



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

July 27, 2017

Site Vice President
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: ADOPTION OF TECHNICAL SPECIFICATIONS TASK
FORCE TRAVELER TSTF-545, REVISION 3 (CAC NO. MF8175)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 250 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 25, 2016.

The amendment deletes TS 6.5.8, "INSERVICE TESTING PROGRAM." A new defined term, "INSERVICE TESTING PROGRAM," is added to TS Section 1.0, "Definitions." In addition, existing uses of the term "Inservice Testing Program" in the TSs are capitalized throughout to indicate that it is now a defined term. These changes are based on NRC-approved Technical Specifications Task Force (TSTF) Standard Technical Specifications Change Traveler TSTF-545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR [Surveillance Requirement] Usage Rule Application to Section 5.5 Testing," dated October 21, 2015.

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

Sincerely,

A handwritten signature in cursive script that reads "April L. Pulvirenti".

April L. Pulvirenti, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosures:

1. Amendment No. 250 to NPF-38
2. Safety Evaluation

cc w/encls: Distribution via Listserv



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. 250
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 July 25, 2016, 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 license 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. 250, 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. The license amendment is effective as of its date of issuance and shall be implemented within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert J. Pascarelli, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility
Operating License and
Technical Specifications

Date of Issuance: July 27, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 250

TO FACILITY OPERATING LICENSE NO. NPF-48

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

Replace the following pages of the Facility Operating License No. NPF-38 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.

Renewed Facility Operating License

<u>REMOVE</u>	<u>INSERT</u>
4	4

Technical Specifications

<u>REMOVE</u>	<u>INSERT</u>
1-8	1-8
3/4 1-8	3/4 1-8
3/4 1-10	3/4 1-10
3/4 4-7	3/4 4-7
3/4 4-8	3/4 4-8
3/4 4-35	3/4 4-35
3/4 5-5	3/4 5-5
3/4 6-16	3/4 6-16
3/4 6-20	3/4 6-20
3/4 6-36	3/4 6-36
3/4 7-1	3/4 7-1
3/4 7-5	3/4 7-5
3/4 7-9	3/4 7-9
3/4 7-9a	3/4 7-9a
3/4 7-9b	3/4 7-9b
6-7a	6-7a

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. 250, 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.

DEFINITIONS

UNRESTRICTED AREA

1.36 An UNRESTRICTED AREA shall be any area at or beyond the SITE BOUNDARY access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials, or any area within the SITE BOUNDARY used for residential quarters or for industrial, commercial, institutional, and/or recreational purposes.

VENTILATION EXHAUST TREATMENT SYSTEM

1.37 A VENTILATION EXHAUST TREATMENT SYSTEM shall be any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

VENTING

1.38 VENTING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

WASTE GAS HOLDUP SYSTEM

1.39 A WASTE GAS HOLDUP SYSTEM shall be any system designed and installed to reduce radioactive gaseous effluents by collecting coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

INSERVICE TESTING PROGRAM

1.40 The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 At least one charging pump or one high pressure safety injection pump in the boron injection flow path required OPERABLE pursuant to Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency power source.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no charging pump or high pressure safety injection pump OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes. *

SURVEILLANCE REQUIREMENTS

4.1.2.3 No additional Surveillance Requirements other than those required by the INSERVICE TESTING PROGRAM.

* Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN.

REACTIVITY CONTROL SYSTEMS

BORIC ACID MAKEUP PUMPS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.5 At least one boric acid makeup pump shall be OPERABLE and capable of being powered from an OPERABLE emergency bus if only the flow path through the boric acid pump in Specification 3.1.2.1a. is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no boric acid makeup pump OPERABLE as required to complete the flow path of Specification 3.1.2.1a., suspend all operations involving CORE ALTERATIONS or positive reactivity changes. *

SURVEILLANCE REQUIREMENTS

4.1.2.5 No additional Surveillance Requirements other than those required by the INSERVICE TESTING PROGRAM.

* Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN.

REACTOR COOLANT SYSTEM

3/4.4.2 SAFETY VALVES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.2.1 A minimum of one pressurizer code safety valve shall be OPERABLE with a lift setting of 2500 psia \pm 3%.*

APPLICABILITY: MODE 4.

ACTION:

With no pressurizer code safety valve OPERABLE, immediately suspend all operations involving positive reactivity changes (except cooldown in shutdown cooling) and place an OPERABLE shutdown cooling loop into operation.

