containment Hydrogen Concentration (TS 3/4.6.4.1), and Radioactivity Concentration (Gamma Spectrum) (TS 6.8.4.d). The requirements for this instrumentation remain unchanged, and the staff finds them acceptable.

Log Power Indication (Neutron Flux) is currently included in TS 3/4.3.1, "Reactor Protective Instrumentation." Channels C and D are credited for meeting the requirements of RG 1.97. The proposed change will add these channels to TS 3/4.3.3.6 to ensure that LCO and other related Actions for these channels are consistent with the other accident monitoring instrumentation.

The proposed changes also revise the Action requirements and associated Allowed Outage Times (AOT) for TS 3/4.3.3.6 to be consistent with those outlined in NUREG-1432. The AOT for one INOPERABLE channel will be changed from 7 days to 30 days. If the required channel is not restored to operable status within 30 days, it requires to prepare and submit a special report to

the Commission within 14 days outlining the actions taken (including the preplanned alternate method of monitoring), the cause of the inoperability, and the plans and schedule for restoring the inoperable channel to operable status. The 30 day Completion Time and reporting requirements are consistent with NUREG-1432 and is, therefore, acceptable to the staff.

The AOT for two INOPERABLE channels will be changed from 48 hours to 7 days. The 7 day Completion Time is consistent with NUREG-1432 and is, therefore, acceptable to the staff.

Finally, the proposed changes in BASES section of TS 3/4.3.3.6 are consistent with the discussion provided in NUREG-1432 and is, therefore, acceptable to the staff.

Based on the above, the staff concludes that the proposed changes to the Waterford, Unit 3 TS are consistent with NUREG-1432 and are, therefore, acceptable.

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 (61 FR 40017). 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.

Principal Contributor: F. Gee, NRR/HICB

Date: February 12, 1997