



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

November 5, 2021

Mr. Rod L. Penfield
Site Vice President
Energy Harbor Nuclear Corp.
Perry Nuclear Power Plant
P.O. Box 97, Mail Stop A-PY-A290
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT, UNIT NO. 1 – ISSUANCE OF AMENDMENT NO. 195 REGARDING THE ADOPTION OF TSTF-230, “ADD NEW CONDITION B TO LCO 3.6.2.3, ‘RHR SUPPRESSION POOL COOLING’” (EPID L-2021-LLA-0019)

Dear Mr. Penfield:

The U.S Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 195 to Renewed Facility Operating License No. NPF-58 for Perry Nuclear Power Plant, Unit No. 1 (Perry). The amendment consists of changes to the technical specifications (TS) in response to your application dated February 17, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21049A031).

The amendment revises TS 3.6.2.3, “Suppression Pool Cooling,” to modify the action for one inoperable loop from 72 hours to 7 days and modify the action for both loops inoperable to add an 8-hour allowed outage time in accordance with Technical Specifications Task Force Traveler, TSTF-230, Revision 1, “Add New Condition B to LCO [Limiting Condition for Operation] 3.6.2.3, ‘RHR [Residual Heat Removal] Suppression Pool Cooling.’”

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission’s monthly *Federal Register* notice.

Sincerely,

/RA/

Scott P. Wall, Senior Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-440

Enclosures:

1. Amendment No. 195 to NPF-58
2. Safety Evaluation

cc w/encls: Listserv



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ENERGY HARBOR NUCLEAR CORP.
ENERGY HARBOR NUCLEAR GENERATION, LLC
DOCKET NO. 50-440
PERRY NUCLEAR POWER PLANT, UNIT NO. 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
License No. NPF-58

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by Energy Harbor Nuclear Corp., et al.,¹ dated February 17, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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.

¹ Energy Harbor Nuclear Corp. is authorized to act as agent for Energy Harbor Nuclear Generation, LLC and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

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. 195, are hereby incorporated into the license. Energy Harbor Nuclear Corp. 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 120 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Facility Operating
License No. NPF-58 and
Technical Specifications

Date of Issuance: November 5, 2021

ATTACHMENT TO LICENSE AMENDMENT NO. 195

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

FACILITY OPERATING LICENSE NO. NPF-58

DOCKET NO. 50-440

Facility Operating License No. NPF-58

Replace the following page of Facility Operating License No. NPF-58 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE

-4-

INSERT

-4-

Technical Specifications

Replace the following pages of the 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

3.6-40

INSERT

3.6-40

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

Energy Harbor Nuclear Corp. 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. 195, are hereby incorporated into the license. Energy Harbor Nuclear Corp. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

a. Energy Harbor Nuclear Generation LLC shall comply with the antitrust conditions delineated in Appendix C to this license; Appendix C is hereby incorporated into this license.

3.6 CONTAINMENT SYSTEMS

3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling System

LCO 3.6.2.3 Two RHR suppression pool cooling subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR suppression pool cooling subsystem inoperable.	A.1 Restore RHR suppression pool cooling subsystem to OPERABLE status.	7 days
B. Two RHR suppression pool cooling subsystems inoperable.	B.1 Restore one RHR suppression pool cooling subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours



UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 195 TO

FACILITY OPERATING LICENSE NO. NPF-58

ENERGY HARBOR NUCLEAR CORP.

ENERGY HARBOR NUCLEAR GENERATION LLC

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-440

1.0 INTRODUCTION

By letter dated February 17, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21049A031), Energy Harbor Nuclear Corp. (EHNC or the licensee) submitted a license amendment request for the Perry Nuclear Power Plant (Perry). The amendment would revise Technical Specification (TS) 3.6.2.3, "Suppression Pool Cooling," to adopt Technical Specifications Task Force Traveler, TSTF-230, Revision 1, "Add New Condition B to LCO [Limiting Condition for Operation] 3.6.2.3, 'RHR [Residual Heat Removal] Suppression Pool Cooling'" (ADAMS Accession No. ML040570110). The licensee's proposed change would add a new Condition B to LCO 3.6.2.3 to allow two RHR suppression pool cooling subsystems to be inoperable for 8 hours.

2.0 REGULATORY EVALUATION

2.1 Description of RHR Suppression Pool Cooling

The Perry RHR system consists of three motor-driven pumps, four heat exchangers, and the valves and piping necessary to support operations. These components are divided into three independent closed loops, A, B, and C. All loops contain a motor-driven pump and the necessary valves and piping. Only loops A and B, however, contain heat exchangers. Emergency service water (ESW) is used as the cooling medium for the RHR heat exchangers.