SURVEILLANCE REQUIREMENTS

4.4.2.1 Verify each required pressurizer code safety valve is OPERABLE in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within \pm 1%.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

REACTOR COOLANT SYSTEM

OPERATING

LIMITING CONDITION FOR OPERATION

3.4.2.2 All pressurizer code safety valves shall be OPERABLE with a lift setting of 2500 psia \pm 3%.*

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.2.2 Verify each required pressurizer code safety valve is OPERABLE in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within \pm 1%.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

4.4.8.3.1 For each SDC System suction line relief valve:

- a. verify in the control room in accordance with the Surveillance Frequency Control Program that each valve in the suction path between the RCS and the SDC relief valve is open.

- b. verify each SDC relief valve is OPERABLE in accordance with the INSERVICE TESTING PROGRAM.

4.4.8.3.2 With the RCS vented per ACTIONS a, b, or c, the RCS vent(s) and all valves in the vent path shall be verified to be open in accordance with the Surveillance Frequency Control Program*.

*Except when the vent pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, then verify these valves open in accordance with the Surveillance Frequency Control Program.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. A visual inspection of the safety injection system sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.
 3. Verifying that a minimum total of 380 cubic feet of granular trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets.
 4. Verifying that when a representative sample of 13.07 ± 0.03 grams of TSP from a TSP storage basket is submerged, without agitation, in 4 ± 0.1 liters of $120 \pm 10^\circ\text{F}$ water borated to 3011 ± 30 ppm, the pH of the mixed solution is raised to greater than or equal to 7 within 3 hours.
- e. In accordance with the Surveillance Frequency Control Program by:
1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.
 2. Verifying that each of the following pumps start automatically upon receipt of a safety injection actuation test signal:
 - a. High pressure safety injection pump.
 - b. Low pressure safety injection pump.
 3. Verifying that on a recirculation actuation test signal, the low pressure safety injection pumps stop, the safety injection system sump isolation valves open.
- f. By verifying that each of the following pumps required to be OPERABLE performs as indicated on recirculation flow when tested pursuant to the INSERVICE TESTING PROGRAM:
1. High pressure safety injection pump differential pressure greater than or equal to 1429 psid.
 2. Low pressure safety injection pump differential pressure greater than or equal to 168 psid.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWSP on a containment spray actuation signal and automatically transferring suction to the safety injection system sump on a recirculation actuation signal. Each spray system flow path from the safety injection system sump shall be via an OPERABLE shutdown cooling heat exchanger.

APPLICABILITY: MODES 1, 2, 3, and 4*.

ACTION:

- a. With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.
- b. With two containment spray systems inoperable, restore at least one spray system to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

- a. In accordance with the Surveillance Frequency Control Program by verifying that the water level in the containment spray header riser is > 149.5 feet MSL elevation.
- b. In accordance with the Surveillance Frequency Control Program by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is correctly positioned to take suction from the RWSP.
- c. By verifying, that on recirculation flow, each pump develops a total head of greater than or equal to 219 psid when tested pursuant to the INSERVICE TESTING PROGRAM.

*With Reactor Coolant System pressure > 400 psia.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each containment isolation valve shall be demonstrated OPERABLE in accordance with the Surveillance Frequency Control Program by:

- a. Verifying that on a containment isolation test signal, each isolation valve actuates to its isolation position.
- b. Verifying that on a containment Radiation-High test signal, each containment purge valve actuates to its isolation position.

4.6.3.3 The isolation time of each power-operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to the INSERVICE TESTING PROGRAM.

CONTAINMENT SYSTEMS

3/4.6.5 VACUUM RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.6.5 Two vacuum relief lines shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one vacuum relief line inoperable, restore the vacuum relief line to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5 No additional Surveillance Requirements other than those required by the INSERVICE TESTING PROGRAM.

