



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

October 31, 2012

Vice President, Operations  
Entergy Operations, Inc.  
Waterford Steam Electric Station, Unit 3  
17265 River Road  
Killona, LA 70057-3093

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - ISSUANCE OF  
AMENDMENT RE: PROPOSED CHANGE TO TECHNICAL SPECIFICATION  
3/4.7.4 TABLE 3.7-3, "ULTIMATE HEAT SINK MINIMUM FAN REQUIREMENTS  
PER TRAIN" (TAC NO. ME7342)

Dear Sir or Madam:

The Commission has issued the enclosed Amendment No. 237 to Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3 (Waterford 3). This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated October 13, 2011, as supplemented by letters dated November 25, 2011, January 18, 2012, April 3, 2012, May 22, 2012, and July 17, 2012.

The amendment revises TS 3/4.7.4, Table 3.7-3, "Ultimate Heat Sink Minimum Fan Requirements per Train," to account for replacement steam generators and an inappropriate analysis methodology.

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,

A handwritten signature in black ink, appearing to read "N. Kalyanam", with a horizontal line underneath.

N. Kalyanam, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosures:

1. Amendment No. 237 to NPF-38
2. Safety Evaluation

cc w/encls: Distribution via Listserv



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. 237  
License No. NPF-38

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Entergy Operations, Inc. (EOI), dated October 13, 2011, as supplemented by letters dated November 25, 2011, January 18, 2012, April 3, 2012, May 22, 2012, and July 17, 2012, 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.

Enclosure 1


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. 237, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI 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 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, Chief  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Facility Operating  
License No. NPF-38 and  
Technical Specifications

Date of Issuance: October 31, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 237

TO FACILITY OPERATING LICENSE NO. NPF-38

DOCKET NO. 50-382

Replace the following pages of the Facility Operating License and 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.

Facility Operating License

REMOVE

INSERT

-4-

-4-

Technical Specifications

REMOVE

INSERT

3/4 7-14

3/4 7-14

or indirectly any control over (i) the facility, (ii) power or energy produced by the facility, or (iii) the licensees of the facility. Further, any rights acquired under this authorization may be exercised only in compliance with and subject to the requirements and restrictions of this operating license, the Atomic Energy Act of 1954, as amended, and the NRC's regulations. For purposes of this condition, the limitations of 10 CFR 50.81, as now in effect and as they may be subsequently amended, are fully applicable to the equity investors and any successors in interest to the equity investors, as long as the license for the facility remains in effect.

- (b) Entergy Louisiana, LLC (or its designee) to notify the NRC in writing prior to any change in (i) the terms or conditions of any lease agreements executed as part of the above authorized financial transactions, (ii) any facility operating agreement involving a licensee that is in effect now or will be in effect in the future, or (iii) the existing property insurance coverages for the facility, that would materially alter the representations and conditions, set forth in the staff's Safety Evaluation enclosed to the NRC letter dated September 18, 1989. In addition, Entergy Louisiana, LLC or its designee is required to notify the NRC of any action by equity investors or successors in interest to Entergy Louisiana, LLC that may have an effect on the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
  - 1. Maximum Power Level

EOI is authorized to operate the facility at reactor core power levels not in excess of 3716 megawatts thermal (100% power) in accordance with the conditions specified herein.
  - 2. Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 237, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

TABLE 3.7-3

ULTIMATE HEAT SINK MINIMUM FAN REQUIREMENTS PER TRAIN

| AMBIENT<br>CONDITION               | <u>DRY COOLING TOWER</u> |                             |                 |
|------------------------------------|--------------------------|-----------------------------|-----------------|
|                                    | DRY BULB $\geq$ 97°F     | < 97°F DRY BULB $\geq$ 91°F | < 91°F DRY BULB |
| Fan<br>Requirements <sup>(1)</sup> | 15                       | 14*                         | 12*             |

WET COOLING TOWER

Fan Requirements - 8

<sup>(1)</sup> With any of the above required DCT Fans inoperable comply with ACTION d.

\* With a tornado watch in effect, all 9 DCT fans under the missile protected portion of the DCT shall be OPERABLE.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 237 TO

FACILITY OPERATING LICENSE NO. NPF-38

ENERGY OPERATIONS, INC.

