May 30, 1995

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

SUBJECT: ISSUANCE OF AMENDMENT NO. 107 TO FACILITY OPERATING LICENSE NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3 (TAC NO. M87799)

Dear Mr. Barkhurst:

The Commission has issued the enclosed Amendment No.107 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 September 16, 1993.

The amendment changes the Appendix A Technical Specifications by removing the incore detection system requirements. These requirements are to be relocated in the Updated Final Safety Analysis Report.

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.107 to NPF-38
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION

Docket File	PNoonan	MChatterton
PUBLIC	CPatel	ACRS (4)
PDIV-1 R/F	OGC	OPA
JRoe	GHill (2)	OC/LFDBC
WBeckner	CGrimes	ABeach, RIV

G:\VWPKPN\WAT87799.AMD *See previous concurrence

OFC	LA:PD4-1	PM:PD4-1	SRXB	DOPS	OGC
NAME	PNoonan	CPatel:mk	RJones*	CGrimes*	BBordenick*
DATE	5/30/95	5/30/95	4/24/95	4/27/95	5/25/95
COPY	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO

OFFICIAL RECORD COPY

9506090475 950530
PDR ADOCK 05000382
P PDR

DF01

cc w/encl:
Mr. William H. Spell, Administrator
Radiation Protection Division
Office of Air Quality and Nuclear Energy
Post Office Box 82135
Baton Rouge, Louisiana 70884-2135

Mr. Jerrold G. Dewease
Vice President, Operations
Support
Entergy Operations, Inc.
P. O. Box 31995
Jackson, Mississippi 39286

Mr. R. F. Burski, Director
Nuclear Safety
Entergy Operations, Inc.
P. O. Box B
Killona, Louisiana 70066

Mr. Robert B. McGehee
Wise, Carter, Child & Caraway
P.O. Box 651
Jackson, Mississippi 39205

Mr. D. F. Packer
General Manager Plant Operations
Entergy Operations, Inc.
P. O. Box B
Killona, Louisiana 70066

Mr. Donald W. Vinci, Licensing Manager
Entergy Operations, Inc.
P. O. Box B
Killona, Louisiana 70066

Winston & Strawn
Attn: N. S. Reynolds
1400 L Street, N.W.
Washington, DC 20005-3502

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Resident Inspector/Waterford NPS
Post Office Box 822
Killona, Louisiana 70066

Parish President Council
St. Charles Parish
P. O. Box 302
Hahnville, Louisiana 70057

Mr. Harry W. Keiser, Executive Vice-
President and Chief Operating Officer
Entergy Operations, Inc.
P. O. Box 31995
Jackson, Mississippi 39286-1995

Chairman
Louisiana Public Service Commission
One American Place, Suite 1630
Baton Rouge, Louisiana 70825-1697

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

May 30, 1995

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

SUBJECT: ISSUANCE OF AMENDMENT NO. 107 TO FACILITY OPERATING LICENSE NPF-38 - WATERFORD STEAM ELECTRIC STATION, UNIT 3 (TAC NO. M87799)

Dear Mr. Barkhurst:

The Commission has issued the enclosed Amendment No. 107 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 September 16, 1993.

The amendment changes the Appendix A Technical Specifications by removing the incore detection system requirements. These requirements are to be relocated in the Updated Final Safety Analysis Report.

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,

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. 107 to NPF-38
2. Safety Evaluation

cc w/encls: See next page

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

New
Code

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-382

WATERFORD STEAM ELECTRIC STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 107
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 September 16, 1993, 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. 107, 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

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: May 30, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 107

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.

REMOVE PAGES	INSERT PAGES
V	V
3/4 3-34	3/4 3-34
B 3/4 3-2	B 3/4 3-2

LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS

TABLE 4.3-3 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
3. EFFLUENT ACCIDENT MONITORS				
a. Containment High Range	S	R	Q	1, 2, 3, & 4
b. Plant Stack High Range	S	R	Q	1, 2, 3, & 4
c. Condenser Vacuum Pump High Range	S	R	Q	1, 2, 3, & 4
d. Fuel Handling Building Exhaust High Range	S	R	Q	1*, 2*, 3*, & 4*
e. Main Steam Line High Range	S	R	Q	1, 2, 3, & 4

*With irradiated fuel in the storage pool.

This page has been deleted.

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.

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.

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.

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 either (1) in place, onsite, or offsite test measurements or (2) utilizing replacement sensors with certified response times.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring channels ensures that: (1) the radiation levels are continually measured in the areas served by the individual channels; (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," December 1980 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

3/4.3.3.2 INCORE DETECTORS

This section has been deleted.

3/4.3.3.3 SEISMIC INSTRUMENTATION

The OPERABILITY of the seismic instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix "A" of 10 CFR Part 100. The instrumentation is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.

3/4.3.3.4. METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data are available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23 "Onsite Meteorological Programs," February 1972.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR Part 50.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO.107 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 September 16, 1993, 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 remove the incore detection system requirements from the TSs. The requirements are to be included in the updated final safety analysis report (UFSAR) and controlled through 10 CFR 50.59.

2.0 BACKGROUND

Section 182a of the Atomic Energy Act (the "Act") requires applicants for nuclear power plant operating licenses to state TSs to be included as part of the license. The Commission's regulatory requirements related to the content of TSs are set forth in 10 CFR 50.36. That regulation requires that the TSs include items in five specific categories, including (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. However, the regulation does not specify the particular requirements to be included in a plant's TSs.

