

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

ENERGY HARBOR NUCLEAR CORP.
ENERGY HARBOR NUCLEAR GENERATION LLC

DOCKET NO. 50-412

BEAVER VALLEY POWER STATION, UNIT 2
RENEWED FACILITY OPERATING LICENSE

License No. NPF-73

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application to renew Facility Operating License No. NPF-73 filed by FirstEnergy Nuclear Operating Company (FENOC),^{*}^{**} acting on its own behalf and as agent for FirstEnergy Nuclear Generation, LLC^{***} (the licensees), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Beaver Valley Power Station, Unit 2 (the facility), has been substantially completed in conformity with Construction Permit No. CPPR-105 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission (except as exempted from compliance in Section 2.D. below);
 - D. There is reasonable assurance: (i) that the activities authorized by this renewed operating license 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 set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below);

^{*} FirstEnergy Nuclear Operating Company has been renamed Energy Harbor Nuclear Corp.

^{**} 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.

^{***} FirstEnergy Nuclear Generation, LLC has been renamed Energy Harbor Nuclear Generation LLC.

- E. Energy Harbor Nuclear Corp. is technically qualified to engage in the activities authorized by this renewed operating license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - F. The licensees have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - G. The issuance of this renewed operating license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Operating License No. NPF-73 is subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations, and all applicable requirements have been satisfied;
 - I. The receipt, possession and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70.
 - J. Actions have been identified and have been or will be taken with respect to: (1) managing the effects of aging on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1) during the period of extended operation, and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by this renewed operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3 for the facility, and that any changes made to the facility's current licensing basis in order to comply with 10 CFR 54.29(a) are in accordance with the Act and the Commission's regulations;
2. Renewed Facility Operating License NPF-73 is hereby issued to Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC (the licensees) to read as follows:
- A. This renewed license applies to the Beaver Valley Power Station, Unit 2, a pressurized water reactor and associated equipment (the facility), owned by Energy Harbor Nuclear Generation LLC (owner) and operated by Energy Harbor Nuclear Corp. (collectively the licensees). The facility is located on the licensees' site on the southern shore of the Ohio River in Beaver County, Pennsylvania, approximately 22 miles northwest of Pittsburgh and 5 miles east of East Liverpool, Ohio, and is described in Energy Harbor Nuclear Corp.'s Updated Final Safety Analysis Report, as supplemented and amended, and in its Environmental Report, as supplemented and amended;
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Pursuant to Section 103 of the Act and 10 CFR Part 50, Energy Harbor Nuclear Corp. to possess, use, and operate the facility at the designated location in Beaver County, Pennsylvania, in accordance with the procedures and limitations set forth in this license;

- (2) Pursuant to the Act and 10 CFR Part 50, Energy Harbor Nuclear Generation LLC to possess the facility at the designated location in Beaver County, Pennsylvania, in accordance with the procedures and limitations set forth in the license;
- (3) Pursuant to the Act and 10 CFR Part 70, Energy Harbor Nuclear Corp., to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, Energy Harbor Nuclear Corp. to receive, possess, and use at any time any byproduct, source, and special nuclear material such as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, Energy Harbor Nuclear Corp. to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or other activity associated with radioactive apparatus or components;
- (6) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, Energy Harbor Nuclear Corp. to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility authorized herein.
- (7) Deleted

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. 212, 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) Initial Startup Test Program (Section 14 of the SER, and Supplements 3 and 5)

Deleted

- (4) Fresh Fuel Storage

The following criteria apply to the storage and handling of new fuel assemblies in the fuel handling building:

- (a) No more than two fuel assemblies shall be out of approved shipping containers or fuel assembly storage racks at any one time.
- (b) The minimum edge-to-edge distance between the above two new assemblies, the shipping container array, and the storage rack arrays shall be at least 12 inches.
- (c) New fuel assemblies shall be stored in such a manner that water would drain freely from the assemblies in the event of flooding and subsequent draining of the fuel storage area.

- (5) Inservice Inspection (Section 6.6 of SER Supplement 5)

Deleted

- (6) Formal Federal Emergency Management Agency Finding

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR Section 50.54(s)(2) will apply.