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

1.0 INTRODUCTION

By application dated October 13, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11290A009), as supplemented by letters dated November 25, 2011, January 18, 2012, April 3, 2012, May 22, 2012, and July 17, 2012 (ADAMS Accession Nos. ML113290070, ML120230200, ML12095A308, ML12144A135, and ML12201A069, respectively), Entergy Operations, Inc. (the licensee), requested changes to the Technical Specifications (TSs) for Waterford Steam Electric Station, Unit 3 (Waterford 3). The supplemental letters dated November 25, 2011, January 18, 2012, April 3, 2012, May 22, 2012, and July 17, 2012, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on April 17, 2012 (77 FR 22813).

Waterford 3 TS 3/4.7.4 Table 3.7-3, "Ultimate Heat Sink Minimum Fan Requirements per Train," specifies the minimum dry cooling tower (DCT) and wet cooling tower (WCT) fan requirements for given ambient temperature conditions. This request modifies the WCT fan requirements by requiring that all eight WCT fans be operable for the WCT to be considered operable, regardless of ambient temperature. This change is needed because the current WCT fan requirement limits were based on an inappropriate analysis methodology. The revised analysis demonstrates that the ultimate heat sink (UHS) remains capable of transferring the design basis heat load while maintaining the required cooling water supply temperature.

For the current configuration with all eight WCT fans operable, design basis calculations, validated by thermal performance testing completed by System Engineering on a periodic basis, demonstrate that the WCT is capable of performing its design basis function. Waterford 3 has implemented administrative controls, in accordance with NRC Administrative Letter 98-10, "Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety," dated

December 29, 1998 (ADAMS Accession No. ML031110108), to address potential non-conservatisms in the TS limits for WCT fan requirements.

## 2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act requires applicants for nuclear power plant operating licenses to include TSs as part of the license. The TSs ensure the operational capability of structures, systems, and components that are required to protect the health and safety of the public. The NRC's regulatory requirements related to the content of the TSs are contained in Section 50.36, "Technical specifications," of Title 10 of the *Code of Federal Regulations* (10 CFR), which requires that the TSs include items in the following specific categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) limiting conditions for operations; (3) surveillance requirements; (4) design features; and (5) administrative controls. However, the regulation does not specify the particular requirements to be included in TSs.

General Design Criterion (GDC) 44, in Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, states that

A system to transfer heat from structures, systems, and components important to safety, to an ultimate heat sink shall be provided. The system safety function shall be to transfer the combined heat load of these structures, systems, and components under normal operating and accident conditions.

Suitable redundancy in components and features, and suitable interconnections, leak detection, and isolation capabilities shall be provided to assure that for onsite electric power system operation (assuming offsite power is not available) and for offsite electric power system operation (assuming onsite power is not available) the system safety function can be accomplished, assuming a single failure.

NRC Regulatory Guide (RG) 1.27, Revision 2, "Ultimate Heat Sink for Nuclear Power Plants," July 1976 (ADAMS Accession No. ML003739969), describes an acceptable basis to the NRC staff that may be used to implement GDC 44.

In the Waterford 3 Final Safety Analysis Report (FSAR), Section 9.2.5.1, "Design Basis," states, in part, that

- b) The ultimate heat sink has sufficient capacity to dissipate heat removed by the CCWS and ACCWS [auxiliary component cooling water system] after a design basis accident, assuming a single active failure coincident with a loss of offsite power and the historically worst combination meteorological condition of 102°F dry bulb temperature and associated 78°F wet bulb temperature.



### 3.0 TECHNICAL EVALUATION

#### 3.1 Background

The UHS at Waterford consists of two independent 100 percent capacity trains, each consisting of a DCT and a WCT and water stored in the WCT basins. Each DCT consists of five separate cells each containing two 40-foot-long vertical cooling coils and three fans. The DCT fans can be started and shut off automatically to maintain the component cooling water (CCW) system temperature between 88 degrees Fahrenheit (°F) and 92 °F. The CCW removes heat from systems and components important to safety during normal operation and during a loss-of-coolant accident (LOCA).

Each WCT consists of two cells; each cell has four induced draft fans. The WCTs remove heat from an auxiliary component cooling water (ACCW) system, which in turn removes heat from the CCWS. With the WCT fans in automatic, the fans will start when the basin temperature exceeds the set point temperature. Each WCT basin contains sufficient water for UHS operation without makeup after a LOCA. Basins are interconnected by a 4-inch line with isolation valves to allow 100 percent margin backup.

