



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

June 28, 2022

Mr. John J. Grabnar
Site Vice President
Energy Harbor Nuclear Corp.
Beaver Valley Power Station
Mail Stop P-BV-SSB
P.O. Box 4, Route 168
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT 2 – ISSUANCE OF AMENDMENT
NO. 207 RE: CORRECT TS 3.1.7 CHANGE MADE BY TSTF-547
(EPID L-2021-LLA-0160)

Dear Mr. Grabnar:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 207 to Renewed Facility Operating License No. NPF-73 for the Beaver Valley Power Station, Unit 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated September 15, 2021 (Agencywide Documents Access and Management System Accession No. ML21259A090).

The amendment revises the TSs to remove a required action that currently has a logic error and renumber another required action. Specifically, the amendment deletes Required Action A.2.2 from TS 3.1.7.2, "Unit 2 Rod Position Indication," and renumbers Required Action A.2.1 as A.2.

A copy of the related safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

Sincerely,

/RA/

Brent T. Ballard, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosures:

1. Amendment No. 207 to NPF-73
2. Safety Evaluation

cc w/encls: Listserv



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ENERGY HARBOR NUCLEAR CORP.
ENERGY HARBOR NUCLEAR GENERATION LLC
DOCKET NO. 50-412
BEAVER VALLEY POWER STATION, UNIT 2
AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 207
Renewed License No. NPF-73

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Energy Harbor Nuclear Corp., acting on its own behalf and as agent for Energy Harbor Nuclear Generation LLC* (the licensee), dated September 15, 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 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.

* 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 Renewed Facility Operating License No. NPF-73 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 207, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto and hereby incorporated in 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 issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

James G. Danna, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and Technical
Specifications

Date of Issuance: June 28, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 207

BEAVER VALLEY POWER STATION, UNIT 2

RENEWED FACILITY OPERATING LICENSE NO. NPF-73

DOCKET NO. 50-412

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Renewed Facility Operating License No. NPF-73

Remove
Page 4

Insert
Page 4

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.

Appendix A, Technical Specifications

Remove
3.1.7.2 - 1
3.1.7.2 - 2

Insert
3.1.7.2 - 1
3.1.7.2 - 2

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations set forth in 10 CFR Chapter 1 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 a steady state reactor core power level of 2900 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 207, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto are hereby incorporated in the license. Energy Harbor Nuclear Corp. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3.1 REACTIVITY CONTROL SYSTEMS

3.1.7 Rod Position Indication

3.1.7.2 Unit 2 Rod Position Indication

LCO 3.1.7.2 The Digital Rod Position Indication (DRPI) System and the Demand Position Indication System shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

- NOTE -

Separate Condition entry is allowed for each inoperable DRPI and each demand position indicator.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One DRPI per group inoperable in one or more groups.	A.1 Verify the position of the rod with inoperable DRPI indirectly by using movable incore detectors.	Once per 8 hours
	<u>OR</u>	
	A.2 Verify the position of the rod with inoperable DRPI indirectly by using the moveable incore detectors.	8 hours <u>AND</u> Once per 31 EFPD thereafter <u>AND</u> 8 hours after discovery of each unintended rod movement <u>AND</u> 8 hours after each movement of rod with inoperable DRPI > 12 steps <u>AND</u>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p><u>OR</u></p> <p>A.3 Reduce THERMAL POWER to \leq 50% RTP.</p>	<p>Prior to THERMAL POWER exceeding 50% RTP</p> <p><u>AND</u></p> <p>8 hours after reaching RTP</p> <p>8 hours</p>
<p>B. More than one DRPI per group inoperable in one or more groups.</p>	<p>B.1 Place the control rods under manual control.</p> <p><u>AND</u></p> <p>B.2 Restore inoperable DRPIs to OPERABLE status such that a maximum of one DRPI per group is inoperable.</p>	<p>Immediately</p> <p>24 hours</p>
<p>C. One or more DRPI inoperable in one or more groups and associated rod has been moved > 24 steps in one direction since the last determination of the rod's position.</p>	<p>C.1 Verify the position of the rods with inoperable DRPIs indirectly by using movable incore detectors.</p> <p><u>OR</u></p> <p>C.2 Reduce THERMAL POWER to \leq 50% RTP.</p>	<p>8 hours</p> <p>8 hours</p>



UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 207 TO RENEWED

FACILITY OPERATING LICENSE NO. NPF-73

ENERGY HARBOR NUCLEAR CORP.

ENERGY HARBOR NUCLEAR GENERATION LLC

BEAVER VALLEY POWER STATION, UNIT 2

DOCKET NO. 50-412

1.0 INTRODUCTION

By application dated September 15, 2021 (Agencywide Documents Access and Management System Accession No. ML21259A090), Energy Harbor Nuclear Corp. (the licensee) requested changes to the Technical Specifications (TSs) for Beaver Valley Power Station (Beaver Valley), Unit 2.

The proposed changes would revise the TSs to remove a required action that currently has a logic error and renumber another required action. Specifically, the proposed changes would delete Required Action A.2.2 from TS 3.1.7.2, "Unit 2 Rod Position Indication," and renumber Required Action A.2.1 as A.2.