- (7) Plant Safety Monitoring System (PSMS)

Deleted

(8) Detailed Control Room Design Review (DCRDR)

Deleted

(9) Safety Parameter Display System (SPDS)

Deleted

(10) Fire Protection Modifications (Section 9.5.1 of SER Supplement 6)

Deleted

(11) Additional Conditions

The Additional Conditions contained in Appendix D, as revised through Amendment No. 196, are hereby incorporated into this license. Energy Harbor Nuclear Corp. shall operate the facility in accordance with the Additional Conditions.

(12) Steam Generator Surveillance Interval Extension

Deleted

(13) Mitigation Strategy License Condition

The licensee shall develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:

1. Pre-defined coordinated fire response strategy and guidance
2. Assessment of mutual aid fire fighting assets
3. Designated staging areas for equipment and materials
4. Command and control
5. Training of response personnel

(b) Operations to mitigate fuel damage considering the following:

1. Protection and use of personnel assets
2. Communications
3. Minimizing fire spread
4. Procedures for implementing integrated fire response strategy
5. Identification of readily-available pre-staged equipment
6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

D. Exemptions

The following exemptions are authorized by law and will not endanger life or property or the common defense and security, and certain special circumstances are present. With the granting of these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- (1) The facility requires an exemption from the requirements of General Design Criterion (GDC) 4, Appendix A to 10 CFR 50. The staff has described in detail in Supplement 4 and Supplement 5 to the Safety Evaluation Report the technical basis and "special circumstances" associated with this exemption. The staff's environmental assessment was published on March 27, 1987 (52 FR 9979). Therefore, pursuant to 10 CFR 50.12(a)(1), 10 CFR 50.12(a)(2)(ii) and (iv), Beaver Valley Power Station, Unit 2 is exempt from the requirements of GDC 4, Appendix A to 10 CFR 50 with respect to the dynamic loading effects associated with the postulated pipe breaks described in detail in Section 3.6.3 of Supplement 4 to the Safety Evaluation Report. These dynamic loading effects include pipe whip, jet impingement, and break-associated dynamic transients. Specifically, this eliminates the need to install jet impingement barriers and pipe whip restraints associated with postulated pipe breaks in the pressurizer surge line, reactor coolant bypass system, safety injection system, and residual heat removal system. This exemption will expire when the current GDC 4 rulemaking changes have been completed.

- (2) The facility requires an exemption from the requirements of 10 CFR 50, Appendix J, Section III.D.2(b)(ii). The justification of this exemption is contained in Section 6.2.6 of Supplement 5 to the Safety Evaluation Report and modified by a letter dated July 26, 1995. The staff's environmental assessment was published on May 12, 1987 (52 FR 17651) and on June 9, 1995 (60 FR 30611). Therefore, pursuant to 10 CFR 50.12(a)(1) and 10 CFR 50.12(a)(2)(ii) and (iii), Beaver Valley Power Station, Unit 2 is exempt from the quoted requirements and instead, is required to perform the overall air lock leak test at pressure P_a before establishing containment integrity if air lock maintenance has been performed that could affect the air lock sealing capability. Local leak rate testing at a pressure of not less than P_a may be substituted for an overall air lock test where the design permits.

E. Physical Security

Energy Harbor Nuclear Corp. shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21 is entitled: "Beaver Valley Power Station (BVPS) Physical Security Plan" submitted by letter September 9, 2004, and supplemented September 30, 2004, October 14, 2004, and May 12, 2006.

Energy Harbor Nuclear Corp. shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Beaver Valley Power Station CSP was approved by License Amendment No. 174, and amended by License Amendment No. 183.

F. Fire Protection Program

Energy Harbor Nuclear Corp. shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c) as specified in the license amendment request dated December 23, 2013, (as supplemented by letters dated February 14, 2014; April 27, May 27, June 26, November 6, and December 21, 2015; February 24 and May 12, 2016; and January 30, April 21, June 23, August 22, October 25, and November 29, 2017), and as approved in the safety evaluation dated January 22, 2018. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition, or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

(a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

1. Prior NRC review and approval is not required for a change that results in a net decrease in risk. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
2. Prior NRC review and approval is not required if the change results in a risk increase less than $1E-7$ /yr for core damage frequency and less than $1E-8$ /yr for large early release frequency. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May be Made Without Prior NRC Approval

1. Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for

which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The four specific sections of NFPA 805, Chapter 3, are as follows:

- Fire Alarm and Detection Systems (Section 3.8)
- Automatic and Manual Water-Based Fire Suppression Systems (Section 3.9)
- Gaseous Fire Suppression Systems (Section 3.10)
- Passive Fire Protection Features (Section 3.11)

This license condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

2. Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC SE dated January 22, 2018, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(c) Transition License Conditions

1. Before achieving full compliance with 10 CFR 50.48(c), as specified by (2) below, risk-informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (2) above.
2. The licensee shall implement the Unit 2 modifications to its facility, as described in Attachment S, Table S-2, "Plant Modifications Committed," in FENOC letter L-17-122, dated April 21, 2017, to complete the transition to full compliance with 10 CFR 50.48(c), by the completion of the second Unit 2 refueling outage after issuance of the safety evaluation. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.
3. The licensee shall implement the items listed in Attachment S, Table S-3, "Implementation Items," of FENOC letter L-17-268, dated August 22, 2017, by 12 months after issuance of the safety

evaluation (with the exception of Items BV1-1633, BV1-2974, BV1-3060, BV1-3108, BV1-3109, BV2-1580, BV2-1622, BV2-1623, and BV2-1750, which are to be completed by the end of the second Unit 2 refueling outage after issuance of the safety evaluation).

G. Reporting to the Commission

DELETED

H. Financial Protection

The licensee shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.

I. License Renewal Commitments - The UFSAR supplement, as revised, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to and/or during the period of extended operation. Energy Harbor Nuclear Corp. shall complete these activities in accordance with Appendix A of NUREG-1929, Safety Evaluation Report Related to the Beaver Valley Power Station, Units 1 and 2, dated October 2009, and Supplement 1 of NUREG-1929, dated October 2009, and shall notify the NRC in writing when activities to be completed prior to the period of extended operation are complete and can be verified by NRC inspection.

J. UFSAR Supplement Changes - The information in the UFSAR supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be incorporated into the UFSAR as required by 10 CFR 50.71(e) following the issuance of this renewed operating license. Until that update is complete, Energy Harbor Nuclear Corp. may not make changes to the information in the supplement. Following incorporation into the UFSAR, the need for prior Commission approval of any changes will be governed by 10 CFR 50.59.

K. Capsule Withdrawal Schedule - For the renewed operating license term, all capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation.

L. Containment Liner Volumetric Inspection -

a) If degradation (greater than 10 percent of the nominal thickness not attributable to fabrication/erection practices) is identified in the non-random areas examined using ultrasonic testing (UT) as described in Supplement 1 of NUREG-1929, UT examinations shall be performed at additional non-random areas, to be selected based on this operating experience. Should additional degradation be identified, additional non-random areas shall be UT examined until no further degradation (greater than 10 percent of the nominal thickness) is identified. All areas with degradation shall be reexamined over at least the next three successive inspection periods to ensure that progression of the degradation is not occurring.

- b) If degradation (greater than 10 percent of the nominal thickness not attributable to fabrication/erection practices) is identified in the random samples examined using ultrasonic testing (UT) as described in Supplement 1 of NUREG-1929, UT examinations shall be performed on additional random samples, to ensure a 95 percent confidence that 95 percent of the unexamined accessible containment liner is not degraded. If additional degradation is identified, the sample size for UT examinations shall be further expanded until the statistical sampling has achieved the 95 percent confidence goal described previously. All areas with degradation shall be reexamined over at least the next three successive inspection periods to ensure that progression of the degradation is not occurring.

3. Expiration

This renewed operating license is effective as of the date of issuance and shall expire at midnight on May 27, 2047.

FOR THE NUCLEAR REGULATORY COMMISSION

ORIGINAL SIGNED BY:

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A - Technical Specifications
2. Appendix B - Environmental Protection Plan
3. Appendix D - Additional Conditions

Date of Issuance: November 05, 2009

Appendix A: Technical Specifications

Beaver Valley 2 uses the same Appendix A as Beaver Valley 1. Please refer to Beaver Valley 1 for Appendix A (ML052720291).

