[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-412; NRC-2019-0122]

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station, Unit 2

AGENCY: Nuclear Regulatory Commission.

ACTION: Exemption; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has issued an exemption from its regulations in response to a December 18, 2018, request from FirstEnergy Nuclear Operating Company regarding removal of Capsule Y from the Beaver Valley Power Station, Unit 2, reactor vessel and the associated testing and report submittal activities.

DATES: The exemption was issued on June 5, 2019.

ADDRESSES: Please refer to Docket ID **NRC-2019-0122** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2019-0122**. Address questions about NRC docket IDs in Regulations.gov to Jennifer Borges; telephone: 301-287-9127; e-mail: Jennifer.Borges@nrc.gov. For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.
- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Carleen J. Parker, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-1603, e-mail: Carleen.Parker@nrc.gov.

SUPPLEMENTARY INFORMATION: The text of the exemption is attached.

Dated at Rockville, Maryland, this 6th day of June, 2019.

For the Nuclear Regulatory Commission.

/RA/

Carleen J. Parker,
Project Manager,
Plant Licensing Branch 1,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

ATTACHMENT – Exemption

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-412]

FirstEnergy Nuclear Operating Company

Beaver Valley Power Station, Unit 2

Exemption

I. Background.

FirstEnergy Nuclear Operating Company (FENOC or the licensee) is the holder of Renewed Facility Operating License No. NPF-73, which authorizes operation of Beaver Valley Power Station, Unit 2 (Beaver Valley 2). The license provides, among other things, that Beaver Valley 2 is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC or the Commission) now or hereafter in effect. The facility consists of two pressurized-water reactors located in Shippingport, Pennsylvania; however, this exemption is applicable only to Beaver Valley 2.

II. Request/Action.

Appendix H, "Reactor Vessel Material Surveillance Program Requirements," to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, requires that licensees of commercial light-water nuclear power reactors with a peak neutron fluence exceeding $1x10^{17}$ neutrons per centimeter-squared (n/cm^2) (with energy greater than 1 million electron volts ($E > 1$ MeV)) at the end of the reactor vessel design life maintain a reactor vessel material surveillance program that tests irradiated material specimens that are located in surveillance capsules in the reactor vessel. Beaver Valley 2 is subject to these requirements, and therefore, maintains a reactor vessel surveillance program in

accordance with Appendix H to 10 CFR Part 50. Section IV.A of Appendix H to 10 CFR Part 50 requires that each surveillance specimen capsule withdrawal and associated test results must be the subject of a summary technical report that is to be submitted to the NRC within 1 year of the date of the capsule withdrawal.

By letter dated, December 18, 2018, FENOC requested an exemption to the requirements of Section IV.A of Appendix H to 10 CFR Part 50 for Beaver Valley 2. Specifically, FENOC requested an exemption from the Appendix H testing and report submittal requirements for Capsule Y, which FENOC removed from the Beaver Valley 2 reactor vessel on October 29, 2018. The licensee stated that Capsule Y will be disassembled, and the neutron dosimeters will be tested within 1 year after the capsule withdrawal to ensure that valid dosimetry measurements can be obtained prior to excessive radioactive decay of the dosimeters. The capsule contents will be inventoried and placed in storage so that they are retrievable for future testing if it becomes necessary. Mechanical testing of Capsule Y will not be performed.

FENOC is requesting this exemption because Beaver Valley 2 will cease power operation by October 31, 2021. FENOC informed the NRC of this by letter dated April 25, 2018. While the Beaver Valley 2 Renewed Facility Operating License expires on May 27, 2047, the original 40-year license was to expire on May 27, 2027. The previous capsule withdrawal testing and reports justify operation of the reactor vessel through the end of the original 40-year license. Capsule Y was required to justify operation to the end of the renewed 60-year license. If a decision is made to operate Beaver Valley 2 beyond October 31, 2021, FENOC stated that a revised capsule testing schedule would be submitted for NRC approval prior to October 31, 2021.

III. Discussion.

Pursuant to 10 CFR 50.12, the Commission may, upon application by any

interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50, when (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present.

A. The Exemption is Authorized by Law.

This exemption would exempt Beaver Valley 2 from the Section IV.A of Appendix H to 10 CFR Part 50 required testing and the submittal of a summary technical report (regarding capsule withdrawal and capsule test results) for reactor vessel Capsule Y to the NRC within 1 year of the capsule withdrawal for Beaver Valley 2.

