



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

May 19, 2011

Mr. Mark B. Bezilla
Site Vice President
FirstEnergy Nuclear Operating Company
Mail Stop A-PY-A290
P.O. Box 97, 10 Center Road
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT, UNIT NO. 1 - ISSUANCE OF
AMENDMENT RE: LICENSE AMENDMENT TO REVISE TECHNICAL
SPECIFICATION (TS) 3.1.4, "CONTROL ROD SCRAM TIMES," TO
INCOPORATE TECHNICAL SPECIFICATION TASK FORCE (TSTF) CHANGE
TRAVELER TSTF-460, REVISION 0 (TAC NO. ME5194)

Dear Mr. Bezilla:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 156 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment revises the TSs in response to your application dated December 15, 2010 (Agencywide Documents Access and Management System Accession No. ML110100403).

This license amendment modifies the required testing frequency of Surveillance Requirement 3.1.4.2 from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1," by incorporating NRC-approved TSTF change traveler TSTF-460, Revision 0.

A copy of the 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 "Michael Mahoney".

Michael Mahoney, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosures:

1. Amendment No. 156 to NPF-58
 2. Safety Evaluation
- cc w/encls: Distribution via Listserv



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

FIRSTENERGY NUCLEAR OPERATING COMPANY

FIRSTENERGY NUCLEAR GENERATION CORP.

OHIO EDISON COMPANY

DOCKET NO. 50-440

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.156
License No. NPF-58

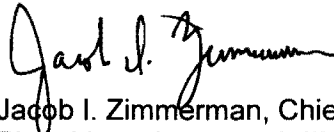
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for license filed by FirstEnergy Nuclear Operating Company, et al., (the licensee, FENOC) dated December 15, 2010, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (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-58 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 156 are hereby incorporated into this license. FENOC 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 its issuance and shall be implemented within 90 days of the date of issuance. FENOC shall incorporate during the next periodic update into the TS Bases Section, the changes described in its application dated December 15, 2010.

FOR THE NUCLEAR REGULATORY COMMISSION



Jacob I. Zimmerman, Chief
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications and Facility Operating License

Date of Issuance: May 19, 2011

ATTACHMENT TO LICENSE AMENDMENT NO. 156

FACILITY OPERATING LICENSE NO. NPF-58

DOCKET NO. 50-440

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.

Remove

License NPF-58
Page 4

TSs
3.1-13

Insert

License NPF-58
Page 4

TSs
3.1-13

renewal. Such sale and leaseback transactions are subject to the representations and conditions set forth in the above mentioned application of January 23, 1987, as supplemented on March 3, 1987, as well as the letter of the Director of the Office of Nuclear Reactor Regulation dated March 16, 1987, consenting to such transactions. Specifically, a lessor and anyone else who may acquire an interest under these transactions are prohibited from exercising directly or indirectly any control over the licenses of PNPP Unit 1. For purposes of this condition the limitations of 10 CFR 50.81, as now in effect and as may be subsequently amended, are fully applicable to the lessor and any successor in interest to that lessor as long as the license for PNPP Unit 1 remains in effect; these financial transactions shall have no effect on the license for the Perry Nuclear facility throughout the term of the license.

- (b) Further, the licensees are also required to notify the NRC in writing prior to any change in: (i) the terms or conditions of any lease agreements executed as part of these transactions; (ii) the PNPP Operating Agreement; (iii) the existing property insurance coverage for PNPP Unit 1; and (iv) any action by a lessor or others that may have an adverse effect on the safe 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 and hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level

FENOC is authorized to operate the facility at reactor core power levels not in excess of 3758 megawatts thermal (100% power) in accordance with the conditions specified herein.
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 156, are hereby incorporated into the license. FENOC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
 - (3) Antitrust Conditions
 - a. FirstEnergy Nuclear Generation Corp. and Ohio Edison Company

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.4.1 (continued)	Prior to exceeding 40% RTP after each reactor shutdown ≥ 120 days
SR 3.1.4.2 Verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 950 psig.	200 days cumulative operation in MODE 1
SR 3.1.4.3 Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with any reactor steam dome pressure.	Prior to declaring control rod OPERABLE after work on control rod or CRD System that could affect scram time
SR 3.1.4.4 Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 950 psig.	Prior to exceeding 40% RTP after work on control rod or CRD System that could affect scram time



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 156 TO FACILITY OPERATING LICENSE NO. NPF-58

FIRSTENERGY NUCLEAR OPERATING COMPANY

FIRSTENERGY NUCLEAR GENERATION CORP.

OHIO EDISON COMPANY

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-440

1.0 INTRODUCTION

By application dated December 15, 2010, (Agencywide Documents Access and Management system Accession No. ML110100403), FirstEnergy Nuclear Operating Company (FENOC, the licensee) requested changes to the Technical Specifications (TS) for Perry Nuclear Power Plant, Unit 1 (PNPP). The proposed changes would revise TS testing frequency for a Surveillance Requirement (SR) in TS 3.1.4, "Control Rod Scram Times."