At Beaver Valley, reactivity control is provided in part by neutron absorbing rods. Rod cluster control assemblies (RCCAs), or rods, are moved out of the core (up or withdrawn) or into the core (down or inserted) by their control rod drive mechanisms. The RCCAs are divided among control banks and shutdown banks. Each bank is further subdivided into two groups to provide for precise reactivity control.

The axial position of rods is indicated by two separate systems, which are the demand position indication system (also called group step counters) and the digital rod position indication (DRPI) system.

The DRPI system measures the actual position of each control and shutdown rod using a detector that consists of discrete coils mounted concentrically over a hollow tube. The tube fits over the rod travel housing. The coils are located axially along the tube and magnetically sense the position of the rod drive shaft as it approaches the detector coil location. For each detector, the coils are interlaced into two data channels and are connected to the containment electronics (data A and B) by separate multiconductor cables. By employing two separate channels of information, the DRPI system can continue to function (at reduced accuracy) when one channel

fails. Multiplexing is used to transmit the digital position signals from the containment electronics to the control board display unit.

2.0 REGULATORY EVALUATION

The regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 50.36(b) state, in part:

Each license authorizing operation of a ... utilization facility ... will include technical specifications. The technical specifications will be derived from the analyses and evaluation included in the safety analysis report, and amendments thereto, submitted pursuant to [10 CFR] 50.34 ["Contents of applications; technical information"]. The Commission may include such additional technical specifications as the Commission finds appropriate.

As stated in 10 CFR 50.36(c)(2)(i), the TSs will include limiting conditions for operation (LCOs), which are the lowest functional capability or performance levels of equipment required for safe operation of the facility. Per 10 CFR 50.36(c)(2)(i), 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 TSs until the condition can be met.

Beaver Valley TS 1.2, "Logical Connectors," explains the meaning of logical connectors used in the Beaver Valley TSs.

Beaver Valley TS 3.0, "Limiting Condition for Operation (LCO) Applicability," LCO 3.0.2 establishes when the Completion Time of each Required Action for an ACTIONS Condition becomes applicable.

Beaver Valley LCO 3.0.4 establishes limitations on changes in MODES or other specified conditions in the Applicability when an LCO is not met.

While not regulations, TS 1.2 and LCOs 3.0.2 and 3.0.4 constitute license requirements imposed on plant operation.

The U.S. Nuclear Regulatory Commission (NRC, the Commission) staff's guidance for the review of TSs is in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition" (SRP), Chapter 16.0, "Technical Specifications," Revision 3, dated March 2010 (ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared Standard Technical Specifications (STSs) for each of the LWR nuclear designs. Accordingly, the NRC staff's review includes consideration of whether the proposed changes are consistent with NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," Revision 5 (ML21259A155 and ML21259A159), which is the STSs applicable to Beaver Valley, as modified by NRC-approved Technical Specifications Task Force (TSTF) travelers.

3.0 TECHNICAL EVALUATION

The current version of Beaver Valley TS 3.1.7.2 was created by Amendment No. 188, which granted the licensee's request to adopt changes made to the STS by TSTF-547, "Clarification of Rod Position Requirements," Revision 1 (ML17221A280). The licensee stated that Amendment

No. 188 added Required Actions A.2.1 and A.2.2, which are joined with a logical connector OR to the existing actions, and existing Required Action A.2 was renamed A.3.

The licensee provided justification for the proposed changes on pages 3 and 4 of the enclosure to its application dated September 15, 2021. The NRC staff reviewed the licensee's evaluation. The staff determined that Required Action A.2.2 would never be limiting or implemented because, since the required actions are joined by a logical connector "OR," any one of the required actions may be chosen, per TS 1.2. In addition, when an LCO is not met, LCO 3.0.4.a allows entry into a MODE in which an LCO is applicable when the associated actions to be entered permit continued operation in the MODE for an unlimited period of time. Since the relevant required actions permit continued operation for an unlimited period, entering startup from hot standby is allowed. Based on the above, the staff determined that removing Required Action A.2.2 is appropriate because it is unnecessary and could cause confusion. Therefore, the staff concludes that, consistent with 10 CFR 50.36(c)(2), the actions table, as amended, will continue to provide acceptable remedial actions to take when the LCO is not met.

During its review of Revision 5 of NUREG-1431, the NRC staff reviewed and approved a change that deleted Required Action A.2.2 from STS 3.1.7. Thus, the licensee's request would also bring the Beaver Valley TSs into alignment with the most current guidance in the STSs for acceptable remedial measures when the plant is in a condition where one DRPI per group is inoperable in one or more groups.

Given the determinations above, the NRC staff concludes that the Beaver Valley TSs, as amended, will continue to meet the requirements of 10 CFR 50.36(c)(2). When LCO 3.1.7.2 is not met because one DRPI per group is inoperable in one or more groups, the TS will continue to require the licensee to shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendment on May 6, 2022. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of facility components 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 (87 FR 3847; January 25, 2022). 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: Matthew Hamm, NRR

Date: June 28, 2022

SUBJECT: BEAVER VALLEY POWER STATION, UNIT 2 – ISSUANCE OF AMENDMENT
 NO. 207 RE: CORRECT TS 3.1.7 CHANGE MADE BY TSTF-547
 (EPID L-2021-LLA-0160) DATED JUNE 28, 2022

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*by memorandum

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