As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR Part 50. The NRC staff has determined that granting of the licensee's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

B. The Exemption Presents No Undue Risk to Public Health and Safety.

The underlying purpose of Appendix H to 10 CFR Part 50 is to monitor changes in the fracture toughness properties of ferritic materials in the reactor vessel beltline region of light-water nuclear power reactors which result from exposure of these materials to neutron irradiation and the thermal environment. This fracture toughness test data obtained from the material surveillance program is subsequently used to assess the integrity of the reactor vessel, as described in 10 CFR 50.61, "Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events," and Appendix G, "Fracture Toughness Requirements," to 10 CFR Part 50. As such, the fracture toughness data obtained by the Appendix H material surveillance program serves the underlying purposes of 10 CFR 50.61 and Appendix G to 10 CFR Part 50.

The underlying purpose of 10 CFR 50.61 is to prevent potential failure of the reactor vessel as a result of postulated pressurized thermal shock (PTS) events (transients in pressurized-water reactors causing severe overcooling concurrent with or followed by significant pressure in the reactor vessel). The underlying purpose of Appendix G to 10 CFR Part 50 is to provide an acceptable margin of safety against brittle failure of the reactor coolant system (RCS) during any condition of normal operation to which the pressure boundary may be subjected over its service lifetime.

Appendix H to 10 CFR Part 50

Appendix H to 10 CFR Part 50 requires, in part, that the design of the surveillance program and the withdrawal schedule meet the requirements of American Society for Testing and Materials (ASTM) E185, "Standard Recommended Practice for Conducting Surveillance Tests for Light-Water Cooled Reactor Vessels." Prior to receiving a renewed operating license on November 5, 2009, the Beaver Valley 2 operating license was scheduled to expire at midnight May 27, 2027 (i.e., the end of the original 40-year operating license). By letter dated April 25, 2018, FENOC informed the NRC that Beaver Valley 2 plans to cease operation by October 31, 2021, which is prior to the expiration of the original 40-year operating license.

As of January 2019, Beaver Valley 2 has withdrawn and tested a total of four surveillance capsules (i.e., Capsules U, V, W, and X). The test results from the latest surveillance capsule (i.e., Capsule X) are documented in WCAP-16527-NP, Revision 0, "Analysis of Capsule X from FENOC Nuclear Operating Company Beaver Valley Unit 2 Reactor Vessel Radiation Surveillance Program." Per WCAP-16527-NP, Capsule X received a neutron fluence of 5.601×10^{19} n/cm^2 after an irradiation time of 13.94 effective full power years (EFPY). The NRC staff notes that the calculated neutron fluence (E> 1.0 MeV) at the core mid-plane for the Beaver Valley 2 reactor vessel at the

end of 40-years of plant operation (i.e., ~36 EFPY) is 4.113 x 10^{19} n/cm^2. Consistent with ASTM E185, the withdrawal of Capsule X for a 40-year license term was completed at not less than once or greater than twice the peak end-of-life vessel fluence (i.e., 4.113 x 10^{19} n/cm^2). Based on the review of the capsules that have already been withdrawn and tested for Beaver Valley 2, the NRC staff notes that no additional capsules are required to satisfy Appendix H to 10 CFR Part 50 and ASTM E185 for the original 40-year license term.

Appendix G to 10 CFR Part 50 – Upper Shelf Energy

Appendix G to 10 CFR Part 50 requires that for the reactor vessel beltline materials, including welds, plates and forgings, the values of RT_{NDT} and Charpy upper-shelf energy must account for the effects of neutron radiation, including the results of the surveillance program of Appendix H to 10 CFR Part 50. Specifically, Appendix G to 10 CFR Part 50 requires, in part, that reactor vessel beltline materials must maintain Charpy upper-shelf energy (USE) throughout the life of the vessel of no less than 50 feet/pounds (ft-lb) (68 J).