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line code safety valves shall be OPERABLE with lift settings as specified in Table 3.7-1.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one or more main steam line code safety valve inoperable, within 4 hours reduce indicated power to less than or equal to the applicable percent RATED THERMAL POWER listed in Table 3.7-2 and within 12 hours reduce the Linear Power Level - High trip setpoint in accordance with Table 3.7-2, otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 Verify each required main steam line code safety valve lift setpoint per Table 3.7-1 in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within $\pm 1\%$.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.1.2 The emergency feedwater system shall be demonstrated OPERABLE:

- a. In accordance with the Surveillance Frequency Control Program by verifying that each manual, power-operated, and automatic valve in each water flow path and in both steam supply flow paths to the turbine-driven EFW pump steam turbine, that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 92 days by testing the EFW pumps pursuant to the INSERVICE TESTING PROGRAM. This surveillance requirement is not required to be performed for the turbine-driven EFW pump until 24 hours after exceeding 750 psig in the steam generators.
- c. In accordance with the Surveillance Frequency Control Program by:
 1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an actual or simulated actuation signal.

NOTE: This surveillance requirement is not required to be performed for the turbine-driven EFW pump until 24 hours after exceeding 750 psig in the steam generators.

2. Verifying that each EFW pump starts automatically upon receipt of an actual or simulated actuation signal.
- d. Prior to entering MODE 2, whenever the plant has been in MODE 4, 5, 6 or defueled, for 30 days or longer, or whenever feedwater line cleaning through the emergency feedwater line has been performed, by verifying flow from the condensate storage pool through both parallel flow legs to each steam generator.

PLANT SYSTEMS

MAIN STEAM LINE ISOLATION VALVES (MSIVs)

LIMITING CONDITION FOR OPERATION

3.7.1.5 Two MSIVs shall be OPERABLE.

APPLICABILITY: MODE 1, and
MODES 2, 3, and 4, except when all MSIVs are closed and deactivated.

ACTION:

MODE 1

With one MSIV inoperable, restore the valve to OPERABLE status within 8 hours or be in STARTUP within the next 6 hours.

MODES 2, 3 and 4

With one MSIV inoperable, close the valve within 8 hours and verify the valve is closed once per 7 days. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

Note: Required to be performed for entry into MODES 1 and 2 only.

4.7.1.5 Each MSIV shall be demonstrated OPERABLE:

- a. By verifying full closure within 8.0 seconds when tested pursuant to the INSERVICE TESTING PROGRAM.
- b. By verifying each MSIV actuates to the isolation position on an actual or simulated actuation signal in accordance with the Surveillance Frequency Control Program.

PLANT SYSTEMS

MAIN FEEDWATER ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Each Main Feedwater Isolation Valve (MFIV) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

Note: Separate Condition entry is allowed for each valve.

With one or more MFIV inoperable, close and deactivate, or isolate the inoperable valve within 72 hours and verify inoperable valve closed and deactivated or isolated once every 7 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 do not apply.

SURVEILLANCE REQUIREMENTS

4.7.1.6 Each main feedwater isolation valve shall be demonstrated OPERABLE:

- a. By verifying isolation within 6.0 seconds when tested pursuant to the INSERVICE TESTING PROGRAM.
- b. By verifying actuation to the isolation position on an actual or simulated actuation signal in accordance with the Surveillance Frequency Control Program.

3/4.7 PLANT SYSTEMS

3/4.7.1.7 ATMOSPHERIC DUMP VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.7 Each Atmospheric Dump Valve (ADV) shall be OPERABLE*.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

- a. With the automatic actuation channel for one ADV inoperable, restore the inoperable ADV to OPERABLE status within 72 hours or reduce power to less than or equal to 70% RATED THERMAL POWER within the next 6 hours.
- b. With the automatic actuation channels for both ADVs inoperable, restore one ADV to OPERABLE status within 1 hour or reduce power to less than or equal to 70% RATED THERMAL POWER within the next 6 hours.
- c. With one ADV inoperable, for reasons other than above, restore the ADV to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable provided one ADV is OPERABLE.

SURVEILLANCE REQUIREMENTS

4.7.1.7 The ADVs shall be demonstrated OPERABLE:

- a. By performing a CHANNEL CHECK in accordance with the Surveillance Frequency Control Program when the automatic actuation channels are required to be OPERABLE.
- b. By verifying each ADV automatic actuation channel is in automatic with a setpoint of less than or equal to 1040 psia in accordance with the Surveillance Frequency Control Program when the automatic actuation channels are required to be OPERABLE.
- c. By verifying one complete cycle of each ADV when tested pursuant to the INSERVICE TESTING PROGRAM.

* ADV automatic actuation channels (one per ADV, in automatic with a setpoint of less than or equal to 1040 psia) are not required to be OPERABLE when less than or equal to 70% RATED THERMAL POWER for greater than 6 hours.