The TSs specify that two independent trains of UHS cooling towers shall be operable when the plant is in MODES 1, 2, 3, or 4. The TSs specify how many DCT fans must be operable as a function of ambient dry bulb temperature and how many WCT fans must be operable as a function of ambient wet bulb temperature in order to maintain operability of a train of UHS. Each train of UHS must be capable of performing its safety function by receiving the heat from systems and components important to safety during a design-basis accident, specifically a LOCA. The ability of the UHS to receive LOCA heat loads and thereby perform its safety function is dependent on DCT and WCT fan operation.

The licensee requested a change in the correlation between number of DCT fans required to be operable and the dry bulb temperature and the number of WCT fans required to be operable and the wet bulb temperature. The licensee submitted the original LAR on October 13, 2011, to account for the added volume of the reactor coolant system with the planned new replacement steam generators (RSG) and to account for non-conservative analysis in determining the required number of WCT fans. The licensee submitted the final LAR supplement on May 22, 2012, after satisfactorily addressing the issues raised by the NRC staff.

#### 3.2 Proposed TS Changes

In its letter dated October 13, 2011, as supplemented by letter dated May 22, 2012, the licensee proposed changes to TS 3/4.7.4, "Ultimate Heat Sink," and the TS Bases. The current requirement for TS 3/4.7.4 states that the UHS minimum fan requirements per train for MODES 1, 2, 3, and 4 are listed in TS Table 3.7-3.

Current DCT requirements in TS Table 3.7-3 state:

| AMBIENT<br>CONDITION               | DRY BULB $\geq$ 98°F | < 98°F DRY BULB<br>$\geq$ 91°F | < 91°F DRY BULB |
|------------------------------------|----------------------|--------------------------------|-----------------|
| Fan<br>Requirements <sup>(1)</sup> | 15                   | 14*                            | 12*             |

(1) With any of the above required UHS fan inoperable comply with ACTION d.

\* With a tornado watch in effect, all 9 DCT fans under the missile protected portion of the DCT SHALL BE operable.

Revised DCT requirements in TS Table 3.7-3 would state:

| AMBIENT<br>CONDITION               | DRY BULB $\geq$ 97°F | < 97°F DRY BULB<br>$\geq$ 91°F | < 91°F DRY BULB |
|------------------------------------|----------------------|--------------------------------|-----------------|
| Fan<br>Requirements <sup>(1)</sup> | 15                   | 14*                            | 12*             |

(1) With any of the above required DCT fans inoperable comply with ACTION d.

\* With a tornado watch in effect, all 9 DCT fans under the missile protected portion of the DCT SHALL BE operable.

Current WCT requirements in TS Table 3.7-3 state:

| AMBIENT<br>CONDITION               | WET BULB $\geq$ 75°F | < 75°F WET BULB<br>$\geq$ 70°F | WET BULB < 70°F |
|------------------------------------|----------------------|--------------------------------|-----------------|
| Fan<br>Requirements <sup>(1)</sup> | 8                    | 7**                            | 4**             |

(1) With any of the above required UHS fan inoperable comply with ACTION d.

\*\* With any WCT fan(s) out-of-service in any cell, covers must be in place on the out-of-service fan(s) or the entire cell (i.e. 4 fans) must be declared out-of-service. If four fans are out of service in the same cell, the covers do not have to be installed.

Revised WCT requirements in TS Table 3.7-3 would state:

#### Fan Requirements - 8

The proposed change would require the 98 °F limit expressed above to be lowered to 97 °F and all eight WCT fans to be operable for any wet bulb temperature in either MODES 1, 2, 3, or 4. The proposed change also restricts note (1) to apply only to the DCT fans instead of any UHS fan and eliminates the double asterisk (\*\*) note for out-of-service WCT fans since no WCT fans will be allowed out-of-service when in either Modes 1, 2, 3, or 4.