As documented in WCAP-16527, Supplement 1, Revision 1, the licensee used the results of the surveillance Capsule X to determine the USE values for all of the vessel materials (i.e., all of the beltline or extended beltline material) and that at 54 EFPY (i.e., beyond the original 40-year operating license) the USE values for all of the vessel materials will be maintained at no less than 50 ft-lb. In NUREG-1929, Volume 2, “Safety Evaluation Report Related to the License Renewal of Beaver Valley Power Station, Units 1 and 2 (NUREG-1929, Volume 2),” the NRC staff reviewed this assessment and concluded that the licensee correctly used applicable surveillance data for determining that the Beaver Valley 2 reactor vessel beltline materials will maintain Charpy USE values no less than 50 ft-lb (68 J) through the 54 EFPY in accordance with

Appendix G to 10 CFR Part 50. On October 31, 2021, the date when the licensee certified that it expects to permanently cease power operations, Beaver Valley 2 will have operated about 29.4 EFPY (see WCAP-17790-NP). As such, the licensee has demonstrated that the reactor vessel beltline materials will maintain Charpy USE values of no less than 50 ft-lb (68 J) throughout the continued plant operation of Beaver Valley 2 through October 31, 2021.

Appendix G to 10 CFR Part 50 – Pressure-Temperature Limits

Appendix G to 10 CFR Part 50 requires that for the reactor vessel beltline materials, including welds, plates and forgings, the values of RT_{NDT} and Charpy upper-shelf energy must account for the effects of neutron radiation, including the results of the surveillance program of Appendix H to 10 CFR Part 50. Specifically, Appendix G to 10 CFR Part 50 requires, in part, that pressure-temperature (P-T) limits be established for the reactor coolant pressure boundary during normal operating and hydrostatic or leak rate testing conditions.

By letter dated July 15, 2003, the NRC staff issued Amendment No. 138 and its accompanying safety evaluation for Beaver Valley 2 that permitted the licensee to relocate the P-T limits from the technical specifications to a licensee-controlled document called the P-T Limits Report (PTLR), consistent with the guidance in Generic Letter (GL) 96-03, "Relocation of the Pressure Temperature Limit Curves and Low Temperature Overpressure Protections System Limits." In addition, administrative controls via Technical Specification (TS) 6.9.6, "Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR)" (currently numbered as TS 5.6.4), were established, which provide requirements for the control of future changes to the plant-specific P-T limits and for submittal of PTLR revisions to the NRC.

The latest revision of the Beaver Valley 2 PTLR indicates that after considering the results from Capsule X, the limiting vessel material for the P-T limits is the intermediate shell plate B9004-1 at 30 EFPY. Based on the analysis in WCAP-17790-NP, Revision 1, Enclosure B, "PWR Vessel Internals Program Plan for Aging Management of Reactor Internals at Beaver Valley Power Station Unit 2," in fall 2021, the time period in which licensee certified that it expects to permanently cease power operations, Beaver Valley 2 will have operated 29.4 EFPY. The staff previously found Beaver Valley 2's Aging Management program acceptable by letter dated October 7, 2016. Thus, the staff finds that the P-T limits in the licensee's PTLR will remain applicable (i.e., through 30 EFPY) beyond the expected plant operation of Beaver Valley 2 (i.e., ~ 29.4 EFPY). However, if a change to the P-T limits is necessary before Beaver Valley 2 expects to permanently cease power operations, the NRC staff finds that TS 5.6.4 provides the necessary administrative controls to ensure changes will be implemented in accordance with methodology approved in the PTLR, such that the requirements for P-T limits in Appendix G to 10 CFR Part 50 will continue to be satisfied.

10 CFR Part 50.61

10 CFR 50.61 requires, in part, that for each pressurized-water nuclear power reactor, the licensee shall have projected values of RT_{PTS} for each reactor vessel beltline material using the end-of-life fluence for that material. Specifically, 10 CFR 50.61 establishes PTS screening criterion of 270 degrees Fahrenheit (°F) for plates, forgings, and axial weld materials, and 300 °F for circumferential weld materials. The regulations in 10 CFR 50.61 also require, in part, that licensees consider plant-specific information that could affect the level of embrittlement, which includes, but is not limited to, the reactor vessel operating temperature and any related surveillance program results.

As documented in WCAP-16527, Supplement 1, Revision 1, the RT_{PTS} values were generated for all beltline and extended beltline region materials of the Beaver Valley 2 reactor vessel for fluence values at 54 EFPY, and these values were based on plant-specific surveillance program results and have been included in the PTS evaluation. The NRC staff also confirmed that the RT_{PTS} values for all beltline and extended beltline region materials of the Beaver Valley 2 reactor vessel for fluence values at 54 EFPY were less than the applicable screening criterion established in 10 CFR 50.61. Further, the NRC staff previously reviewed this assessment and concluded that the licensee accurately calculated the RT_{PTS} values for all reactor vessel beltline materials for 54 EFPY and has correctly used applicable surveillance data for determining that all Beaver Valley 2 reactor vessel beltline materials will remain in compliance 10 CFR 50.61 through 54 EFPY (see NUREG-1929, Volume 2). As such, the licensee has demonstrated that the RT_{PTS} values for all beltline and extended beltline region materials of the Beaver Valley 2 reactor vessel are less than the applicable screening criterion established in 10 CFR 50.61 through the continued plant operation of Beaver Valley 2 (October 31, 2021).