During normal plant operation, the suppression pool water must be kept less than 95 degrees Fahrenheit (°F) to ensure adequate condensation of the steam resulting from a design basis loss of cooling accident to prevent over pressurizing the containment. The suppression pool cooling mode is used to maintain proper suppression pool temperature during reactor core isolation cooling or safety relief valve operation, and to reduce suppression pool temperature in accident conditions. Both RHR loops A and B can be used for this mode. The two RHR subsystems perform suppression pool cooling function by circulating water from the suppression pool through the RHR heat exchangers and returning it to the suppression pool. ESW

circulating through the tube side of the heat exchangers, exchanges heat with the suppression pool water, and discharges this heat to the external heat sink. The heat removal capability of one RHR subsystem is sufficient to meet the overall design basis accident pool cooling requirement.

2.2 Proposed TS Changes to Adopt TSTF-230

In accordance with U.S. Nuclear Regulatory Commission (NRC or Commission)-approved TSTF-230, Revision 1, the licensee proposed changes that would revise the TS related to RHR suppression pool cooling. Specifically, the licensee proposed the following changes to TS 3.6.2.3 Actions content to adopt TSTF-230:

- Add a new Condition (Condition B) for when two RHR suppression pool cooling subsystems are inoperable. The new Required Action B.1 requires operators to restore one RHR suppression pool cooling subsystem to OPERABLE status within 8 hours.
- Since a new Condition B was added, rename current Condition B and its Required Actions (i.e., B.1 and B.2) as C., C.1, and C.2, respectively. In addition, revise new Condition C to reflect applicability to current Condition A and new Condition B.

TSTF-230, Revision 1, was submitted to the NRC on June 15, 1999, and was made available for plant-specific adoption via incorporation into Revision 2 of the improved Standard TS (NUREG-1434) on June 30, 2001 (ADAMS Accession No. ML011780537).

2.3 Applicable Regulatory Requirements

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(c)(2) requires that TSs include LCOs. Per 10 CFR 50.36(c)(2)(i), LCOs “are the lowest functional capability or performance levels of equipment required for safe operation of the facility.” The regulation also requires that when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TS until the condition can be met.

3.0 TECHNICAL EVALUATION

3.1 Proposed TS Changes to Adopt TSTF-230

Perry’s TS 3.6.2.3 currently requires that two RHR suppression pool cooling subsystems be operable in Modes 1, 2, and 3. When two RHR suppression pool cooling subsystems are inoperable, the current Required Action and Completion Time states that the licensee must be in Mode 3 in 12 hours and be in Mode 4 in 36 hours. The licensee is proposing that when two RHR suppression pool cooling subsystems are inoperable, 8 hours be given to restore one RHR suppression pool cooling subsystem to operable status. If this proposed Required Action cannot be completed within the proposed 8-hour Completion Time, then the licensee will be required to be in Mode 3 in 12 hours and be in Mode 4 in 36 hours. As noted in its application, the licensee’s basis for the proposed change was NRC-approved Traveler TSTF-230, Revision 1, which was developed to allow this change for all BWR/6 plants.

The licensee states that allowing the proposed 8-hour Completion Time for two RHR suppression pool cooling subsystems to be inoperable is appropriate because an immediate plant shutdown, which is currently required, has the potential to result in a unit scram that could result in steam being discharged to the suppression pool. With both loops of RHR suppression

pool cooling inoperable, there would be no available means to remove heat from the suppression pool. The licensee stated that the 8-hour Completion Time would provide some time to restore one of the RHR suppression pool cooling subsystems prior to requiring a unit shutdown. The licensee also noted that the 8-hour Completion Time is consistent with Perry TS 3.6.1.7, "Residual Heat Removal (RHR) Containment Spray System," Required Action B.1, which allows 8 hours to restore one RHR containment spray subsystem to operable status when in a condition where two RHR containment spray subsystems are inoperable.

3.2 Technical Evaluation Summary

The NRC staff reviewed the licensee's submittal and plant design described above and in Section 2.0 of this safety evaluation. The NRC staff determined that the STS changes approved in TSTF-230 are applicable to Perry TSs because Perry is a BWR/6 design, and the NRC staff approved the TSTF-230 changes for BWR/6 designs. The staff compared the licensee's proposed TS changes to the NRC approved changes contained in TSTF-230. Based on this review, the staff determined that the licensee adopted TSTF-230 without any variations. Therefore, based on the discussion above, the NRC staff concludes that the licensee's proposed changes to the Perry TSs are acceptable. As a result, the NRC staff finds that proposed changes to Perry TS 3.6.2.3 are adequate remedial actions to be taken that provide protection to the health and safety of the public until the LCO can be met, thereby satisfying 10 CFR 50.36(c)(2)(i).

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Ohio official was notified of the proposed issuance of the amendment on September 27, 2021. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on April 20, 2021 (86 FR 20526). 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 amendments.

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 Contributors: C. Ashley, NRR

Date: November 5, 2021

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