These changes are based on Technical Specification Task Force (TSTF) change traveler TSTF-460, Revision 0, that has been approved generically for the Boiling-Water Reactor (BWR) Standard TS, NUREG-1433, "Standard Technical Specifications — General Electric Plants (BWR/4)" and NUREG-1434, "Standard Technical Specifications — General Electric Plants (BWR/6)" by revising the frequency of SR 3.1.4.2, control rod scram time testing, from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1." A notice announcing the availability of this proposed TS change using the consolidated line item improvement process was published in the *Federal Register* on August 23, 2004 (69 FR 51864). PNPP is a BWR/6 plant. PNPP's SR 3.1.4.2 is identical to Standard TS, NUREG-1434, SR 3.1.4.2. FENOC stated in their application, "FENOC has concluded that the justifications presented in the TSTF proposal and the [safety evaluation] SE prepared by the [Nuclear Regulatory Commission, the Commission] NRC staff are applicable to PNPP and justify this amendment for the incorporation of the changes to the PNPP TS."

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.36(c)(3) states TSs will include SRs "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."

The TS requirement governing the control rod scram time surveillance is intended to assure proper function of control rod insertion. Following each refueling outage, all control rod scram times are verified. In addition, periodically during power operation, a representative sample of control rods is selected to be inserted to verify the insertion speed. A representative sample is defined as a sample containing at least 10 percent of the total number of control rods. The current TS stipulates that no more than 20 percent of the control rods in this representative sample can be "slow" during the post outage testing. "Slow" is defined as when control rod tests yield results slower than the required rod insertion time limit. With more than 20 percent of the sample declared to be "slow" per the criteria in Table 3.1.4-1, additional control rods are tested until this 20 percent criterion (e.g., 20 percent of the entire sample size) is satisfied, or until the total number of "slow" control rods (throughout the core, from all surveillances) exceeds the limiting condition for operation limit. For planned testing, the control rods selected for the sample should be different for each test. The acceptance criterion for at-power surveillance testing will be redefined from 20 percent to 7.5 percent. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

The proposed change does not affect any current operability requirements and the test frequency being revised is not specified in the regulations. As a result, no regulatory requirements or criteria are affected.

3.0 TECHNICAL EVALUATION

3.1 Statement of Proposed Changes

The PNPP SR 3.1.4.2 states, "Verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure \geq 950 [pound per square inch, gauge] psig." SR 3.1.4.2 has a frequency of "120 days cumulative operation in Mode 1." The proposed change revises the frequency to "200 days cumulative operation in MODE 1." The TS Bases will be revised to reference the new frequency and to reduce the percentage of the tested rods which can be "slow" from 20 percent to 7.5 percent.

3.2 Evaluation of Proposed Change

The control rod insertion (scram) time test results at PNPP have shown the control rod scram rates to be highly reliable. During the most recent 14 years of operation, out of 6,036 control rod insertion tests, only 7 control rods yielded results slower than the required insertion time limit, and no control rods were inoperable as a result of scram time testing. FENOC stated in the license amendment request:

All seven slow insertion time test results have been attributed to control rod scram solenoid pilot valves (SSPVs). The three slow Cycle 6 control rods had their SSPVs replaced in January 1997, and all SSPVs were replaced in April 1999. Subsequently, FENOC initiated a control rod SSPV upgrade program for PNPP to improve component reliability and extend component qualified life. This initiative resulted in 177 improved SSPVs installed in three lots over several years as noted below:

May 2002 - 6 SSPVs
May 2003 - 82 SSPVs
April 2007 - 89 SSPVs

Since startup into Cycle 8 in May 1999, over 11 years of operation and 4134 control rod insertion tests covering 177 control rods, PNPP has not experienced any slow but operable control rods, or inoperable control rods resulting from scram time testing.

The extensive historical database substantiates the claim of high reliability of the PNPP control drive system. The current TS requires that 10 percent of the 177 control rods, or 18 rods, be tested by the means of sampling every 120 cumulative days of operation in Mode 1.

The PNPP current TS states that the acceptance criteria have been met if 20 percent or fewer of the sample control rods that are tested are found to be slow. The acceptance criterion is being redefined for at-power surveillance testing from 20 percent to 7.5 percent when the surveillance period is extended to 200 cumulative days of operation in Mode 1. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

PNPP will incorporate the revised acceptance criterion value of 7.5 percent into TS Bases in accordance with its Bases Control Program and as a condition of this license amendment.

The NRC staff considers the extended surveillance interval to be justified by the demonstrated reliability of the control rod insertion system, based on historical control rod scram time test data, and by the more restrictive acceptance criterion for the number of slow rods allowed during at-power surveillance testing. The NRC staff finds the proposed TS change acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Ohio State official was notified of the proposed issuance of the amendments. 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 in 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 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 (76 FR 9825). 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.

Principal Contributor: Kristy Bucholtz

Date of Issuance: May 19, 2011

May 19, 2011

Mr. Mark B. Bezilla
Site Vice President
FirstEnergy Nuclear Operating Company
Mail Stop A-PY-A290
P.O. Box 97, 10 Center Road
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE: LICENSE AMENDMENT TO REVISE TECHNICAL SPECIFICATION (TS) 3.1.4, "CONTROL ROD SCRAM TIMES," TO INCORPORATE TECHNICAL SPECIFICATION TASK FORCE (TSTF) CHANGE TRAVELER TSTF-460, REVISION 0 (TAC NO. ME5194)

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Sincerely,
/RA/
Michael Mahoney, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
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Docket No. 50-440

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Amendment Accession No. ML111050267

*Memo Dated NRR-058

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