Conclusion

Based on the above, no new accident precursors are created by the proposed exemption; thus, the probability of postulated accidents is not increased. Also, based on the above, the consequences of postulated accidents are not increased. No changes are being made in the types or amounts of effluents that may be released offsite. There is no significant increase in occupational or public radiation exposure. Therefore, there is no undue risk to public health and safety.

C. The Exemption is Consistent with the Common Defense and Security.

The proposed exemption would exempt Beaver Valley 2 from the requirements of Section IV.A to Appendix H to 10 CFR Part 50 for testing and the submittal of a summary technical report (regarding capsule withdrawal and capsule test results) for reactor vessel Capsule Y to the NRC within 1 year of the capsule withdrawal for Beaver Valley 2, which occurred on October 29, 2018. This change to the testing and submittal of the summary technical report for Capsule Y at Beaver Valley 2 does not affect physical security measures at Beaver Valley 2 and will not adversely affect the licensee's ability to physically secure the site or protect special nuclear material. Therefore, the common defense and security is not impacted by this exemption.

D. Special Circumstances.

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. The following paragraphs discuss how the underlying purpose of Appendix H to 10 CFR Part 50, 10 CFR 50.61, and Appendix G to 10 CFR Part 50 will be met under the terms of the proposed exemption.

Appendix H to 10 CFR Part 50

The underlying purpose of Appendix H to 10 CFR Part 50 is to require licensees to implement a reactor vessel materials surveillance program to monitor changes in the fracture toughness properties of reactor vessel materials adjacent to the reactor core. As such, Appendix H requires, in part, that the design of the surveillance program and the withdrawal schedule meet the requirements of ASTM E185. As stated above, Beaver Valley 2 has withdrawn and tested a total of four surveillance capsules (i.e., Capsules U, V, W, and X), with the test results from the latest surveillance capsule (i.e.,

Capsule X) documented in WCAP-16527-NP, Revision 0. Based on the review of the capsules that have already been withdrawn and tested for Beaver Valley 2, the NRC staff notes that no additional capsules are required to satisfy Appendix H to 10 CFR Part 50 and ASTM E185 for the original 40-year license term.

Since the licensee plans to permanently cease power operation of Beaver Valley 2 by October 31, 2021 (i.e., approximately 5.5 years prior to the end of the original 40-year operating license), the staff finds that the testing and submittal of the summary report for Capsule Y does not serve the underlying purpose to obtain fracture toughness test data to monitor changes in the ferritic materials in the reactor vessel beltline region for the continued plant operation of Beaver Valley 2 through October 31, 2021.

Appendix G to 10 CFR Part 50 – Upper Shelf Energy

The underlying purpose of Appendix G to 10 CFR Part 50 is to provide an acceptable margin of safety against brittle failure of the RCS during any condition of normal operation to which the pressure boundary may be subjected over its service lifetime. Appendix G to 10 CFR Part 50 requires, in part, that reactor vessel beltline materials must maintain Charpy USE throughout the life of the vessel of no less than 50 ft-lb (68 J). As stated above, NRC staff confirmed that the results of surveillance Capsule X were used in the determination of the USE values for all of the reactor vessel materials (i.e., all of the beltline or extended beltline material) and that at 54 EFPY (i.e., beyond the original 40-year operating license), the USE values for all of the vessel materials will meet Appendix G to 10 CFR Part 50 requirements.

Since the licensee plans to permanently cease power operation of Beaver Valley 2 by October 31, 2021 (i.e., approximately 5.5 years prior to the end of the original 40-year operating license), the NRC staff finds that the testing and submittal of the summary report for Capsule Y does not serve the underlying purpose to provide an

acceptable margin of safety against brittle failure of the RCS during any condition of normal operation as it relates to Charpy USE for continued plant operation of Beaver Valley 2 through October 31, 2021.