### 3.3 DCT Fan Requirements

#### 3.3.1 Considering Replacement Steam Generators

By letter dated January 18, 2012, the licensee submitted calculation ECM95-008, Revision 3, with EC 8465, "Ultimate Heat Sink Design Basis" (ADAMS Accession No. ML12023A081), to justify the requested change to account for the replacement steam generators (RSGs). The RSGs have larger steam generator (SG) tube bundles. The additional RSG Reactor Coolant System (RCS) inventory, due to the larger SG tube bundle, increases the hot water/steam mass transferred to the containment during a LOCA RCS blowdown. Since the energy in containment is removed by the UHS, the new RSGs would raise the heat load demand on the DCT and WCT. The heat energy from a LOCA in containment will be raised from  $158 \times 10^6$  British Thermal Units per hour (BTU/hr) to  $165.2 \times 10^6$  BTU/hr with the RSGs. The NRC staff reviewed the licensee's design inputs, assumptions, and methodology in ECM95-008, Revision 3, with EC 8465, and finds the conclusion acceptable in that the UHS with 15 operable DCT fans and eight operable WCT fans is capable of dissipating the LOCA heat duty requirements for both the worst case combination meteorological design parameters (i.e.,  $102^\circ\text{F}_{\text{DB}}/78^\circ\text{F}_{\text{WB}}$  and  $98^\circ\text{F}_{\text{DB}}/83^\circ\text{F}_{\text{WB}}$  with the RSGs).

#### 3.3.2 Considering Changes in Dry Bulb Temperature

By letter dated January 18, 2012, the licensee submitted calculation ECM95-009, Revision 2, with EC 34240, "Ultimate Heat Sink Fan Requirements Under Various Ambient Conditions" (ADAMS Accession No. ML12023A082), to justify reducing the UHS minimum fan requirements per train for each DCT for lower ambient dry bulb temperatures. A reduction in air flow across the DCT caused by a reduction in operating DCT fans would require a cooler cooling medium (air) to transfer the required heat energy to atmosphere. The NRC staff reviewed the design inputs, assumptions, and methodology of calculation ECM95-009, Revision 2, with EC 34240 considering the new RSGs.

The NRC staff concludes that lowering the maximum ambient dry bulb temperature from  $<98^\circ\text{F}$  to  $<97^\circ\text{F}$  in TS 3/4.7.4, Table 3.7-3, for a minimum of 14 DCT fans, to be acceptable for an operable UHS. The staff also concludes that maintaining the existing maximum allowed dry bulb temperature requirements for 14 and 12 operable fans to be acceptable for an operable UHS.

### 3.4 WCT Fan Requirements

In the original submittal dated October 13, 2011, the licensee proposed reducing the WCT fan requirements in TS 3/4.7.4 based on ambient wet bulb temperature. Calculation ECM95-009, Revision 2, with EC 34240, "Ultimate Heat Sink Fan Requirements under Various Ambient Conditions," was the licensee's technical basis for proposing this change. In this calculation, the licensee was using a methodology that is intended for comparing design performance to test performance where small changes in fan horsepower are measured. However, the licensee was using this methodology for large and uneven changes in fan air flow, where air flow changed by as much as 50 percent. The licensee was also using air psychometrics for forced draft flow, whereas the actual flow was for induced draft fans. Based on the above, by electronic mail dated February 27, 2012 (ADAMS Accession No. ML120580722), the NRC staff

submitted a request for additional information (RAI) to the licensee requesting an explanation of the validity of the equations used in calculation ECM95-009, Revision 2, with EC 34240, when air flow is reduced by 25 percent and 50 percent as is the case in their proposed TS change. By letter dated April 3, 2012, in response to the RAI, the licensee stated that the calculation used an equation for purposes for which it was not intended. The equation used by the licensee can be used for comparing design performance to test performance where small changes in fan horsepower are measured and compared to design horsepower. The licensee used this equation to predict tower performance where total fan horsepower is reduced by large amounts by taking fans out of service. The NRC staff questioned the acceptability. In response, by letter dated May 22, 2012, the licensee revised the LAR for TS 3/4.7.4, Table 3.7-3, by requiring UHS minimum fan requirements per train for each WCT to be eight fans regardless of wet bulb temperature. That proposed action is conservative in that the WCT would be declared inoperable if any of its associated fans were inoperable. Since calculation ECM95-008, Revision 3, with EC 8465 determined that eight WCT fans per train satisfies the WCT requirements for mitigating the DBA at design basis ambient conditions, the NRC staff concludes that the change requiring eight WCT fans to be operable for all wet bulb temperatures within the design basis to be acceptable.

### 3.5 Summary

The licensee demonstrated by design calculation that when the new RSGs are installed, each train of the UHS, consisting of a DCT with 15 fans and a WCT with eight fans, is capable of performing the UHS design function of dissipating heat removed by the CCW and ACCW after a DBA coincident with the worst combination meteorological condition of 102 °F dry bulb temperature and associated 78 °F wet bulb temperature. The UHS has two trains; therefore, the UHS can perform this design function assuming a single active failure coincident with a loss-of-offsite power.