APPENDIX B
TO FACILITY OPERATING LICENSE NO. NPF-73
BEAVER VALLEY POWER STATION
UNIT 2
ENERGY HARBOR NUCLEAR CORP., ET AL
DOCKET NO. 50-412
ENVIRONMENTAL PROTECTION PLAN
(NONRADIOLOGICAL)
AUGUST 1987

APPENDIX B
TO FACILITY OPERATING LICENSE NO. NPF-73
BEAVER VALLEY POWER STATION
UNIT 2
ENVIRONMENTAL PROTECTION PLAN
(NONRADIOLOGICAL)

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1.0 Objectives of the Environmental Protection Plan

The Environmental Protection Plan (EPP) is to provide for protection of nonradiological environmental values during operation of the Beaver Valley Power Station, Unit 2 (facility). The principal objectives of the EPP are as follows:

- (1) Verify that the facility is operated in an environmentally acceptable manner, as established by the Final Environmental Statement - Operating License Stage (FES-OL) and other NRC environmental impact assessments.
- (2) Coordinate NRC requirements and maintain consistency with other Federal, State, and local requirements for environmental protection.
- (3) Keep NRC informed of the environmental effects of facility construction and operation and of actions taken to control those effects.

Environmental concerns identified in the FES-OL (September 1985, NUREG-1094) which relate to water quality matters are regulated by way of the licensee's* NPDES permit.

2.0 Environmental Protection Issues

In the FES-OL (NUREG-1094, September 1985), the staff considered the environmental impacts associated with the operation of the Beaver Valley Power Station, Unit 2. No aquatic/water quality, terrestrial, or noise issues were identified.

3.0 Consistency Requirements

3.1 Plant Design and Operation

The licensee may make changes in station design or operation or perform tests or experiments affecting the environment provided such activities do not involve an unreviewed environmental question and do not involve a change in the EPP*. Changes in station design or operation or performance of tests or experiments which do not affect the environment are not subject to the requirements of this EPP. Activities governed by Section 3.3 are not subject to the requirements of this Section.

Before engaging in additional construction or operational activities which may significantly affect the environment, the licensee shall prepare and record an environmental evaluation of such activity. Activities are excluded from this requirement if all measurable nonradiological environmental effects are confined to the on-site areas previously disturbed during site preparation and plant construction. When the evaluation indicates that such activity involves an unreviewed environmental question, the licensee shall provide a written evaluation of such activity and obtain prior NRC approval. Such activity and change to the EPP may be implemented only in accordance with an appropriate license amendment as set forth in Section 5.3 of this EPP.

*"Licensee" refers to Energy Harbor Nuclear Corp., operator of the facility, and acting as agent for Energy Harbor Nuclear Generation LLC, owner of the facility.

A proposed change, test, or experiment shall be deemed to involve an unreviewed environmental question if it concerns: (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the FES-OL, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level; or (3) a matter, not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact.

The licensee shall maintain records of changes in facility design or operation and of tests and experiments carried out pursuant to this Subsection. These records shall include written evaluations which provide bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question or constitute a decrease in the effectiveness of this EPP to meet the objectives specified in Section 1.0. The licensee shall include as part of the Annual Environmental Operating Report (per Subsection 5.4.1) brief descriptions, analyses, interpretations, and evaluations of such changes, tests, and experiments.

3.2 Reporting Related to the NPDES Permit and State Certification

Changes to, or renewals of, the NPDES Permit or the State certification shall be reported to the NRC within 30 days following the date the change or renewal is approved. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the date the stay is granted.

The licensee shall notify the NRC of changes to the effective NPDES Permit proposed by the licensee by providing NRC with a copy of the proposed change at the same time it is submitted to the permitting agency. The licensee shall provide the NRC a copy of the application for renewal of the NPDES Permit at the same time the application is submitted to the permitting agency.

3.3 Changes Required for Compliance with Other Environmental Regulators

Changes in plant design or operation and performance of tests or experiments which are required to achieve compliance with other Federal, State, and local environmental regulations are not subject to the requirements of Section 3.1.

4.0 Environmental Conditions

4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation shall be recorded and reported to the NRC within 24 hours followed by a written report per Subsection 5.4.2 of the EPP.

* This provision does not relieve the licensee of the requirements of 10 CFR 50.59.

No routine monitoring programs are required to implement this condition.