ADMINISTRATIVE CONTROLS

6.5.8 DELETED

6.5.9 STEAM GENERATOR (SG) PROGRAM

A Steam Generator Program shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the Steam Generator Program shall include the following:

- a. Provisions for condition monitoring assessments. Condition monitoring assessment means an evaluation of the "as found" condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The "as found" condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging of tubes. Condition monitoring assessments shall be conducted during each outage during which the SG tubes are inspected or plugged to confirm that the performance criteria are being met.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 250 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 July 25, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16207A532), Entergy Operations, Inc. (the licensee), requested changes to the technical specifications (TSs) for Waterford Steam Electric Station, Unit 3 (Waterford 3). Specifically, the licensee requested changes to the TSs consistent with Technical Specifications Task Force (TSTF) Standard Technical Specifications (STS) Change Traveler TSTF-545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR [Surveillance Requirement] Usage Rule Application to Section 5.5 Testing," dated October 21, 2015 (ADAMS Accession No. ML15294A555).

The licensee's proposed changes would delete Waterford 3 TS 6.5.8, "INSERVICE TESTING PROGRAM," and adds a new defined term, "INSERVICE TESTING PROGRAM," to the TSs. All existing references to the "Inservice Testing Program" in the Waterford 3 TS SRs are replaced with "INSERVICE TESTING PROGRAM" so that the SRs refer to the new definition in lieu of the deleted program.

In its application dated July 25, 2016, the licensee also requested an alternative to the American Society of Mechanical Engineering (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) regarding inservice test frequency. Specifically, the licensee requested to adopt the approved Code Case OMN-20, "Inservice Test Frequency," at Waterford 3 during the third 10-year inservice testing program interval. The U.S. Nuclear Regulatory Commission (NRC) staff reviewed and processed the requested alternative to the ASME OM Code separately from this license amendment request. By letter dated December 9, 2016 (ADAMS Accession No. ML16235A228), the NRC authorized the proposed alternative request for the remainder of the third 10-year inservice testing program interval at Waterford 3.

2.0 REGULATORY EVALUATION

2.1 Description of Inservice Testing Requirements and TSTF-545

An inservice test is a test to assess the operational readiness of a structure, system, or component after first electrical generation by nuclear heat. The ASME OM Code provides requirements for inservice testing of certain components in light-water nuclear power plants. The ASME OM Code identifies the components subject to the testing (i.e., pumps,

valves, pressure relief devices, and dynamic restraints), responsibilities, methods, intervals, parameters to be measured and evaluated, criteria for evaluating results, corrective actions, personnel qualification, and recordkeeping. Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.55a(f), "Inservice testing requirements," requires that inservice testing of certain ASME Code Class 1, 2, and 3 components must meet the requirements of the ASME OM Code and applicable addenda. The facility's TSs also prescribe inservice testing requirements and frequencies for ASME Code Class 1, 2, and 3 components.

The regulation in 10 CFR 50.55a(f)(5)(ii) states, in part, "If a revised inservice test program for a facility conflicts with the technical specifications for the facility, the licensee must apply to the Commission for amendment of the technical specifications to conform the technical specifications to the revised program." TSTF-545, Revision 3, provides guidance to licensees on how to request license amendments that would eliminate conflicting requirements between 10 CFR 50.55a, "Codes and standards," and the TSs. TSTF-545, Revision 3, proposes elimination of the Inservice Testing Program from the Administrative Controls section of the TSs. The TSs contain surveillances that require testing or test intervals in accordance with the Inservice Testing Program. The elimination of the Inservice Testing Program from the TSs could cause uncertainty regarding the correct application of these SRs. Therefore, TSTF-545, Revision 3, also proposes adding a new definition, "INSERVICE TESTING PROGRAM," to the TSs, which would be defined as "the licensee program that fulfills the requirements of 10 CFR 50.55a(f)." TSTF-545, Revision 3, proposes replacement of existing uses of the term, "Inservice Testing Program," with the defined term, as denoted by capitalized letters, throughout the TSs.

The NRC approved TSTF-545, Revision 3, by letter dated December 11, 2015 (ADAMS Package Accession No. ML15317A071), and published a notice of availability in the *Federal Register* (FR) on March 28, 2016 (81 FR 17208).