The Commission has provided guidance for the contents of TSs in its "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" ("Final Policy Statement"), 58 FR 39132 (July 22, 1993), in which the Commission indicated that compliance with the Final Policy Statement satisfies § 182a of the Act. In particular, the Commission indicated that certain items could be relocated from the TSs to licensee-controlled documents, consistent with the standard enunciated in *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 273 (1979). In that case, the Atomic Safety and Licensing Appeal Board indicated that "technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety."

Consistent with this approach, the Final Policy Statement identified four criteria to be used in determining whether a particular matter is required to be included in the TS, as follows: (1) installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary; (2) a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.[1] As a result, existing TSs requirements which fall within or satisfy any of the criteria in the Final Policy Statement must be retained in the TSs, while those TS requirements which do not fall within or satisfy these criteria may be relocated to other, licensee-controlled documents.

3.0 EVALUATION

The relocation of requirements related to incore neutron detectors affects the TS sections entitled "Incore Detectors" for Waterford Steam Electric Station, Unit 3. The purpose of incore detection instrumentation is to provide inputs for determination of core power distributions, perform validation of the core protection calculator (CPC) power distribution, and provide inputs to the core operating limit supervisory system (COLSS).

The incore detectors provide a signal representative of core neutron flux to the plant monitoring computer (PMC). The COLSS software within the PMC uses the incore detector signals to generate axial shape index, azimuthal power tilt, linear heat rate margin, and departure from nucleate boiling margin. The COLSS serves to monitor reactor core conditions accurately and provide indication and alarm functions to aid the operator. The incore detectors and the COLSS are not safety related and the COLSS is independent of the plant protection system. CPCs operate independently of COLSS using excore detectors to monitor plant safety parameters. The CPCs provide input to the safety-related plant protection system. Thus the incore instrumentation system is used in a confirmatory manner and does not provide direct input to reactor protection system or engineered safety features actuation system functions.

---

[1] The Commission recently promulgated a proposed change to §50.36, pursuant to which the rule would be amended to codify and incorporate these criteria (59 FR 48180, September 20, 1994). The Commission's Final Policy Statement specified that LCOs for Reactor Core Isolation Cooling, Isolation Condenser, Residual Heat Removal, Standby Liquid Control, and Recirculation Pump Trip are included in the TS under Criterion 4 (58 FR 39132). The Commission has solicited public comments on the scope of Criterion 4, in the pending rulemaking.

These instruments do not detect degradation of the reactor coolant pressure boundary nor do they function as a primary success path to mitigate events which assume the failure of or challenge the integrity of fission product barriers. Although the core power distributions measured by the incore detectors constitute an important initial condition to design basis accidents and therefore need be addressed by TSs, the detectors themselves are not an active design feature needed to preclude analyzed accidents or transients. The staff has determined therefore that the incore detector requirements do not satisfy the Final Policy Statement criteria and their inclusion in TSs is not necessary.

Essentially all PWR TSs contain a requirement for operability of 75% of the incore detectors within specific locations for mapping of the core power distribution. Incore detector data are used to calculate power peaking factors which are used to verify compliance with fuel performance limits. A significant safety concern relating to degradation of incore mapping ability is the ability to detect anomalous conditions in the core. One of these is the inadvertent loading of a fuel assembly into an improper position. Since this is a loading problem, it is of significant concern if long-term operation with fewer than 75 percent of the detectors is considered.

On occasion, for various reasons, failures of detector strings may exceed 25%, and relaxation of the 75% requirement may be permitted for the duration of the affected operating cycle. This relaxation is acceptable if the startup physics tests had been performed with at least 75% of the incore detector locations operable, general trends for the cycle had been established and the uncertainties on the measurements has been increased to account for fewer operable detectors. The relaxation of the 75% requirement should expire at the end of the cycle and the failed detectors restored to full (or nearly full) compliment before beginning the following cycle. This is necessary to assure meeting the 75% acceptable requirement discussed above for startup physics and general trends testing.

The requirements of TS 3.3.3.2 were established to ensure adequate core coverage. Relocation of the incore detector requirements from the TSs to the UFSAR does not imply any reduction in their importance in confirming that core power distributions are bounded by safety analysis limits. By the provisions of 10 CFR 50.59, the number and/or distribution requirements may be changed within acceptable limits which preserve the margins of safety. Evaluations related to changes in incore detector requirements are expected to consider such factors as the need to identify the inadvertent loading of a fuel assembly into an improper location, the adequacy of core coverage, the validity of tilt estimates, the calibration of protection systems using incore measurements, and the increase in allowances for measured and nuclear design uncertainties, as well as a commitment to restore the system to full or nearly full service before the beginning of each cycle. Should these or other considerations lead to the identification of a proposed change as an unreviewed safety question, the licensee should request NRC review and approval in accordance with 10 CFR 50.59(c).

In conclusion, the above relocated requirements relating to incore detectors are not required to be in the TS under 10 CFR 50.36 or 182a of the Atomic Energy Act, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, they do not fall within any of the four criteria set forth in the Commission's Final Policy Statement, discussed above. In addition, the Staff finds that sufficient regulatory controls exist under 10 CFR 50.59 to address any future changes to this system. Accordingly, the staff has concluded that the proposed change to relocate the incore detectors instrumentation requirements, TSs 3.3.3.2 and surveillance requirement 4.3.3.2, from the TSs to the UFSAR is acceptable. With this action, the table of contents entry and the BASES section for TS 3.3.3.2 may be removed from the TSs.

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 (58 FR 57851). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: M. Chatterton
C. Patel

Date: May 30, 1995