4.2 Environmental Monitoring

4.2.1 Aquatic Monitoring

The certifications and permits required under the Clean Water Act provide mechanisms for protecting water quality and, indirectly, aquatic biota. The NRC will rely on the decisions made by the Commonwealth of Pennsylvania under the authority of the Clean Water Act for any requirements for aquatic monitoring.

4.2.2 Terrestrial Monitoring

DELETED.

4.2.3 Noise Monitoring

Noise monitoring program during first year of plant operation (Section 5.14.4 of FES).

5.0 Administrative Procedures

5.1 Review and Audit

The licensee shall provide for review and audit of compliance with the EPP. The audits shall be conducted independently of the individual or groups responsible for performing the specific activity. A description of the organization structure used to achieve the independent review and audit function and results of the audit activities shall be maintained and made available for inspection.

5.2 Records Retention

Records and logs relative to the environmental aspects of station operation shall be made and retained in a manner convenient for review and inspection. These records and logs shall be made available to NRC on request.

Records of modifications to station structures, systems and components determined to potentially affect the continued protection of the environment shall be retained for the life of the station. All other records, data and logs relating to this EPP shall be retained for five years or, where applicable, in accordance with the requirements of other agencies.

5.3 Changes in Environmental Protection Plan

Requests for changes in the EPP shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence prior to NRC approval of the proposed changes in the form of a license amendment incorporating the appropriate revision to the EPP.

5.4 Plant Reporting Requirements

5.4.1 Routine Reports

An Annual Environmental Operating Report describing implementation of this EPP for the previous year shall be submitted to the NRC prior to May 1 of each year. The period of the first report shall begin with the date of issuance of the operating license, and the initial report shall be submitted prior to May 1 of the year following issuance of the operating license.

The report shall include summaries and analyses of the results of the environmental protection activities required by Subsection 4.2 (if any) of this EPP for the report period, including a comparison with related preoperational studies, operational controls (as appropriate), and previous nonradiological environmental monitoring reports, and an assessment of the observed impacts of the plant operation on the environment. If harmful effects or evidence of trends toward irreversible damage to the environment are observed, the licensee shall provide a detailed analysis of the data and a proposed course of mitigating action.

The Annual Environmental Operating Report shall also include:

- (1) A list of EPP noncompliances and the corrective actions taken to remedy them.
- (2) A list of all changes in station design or operation, tests, and experiments made in accordance with Subsection 3.1 which involved a potentially significant unreviewed environmental question.
- (3) A list of nonroutine reports submitted in accordance with Subsection 5.4.2.

In the event that some results are not available by the report due date, the report shall be submitted, noting and explaining the missing results. The missing results shall be submitted as soon as possible in a supplementary report.

- 5.4.2 A written report shall be submitted to the NRC within 30 days of occurrence of a nonroutine event. The report shall: (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact, and plant operating characteristics; (b) describe the probable cause of the event; (c) indicate the action taken to correct the reported event; (d) indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems; and (e) indicate the agencies notified and their preliminary responses.

Events reportable under this subsection which also require reports to others Federal, State, or local agencies shall be reported in accordance with those reporting requirements in lieu of the requirements of this subsection. The NRC shall be provided with a copy of such reports at the same time it is submitted to the other agency.

APPENDIX D

ADDITIONAL CONDITIONS
OPERATING LICENSE NO. NPF-73

Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Condition	Implementation Date
83	The licensee is authorized to relocate certain Technical Specification requirements to licensee-controlled documents. Implementation of this amendment shall include the relocation of these technical specification requirements to the appropriate documents, as described in the licensee's application dated September 9, 1996, and evaluated in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented within 60 days from April 14, 1997
87	The licensee is authorized to relocate certain Technical Specification requirements to licensee-controlled documents. Implementation of this amendment shall include the relocation of these technical specification requirements to the appropriate documents, as described in the licensee's application dated March 14, 1997, as supplemented July 29 and August 13, 1997, and evaluated in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented within 60 days from December 10, 1997
88	The licensee is authorized to relocate certain Technical Specification requirements to licensee-controlled documents. Implementation of this amendment shall include the relocation of these technical specification requirements to the appropriate documents, as described in the licensee's application dated September 11, 1997, and evaluated in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented within 30 days from January 20, 1998
98	The licensee commits to perform visual acceptance examinations of sleeve welds; post weld heat treatment of sleeve welds; and the NRC-recommended inspections of repaired tubes as described in the licensee's application dated March 10, 1997, as supplemented July 28, 1997, September 17, 1997, April 30, 1998, and January 29, 1999, and evaluated in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented within 60 days from March 26, 1999