2.2 Proposed Technical Specifications Changes

The licensee requested to delete TS 6.5.8 from the Administrative Controls section of TSs and replace it with the word "DELETED." TS 6.5.8 currently states:

This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. The program shall include the following:

- a. Testing frequencies specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as follows:

<u>ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice testing activities</u>	<u>Required frequencies for performing inservice testing activities</u>
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

- b. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice testing activities.
- c. The provisions of Specification 4.0.3 are applicable to inservice testing activities, and
- d. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

SR 4.0.2 allows an extension of inservice testing intervals by up to 25 percent. If it is discovered that a surveillance associated with an inservice testing activity was not performed within the required interval, SR 4.0.3 allows the licensee to delay declaring the associated limiting condition for operation (LCO) not met in order to perform the missed surveillance. The licensee did not request changes to SR 4.0.2 or SR 4.0.3.

The licensee requested to revise the Definitions section of TSs by adding the term, "INSERVICE TESTING PROGRAM," with the following definition: "The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)." The licensee also requested that all existing occurrences of "Inservice Testing Program" in TS SRs be replaced with "INSERVICE TESTING PROGRAM," so that the SRs refer to the new definition in lieu of the deleted program.

Also, as part of the application, the licensee included an update to the Index page for the Administrative Controls section. However, by letter dated May 9, 2005, (ADAMS Accession No. ML051290368), the TS Index was deleted from the TSs in Amendment No. 200 per the request of the licensee. Therefore, the NRC did not include the updated Index page in the issued TS pages for Amendment No. 250.

2.3 Regulatory Requirements and Guidance

The NRC staff considered the following regulatory requirements, guidance, and licensing information during its review of the proposed changes:

Technical Specifications

Paragraph 50.36(c) of 10 CFR requires TSs to include the following categories: (1) safety limits, limiting safety systems settings, and control settings; (2) LCOs; (3) SRs; (4) design features; (5) administrative controls; (6) decommissioning; (7) initial notification; and (8) written reports. Section 50.36(c)(3) of 10 CFR states that "[s]urveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." Section 50.36(c)(5) of 10 CFR states that "[a]dministrative controls are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner."

The NRC staff's guidance for review of the TSs is in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition," Chapter 16, "Technical Specifications," Revision 3, dated March 2010 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization

effort, the staff has prepared improved STSs for each of the LWR nuclear steam supply systems and associated balance-of-plant equipment systems. The licensee's proposed amendment is based on TSTF-545, Revision 3, which is an NRC-approved change to the improved STSs. The licensee TSs (NUREG-0973, "Technical Specifications for Waterford Steam Electric Station, Unit No. 3," dated December 1984 (Legacy Accession No. 8501030334)) are of an older standard version and have not been converted to the improved STSs. The staff's review includes consideration of whether the proposed changes are consistent with TSTF-545, Revision 3. Special attention is given to TS provisions that depart from the improved STSs, as modified by NRC-approved TSTF travelers, to determine whether proposed differences are justified by uniqueness in plant design or other considerations so that 10 CFR 50.36 is met. In addition, the guidance states that comparing the change to previous STS can help clarify the TS intent.

Inservice Testing

Pursuant to 10 CFR 50.54, "Conditions of licenses," the applicable requirements of 10 CFR 50.55a are conditions of every nuclear power reactor operating license issued under 10 CFR Part 50. These requirements include inservice testing of pumps and valves at nuclear power reactors in accordance with the ASME OM Code as specified in 10 CFR 50.55a(f). The regulations in 10 CFR 50.55a(f) state, in part:

Systems and components of boiling and pressurized water-cooled nuclear power reactors must meet the requirements of the ASME BPV [Boiler and Pressure Vessel] Code and ASME Code for Operation and Maintenance of Nuclear Power Plants as specified in this paragraph. Each operating license for a boiling or pressurized water-cooled nuclear facility is subject to the following conditions [referring to 10 CFR 50.55a(f)(1) through (f)(6)]. . . .

The ASME OM Code is a consensus standard, which is incorporated by reference into 10 CFR 50.55a. During the incorporation process, the NRC staff reviewed the ASME OM Code requirements for technical sufficiency and found that the ASME OM Code inservice testing program requirements were suitable for incorporation into the NRC's rules.

The regulation in 10 CFR 50.55(a)(f)(5)(ii) states, in part: "If a revised inservice test program for a facility conflicts with the technical specifications for the facility, the licensee must apply to the Commission for amendment of the technical specifications to conform the technical specifications to the revised program."