The licensee also demonstrated by design calculation that when the new RSGs are installed, the minimum DCT fan requirements per train can be reduced from 15 fans to 14 fans when dry bulb temperature is less than 97 °F. The licensee has also shown that the minimum DCT fan requirements per train can be still be reduced to 12 fans when dry bulb temperature is less than 91 °F.

The licensee's use of an equation, in calculation ECM95-009, Revision 2, with EC 34240, that relates adjusted fan horsepower to adjusted fan design flow, concerning the original proposed reduction of WCT minimum fan requirements in relation to wet bulb temperature in its letter dated October 13, 2011, was not acceptable. Entergy's revised proposed requirement of a minimum of eight WCT fans per UHS train for all wet bulb temperatures and with RSGs in its letter dated May 22, 2012, is acceptable as determined in calculation ECM95-008, Revision 3, with EC 8465.

Based on a review of the design inputs and assumptions and the methodology of the licensee's submittal including the design calculations ECM95-009, Revision 2, with EC 34240, and ECM95-008, Revision 3, with EC 8465, the NRC staff concludes that the revised TS 3.7.4 as submitted in the licensee's letter dated May 22, 2012, is acceptable. The NRC staff further concludes that the regulatory requirements of GDC 44, the guidelines of RG 1.27, and the licensing basis stated in FSAR Section 9.2.5.1 are satisfied.

#### 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 published in the *Federal Register* on April 17, 2012 (77 FR 22813). 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) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

#### 7.0 REFERENCES

Principal Contributors: J. Purciarello

Date: October 31, 2012

October 31, 2012

Vice President, Operations  
Entergy Operations, Inc.  
Waterford Steam Electric Station, Unit 3  
17265 River Road  
Killona, LA 70057-3093

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - ISSUANCE OF  
AMENDMENT RE: PROPOSED CHANGE TO TECHNICAL SPECIFICATION  
3/4.7.4 TABLE 3.7-3, "ULTIMATE HEAT SINK MINIMUM FAN REQUIREMENTS  
PER TRAIN" (TAC NO. ME7342)

Dear Sir or Madam:

The Commission has issued the enclosed Amendment No. 237 to Facility Operating License No. NPF-38 for the Waterford Steam Electric Station, Unit 3 (Waterford 3). This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated October 13, 2011, as supplemented by letters dated November 25, 2011, January 18, 2012, April 3, 2012, May 22, 2012, and July 17, 2012.

The amendment revises TS 3/4.7.4, Table 3.7-3, "Ultimate Heat Sink Minimum Fan Requirements per Train," to account for replacement steam generators and an inappropriate analysis methodology.

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,  
*/RA/*

N. Kalyanam, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosures:

1. Amendment No. 237 to NPF-38
2. Safety Evaluation

cc w/encls: Distribution via Listserv

DISTRIBUTION:

|                               |                              |                             |
|-------------------------------|------------------------------|-----------------------------|
| PUBLIC                        | RidsNrrDorLpl4 Resource      | RidsRgn4MailCenter Resource |
| LPLIV r/f                     | RidsNrrDorLDpr Resource      | GPurciarello, NRR/DSS/SBPB  |
| RidsAcrsAcnw_MailCTR Resource | RidsNrrPMWaterford Resource  | MHamm, NRR/DSS/STSB         |
| RidsNrrDssSbpb Resource       | RidsNrrLAJBurkhardt Resource |                             |
| RidsNrrDssStsb Resource       | RidsOgcRp Resource           |                             |

**ADAMS Accession No. ML12250A435**

|        |                  |                  |                  |                 |
|--------|------------------|------------------|------------------|-----------------|
| OFFICE | NRR/DORL/LPL4/PM | NRR/DORL/LPL4/LA | NRR/DSS/SBPB/BC  | NRR/DSS/STSB/BC |
| NAME   | NKalyanam        | JBurkhardt       | GCasto           | RElliott        |
| DATE   | 10/21/12         | 10/2/12          | 8/31/12          | 10/31/12        |
| OFFICE | OGC - NLO        | NRR/DORL/LPL4/BC | NRR/DORL/LPL4/PM |                 |
| NAME   | AJones           | MMarkley         | NKalyanam        |                 |
| DATE   | 10/23/12         | 10/31/12         | 10/31/12         |                 |

OFFICIAL RECORD COPY