APPENDIX D

ADDITIONAL CONDITIONS
OPERATING LICENSE NO. NPF-73

Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Condition	Implementation Date
102	The licensee is authorized to relocate certain Technical Specification requirements to licensee-controlled documents. Implementation of this amendment shall include the relocation of these Technical Specification requirements to the appropriate documents as described in the licensee's application dated December 24, 1998, as supplemented June 15, June 17, and July 7, 1999, and evaluated in the staff's evaluation attached to this amendment.	The amendment shall be implemented within 60 days from August 30, 1999
151	On the closing date(s) of the transfers to FENGenCo* of their interests in Beaver Valley Power Station, Unit No. 2, Pennsylvania Power Company, The Cleveland Electric Illuminating Company, Ohio Edison Company, and The Toledo Edison Company shall transfer to FENGenCo* all of each transferor's respective accumulated decommissioning funds for Beaver Valley Power Station, Unit No. 2, except for funds associated with the leased portions of Beaver Valley Power Station, Unit No. 2, and tender to FENGenCo* additional amounts equal to remaining funds expected to be collected in 2005, as represented in the application dated June 1, 2005, but not yet collected by the time of closing. All of the funds shall be deposited in a separate external trust fund for the reactor in the same amount as received with respect to the unit to be segregated from other assets of FENGenCo* and outside its administrative control, as required by NRC regulations, and FENGenCo* shall take all necessary steps to ensure that this external trust fund is maintained in accordance with the requirements of the order approving the transfer of the license and consistent with the safety evaluation supporting the order and in accordance with the requirements of 10 CFR Section 50.75, "Reporting and recordkeeping for decommissioning planning."	The amendment shall be implemented within 30 days from December 16, 2005

* FirstEnergy Nuclear Generation Corp. (FENGenCo) has been renamed Energy Harbor Nuclear Generation LLC.

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ADDITIONAL CONDITIONS
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Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Condition	Implementation Date
151	<p>By the date of closing of the transfer of the ownership interests in Beaver Valley Power Station, Unit No. 2 from Pennsylvania Power Company to FENGenCo*, FENGenCo* shall obtain a parent company guarantee from FirstEnergy in an initial amount of at least \$80 million (in 2005 dollars) to provide additional decommissioning funding assurance regarding such ownership interests. Required funding levels shall be recalculated annually and, as necessary, FENGenCo* shall either obtain appropriate adjustments to the parent company guarantee or otherwise provide any additional decommissioning funding assurance necessary for FENGenCo* to meet NRC requirements under 10 CFR 50.75.</p> <p>The Support Agreements described in the applications dated May 18, 2005 (up to \$80 million), and June 1, 2005 (up to \$400 million), shall be effective consistent with the representations contained in the applications. FENGenCo* shall take no action to cause FirstEnergy, or its successors and assigns, to void, cancel, or modify the Support Agreements without the prior written consent of the NRC staff, except, however, the \$80 million Support Agreement in connection with the transfer of the Pennsylvania Power Company interests may be revoked or rescinded if and when the \$400 million support agreement described in the June 1, 2005, application becomes effective. FENGenCo* shall inform the Director of the Office of Nuclear Reactor Regulation, in writing, no later than ten days after any funds are provided to FENGenCo* by FirstEnergy under either Support Agreement.</p>	The amendment shall be implemented within 30 days from December 16, 2005

* FirstEnergy Nuclear Generation Corp. (FENGenCo) has been renamed Energy Harbor Nuclear Generation LLC.