NUREG-1482, Revision 2, "Guidelines for Inservice Testing at Nuclear Power Plants: Inservice Testing of Pumps and Valves and Inservice Examination and Testing of Dynamic Restraints (Snubbers) at Nuclear Power Plants," Final Report, October 2013 (ADAMS Accession No. ML13295A020) provides guidance for the inservice testing of pumps and valves.

NUREG-0800, Section 3.9.6, "Functional Design, Qualification, and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints," Revision 3, March 2007 (ADAMS Accession No. ML070720041), provides guidance and acceptance criteria for the NRC staff review of the inservice testing program for pumps and valves.

3.0 TECHNICAL EVALUATION

The NRC staff evaluated the licensee's application to determine if the proposed changes are consistent with the guidance, regulations, and licensing information discussed in Section 2.3 of this safety evaluation. In determining whether an amendment to a license will be issued, the Commission is guided by the considerations that govern the issuance of initial licenses to the extent applicable and appropriate. Among the considerations are whether the TSs, as amended, would provide the necessary administrative controls per 10 CFR 50.36(c)(5) (i.e., provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner). In making its determination as to whether to amend the license, the C staff considered those regulatory requirements that are automatically conditions of the license through 10 CFR 50.54. Where the regulations already condition the license, there is no need for a duplicative requirement in the TSs; the regulations provide the necessary reasonable assurance of the health and safety of the public.

3.1 Deletion of the Inservice Testing Program from the TSs

TS 6.5.8 requires the licensee to have an inservice testing program that provides controls for inservice testing of ASME Code Class 1, 2, and 3 components (i.e., pumps and valves). Through 10 CFR 50.54, the applicable requirements of 10 CFR 50.55a are conditions of every nuclear power reactor operating license issued under 10 CFR Part 50. These requirements include 10 CFR 50.55a(f), which specifies the requirements for the inservice testing of pumps and valves. Therefore, requiring the licensee to have an inservice testing program in TSs is duplicative of the license condition in 10 CFR 50.54. Thus, with the proposed TS changes, the licensee will still be required to maintain an inservice testing program in accordance with the ASME OM Code, as specified in 10 CFR 50.55a(f). For the reasons explained below, it is not necessary to have additional administrative controls in the TSs relating to the inservice testing program to assure operation of the facility in a safe manner.

Consideration of TS 6.5.8.a

The ASME OM Code requires testing to normally be performed within certain time periods. TS 6.5.8.a sets inservice testing frequencies more precisely than those specified in the ASME OM Code and applicable addenda (e.g., "at least once per 31 days" contrasted with "monthly"). However, the NRC staff determined that the more precise inservice testing frequencies are not necessary to assure operation of the facility in a safe manner.

Consideration of TS 6.5.8.b

TS 6.5.8.b allows the licensee to extend, by up to 25 percent, the interval between inservice testing activities, as required by TS 6.5.8.a and for other normal and accelerated frequencies specified as 2 years or less in the inservice testing program. Similar to TS 6.5.8.b, the NRC authorization of ASME Code Case OMN-20, "Inservice Test Frequency," by letter dated December 9, 2016, also permits the licensee to extend the inservice testing intervals specified in the ASME OM Code by up to 25 percent.

The NRC staff determined that the TS 6.5.8.b allowance to extend inservice testing intervals is not needed to assure operation of the facility in a safe manner. Therefore, the NRC staff determined that deletion of TS 6.5.8.b is acceptable. The deletion of TS 6.5.8.b does not impact

the licensee's ability to extend inservice testing intervals using Code Case OMN-20, as authorized by the NRC.

Consideration of TS 6.5.8.c

TS 6.5.8.c allows the licensee to use SR 4.0.3 when it discovers that an SR associated with an inservice test was not performed within its specified frequency. SR 4.0.3 allows the licensee to delay declaring an LCO not met in order to perform the missed surveillance. The use of SR 4.0.3 for inservice tests is limited to those inservice tests required by an SR. In accordance with 10 CFR 50.55a, the licensee may also request relief from the ASME OM Code requirements to address issues associated with a missed inservice test. Deletion of TS 6.5.8.c does not change any of these requirements, and SR 4.0.3 will continue to apply to those inservice tests required by SRs. Based on the above, the NRC staff determined that deletion of TS 6.5.8.c is acceptable.