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Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Condition	Implementation Date
161	<p><u>Schedule for New and Revised Surveillance Requirements (SRs)</u></p> <p>The schedule for performing SRs that are new or revised in Amendment No. 161 shall be as follows:</p> <p>For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval, which begins on the date of implementation of this amendment.</p> <p>For SRs that existed prior to this amendment, whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of this amendment.</p> <p>For SRs that existed prior to this amendment, whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of this amendment.</p> <p>For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance subject to the modified acceptance criteria is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.</p>	<p>The amendment shall be implemented within 150 days from date of issuance</p>
161	<p><u>Relocation of Certain Technical Specification Requirements</u></p> <p>License Amendment No. 161 authorizes the relocation of certain Technical Specifications to other licensee-controlled documents. Implementation of this amendment shall include relocation of the requirements to the specified documents, as described in (1) Sections 4D and 4E of the NRC staff's Safety Evaluation, and (2) Table LA, Removed Detail Changes, and Table R, Relocated Specifications, attached to the NRC staff's Safety Evaluation, which is enclosed in this amendment.</p>	<p>The amendment shall be implemented within 150 days from date of issuance</p>

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Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Condition	Implementation Date
163	<p><u>Initial Performance of New Surveillance and Assessment Requirements</u></p> <p>Upon implementation of Amendment No. 163 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by Surveillance Requirement (SR) 3.7.10.4, in accordance with Specification 5.5.14.c(i), the assessment of CRE habitability as required by Specification 5.5.14.c(ii), and the measurement of CRE pressure as required by Specification 5.5.14.d, shall be considered met. Following implementation:</p> <ul style="list-style-type: none">(a) The first performance of SR 3.7.10.4, in accordance with Specification 5.5.14.c(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from the date of the most recent successful tracer gas test, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.(b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.14.c(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from the date of the most recent successful tracer gas test, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.(c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.14.d, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test.	<p>The amendment shall be implemented within 120 days from date of issuance</p>

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Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Condition	Implementation Date
187	<p>Based on the Commission's Order dated April 14, 2017, regarding the direct transfer from Ohio Edison Company (OE) and The Toledo Edison Company (TE) to FirstEnergy Nuclear Generation, LLC (FENGen), FENOC and FENGen shall comply with the following conditions noted Below.</p> <p>A. By June 1, 2017, OE and TE shall initiate the transfer to FENGen the accumulated decommissioning funds held by OE and TE for Beaver Valley Unit 2. All such funds shall be deposited and held in the FENGen nuclear decommissioning trust for Beaver Valley Unit 2 along with other funds maintained by FENGen for Beaver Valley Unit 2 and shall be maintained in such trust outside of FENGen's administrative control and in accordance with the requirements of 10 CFR 50.75(h)(1). Such transfer of the accumulated decommissioning funds by OE and TE shall be completed within a reasonable period of time.</p> <p>B. The Support Agreement in the amount of \$400 million from FirstEnergy Solutions Corp. (FES) described in the application dated June 24, 2016 shall be effective and consistent with the representations in the application. FENGen shall take no action to void, cancel, or modify the Support Agreement without the prior written consent of the NRC staff. FENGen shall inform the Director of the Office of Nuclear Reactor Regulation, in writing, no later than 10 working days after any funds are provided to FENGen by FES under the terms of the Support Agreement.</p>	The amendment shall be implemented within 90 days from June 1, 2017

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Energy Harbor Nuclear Corp. and Energy Harbor Nuclear Generation LLC shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Condition	Implementation Date
194	<p>Amendment Number 187 described a \$400 million Support Agreement between FirstEnergy Solutions Corp. (FES) and FirstEnergy Nuclear Generation, LLC (FENGen). However, the amendment did not clearly state that this Support Agreement superseded entirely a similar agreement between FirstEnergy Corp. and FirstEnergy Nuclear Generation Corp. (predecessor of FENGen).</p> <p>Based on the Commission’s approval regarding the change in the parent company issuing a \$400 million Support Agreement to Energy Harbor Nuclear Generation LLC, Energy Harbor Nuclear Generation LLC shall comply with the conditions noted below. This \$400 million Support Agreement supersedes all previous parent support agreements.</p> <p>A. The Support Agreement in the amount of \$400 million described in the application dated April 26, 2019 is effective. Energy Harbor Nuclear Generation LLC shall take no action to void, cancel, or modify the Support Agreement without the prior written consent of the NRC staff. Energy Harbor Nuclear Generation LLC shall inform the Director of the Office of Nuclear Reactor Regulation, in writing, no later than 10 working days after any funds are provided to Energy Harbor Nuclear Generation LLC by Energy Harbor Corp. under the terms of the Support Agreement.</p>	<p>The amendment shall be implemented within 7 days from date of issuance</p>
196	<p>B. Deleted.</p> <p>C. Deleted</p>	