Consideration of TS 6.5.8.d

TS 6.5.8.d states that nothing in the ASME OM Code shall be construed to supersede the requirements of any TS. However, the regulations in 10 CFR 50.55a(f)(5)(ii) address what to do if a revised inservice testing program for a facility conflicts with the TSs for the facility. The regulations require the licensee apply for an amendment to the TSs to conform the TSs to the revised program at least 6 months prior to the start of the period for which the provisions become applicable. Accordingly, there is no need for a TS stating how to address conflicts between the TSs and the inservice testing program because the regulations specify how conflicts must be resolved.

Conclusion Regarding Deletion of TS 6.5.8

The NRC staff determined that the requirements currently in TS 6.5.8 are not necessary to assure operation of the facility in a safe manner. Based on this evaluation, the staff concludes that deletion of TS 6.5.8 from the Waterford 3 TSs is acceptable, because TS 6.5.8 is not required by 10 CFR 50.36(c)(5).

3.2 Definition of INSERVICE TESTING PROGRAM and Revision to SRs

The licensee proposes to revise the TS Definitions section to include the term, "INSERVICE TESTING PROGRAM," with the following definition: "The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)." The proposed definition of the INSERVICE TESTING PROGRAM is consistent with the definition in TSTF-545, Revision 3. The definition is acceptable to the NRC staff because it correctly refers to the inservice testing requirements in 10 CFR 50.55a(f).

The licensee requested that all existing references to the "Inservice Testing Program" in SRs be revised to "INSERVICE TESTING PROGRAM" to reference the new TS defined term in lieu of the deleted program. The proposed change is consistent with the intent of TSTF-545, Revision 3, to replace the current references in SRs with the new definition. The NRC staff verified that for each SR reference to the "Inservice Testing Program," the licensee proposed to change the reference to "INSERVICE TESTING PROGRAM." The proposed change does not alter how the SR testing is performed. However, the inservice testing frequencies could change because the TSs will no longer include the more precise test frequencies in TS 6.5.8.a. As discussed in Section 3.1 of this safety evaluation, the staff determined that the TSs do not need

to include the more precise testing frequencies currently in TS 6.5.8.a. Based on its review, the staff determined that revising the SRs to refer to the new definition is acceptable because these SRs will continue to be performed in accordance with the requirements of 10 CFR 50.55a(f). The staff also determined that, with the proposed changes that allow less-precise testing frequencies, 10 CFR 50.36(c)(3) will continue to be met because the SRs will continue to ensure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

3.3 Deviations from TSTF-545

In its application, the licensee identified the following deviations from TSTF-545, Revision 3:

1. TSTF-545, Revision 3, completely deletes TS 6.5.8, from the TSs and renumbers the subsequent TS programs. The licensee proposes to delete the content of TS 6.5.8, but retains the TS number, and adds the word "DELETED." The licensee did not propose to renumber the subsequent TS programs.
2. Some of the numbering and wording for the proposed modified SRs do not match TSTF-545, Revision 3. However, the licensee stated that the SRs are equivalent and the differences are minor.
3. SRs 4.1.2.5, 4.4.8.3.1 and 4.7.1.7.c are not included in TSTF-545, Revision 3. However, the licensee included these TSs since the Waterford 3 TSs differ from the improved STS.
4. SR 3.6.7.4 is included in TSTF-545, Revision 3. However, the licensee stated that no corresponding Waterford 3 TS exists. Thus, SR 3.6.7.4 was not included in the amendment request.
5. SR 3.4.14.1 is included in TSTF-545, Revision 3. However, the respective Waterford 3 SR (SR 4.4.5.2.3) does not refer to the Inservice Testing Program. As a result, a proposed revision to SR 4.4.5.2.3 was not included in this amendment request.

The NRC staff finds that the proposed deviations are editorial in nature and the licensee's proposed TS changes remain consistent with the intent of TSTF-545, Revision 3. Therefore, the staff finds that the licensee's proposed TS changes are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Louisiana State official was notified of the proposed issuance of the amendment on July 11, 2017. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes SRs. 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 November 8, 2016 (81 FR 78647). 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: July 27, 2017

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - ISSUANCE OF
 AMENDMENT RE: ADOPTION OF TECHNICAL SPECIFICATIONS TASK
 FORCE TRAVELER TSTF-545, REVISION 3 (CAC NO. MF8175)
 DATED: JULY 27, 2017

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