Appendix G to 10 CFR Part 50 – Pressure-Temperature Limits

The underlying purpose of Appendix G to 10 CFR Part 50 is to provide an acceptable margin of safety against brittle failure of the RCS during any condition of normal operation to which the pressure boundary may be subjected over its service lifetime. Appendix G to 10 CFR Part 50 requires, in part, that P-T limits be established for the reactor coolant pressure boundary during normal operating and hydrostatic or leak rate testing conditions. As stated above, the NRC staff finds that the P-T limits in the licensee's PTLR will remain applicable (i.e., through 30 EFPY) beyond the expected plant operation of Beaver Valley 2 (i.e., ~ 29.4 EFPY). However, if a change to the P-T limits is necessary prior to the expected date in which Beaver Valley 2 ceases operation, the NRC staff identified that TS 5.6.4 provides the necessary administrative controls to ensure changes will be implemented in accordance with methodology approved in the PTLR such that the requirements for P-T limits in Appendix G to 10 CFR Part 50 will continue to be satisfied.

Since the licensee plans to permanently cease power operation of Beaver Valley 2 by October 31, 2021 (i.e., approximately 5.5 years prior to the end of the original 40-year operating license), the NRC staff finds that the testing and submittal of the summary report for Capsule Y do not serve the underlying purpose to provide an acceptable margin of safety against brittle failure of the RCS during any condition of normal operation as it relates to P-T limits for the continued plant operation of Beaver Valley 2 through October 31, 2021.

10 CFR Part 50.61

The regulations in 10 CFR 50.61 require, in part, that for each pressurized-water nuclear power reactor, the licensee shall have projected values of RT_{PTS} for each reactor vessel beltline material using the end-of-life fluence for that material. As stated above, the licensee has demonstrated that the RT_{PTS} values for all beltline and extended beltline region materials of the Beaver Valley 2 reactor vessel are less than the applicable screening criterion established in 10 CFR 50.61 through the continued plant operation of Beaver Valley 2 (October 31, 2021).

Since the licensee plans to permanently cease power operation of Beaver Valley 2 by October 31, 2021 (i.e., approximately 5.5 years prior to the end of the original 40-year operating license), the NRC staff finds that the testing and submittal of the summary report for Capsule Y does not serve the underlying purpose to prevent potential failure of the reactor vessel as a result of postulated PTS events for the continued plant operation of Beaver Valley 2 through October 31, 2021.

Conclusion

Based on the above, the NRC staff concludes that the underlying purpose of Appendix H to 10 CFR Part 50 and its function to provide fracture toughness data for the evaluations required by Appendix G to 10 CFR Part 50 and 10 CFR 50.61 have been achieved for the original 40-year license period of Beaver Valley 2, which will permanently cease operation by October 31, 2021 (i.e., prior to the end of the original 40-year license period).

E. Environmental Considerations.

The NRC staff has determined that the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(25). Therefore, in accordance with 10 CFR 51.22(b), no environmental impact statement or environmental

assessment need be prepared in connection with the proposed issuance of this exemption request. The basis for the NRC staff's determination is discussed below with an evaluation against each of the requirements in 10 CFR 51.22(c)(25).

Requirements in 10 CFR 51.22(c)(25)(i)

An evaluation of the issue of no significant hazards consideration, as provided by the licensee, is presented below:

1. Does the proposed exemption involve a significant increase in the probability or consequence of an accident previously evaluated?

   Response: No

   The proposed exemption has no effect on facility structures, systems, and components (SSCs), the capability of any facility SSC to perform its design function, or plant operations, and, therefore, would not increase the likelihood of a malfunction of any facility SSC or increase the consequences of previously evaluated accidents. The proposed exemption does not alter any assumptions or methodology associated with the previously evaluated accidents in the BVPS [Beaver Valley Power Station] Updated Final Safety Analysis Report. The proposed exemption will not affect the probability of occurrence of any previously analyzed accident.

   Therefore, there is no increase in the probability or consequence of any previously evaluated accident.

2. Does the proposed exemption create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed exemption does not involve a physical alteration of the facility. No new or different type of equipment will be installed, and there are no physical modifications to existing equipment associated with the proposed exemption.

   Similarly, the proposed exemption would not physically alter any SSCs involved in the mitigation of any accidents. Thus, no new initiators or precursors of a new or different kind of accident are created. Furthermore, the proposed exemption does not create the possibility of a new accident as a result of new failure modes associated with any equipment or personnel failures. No changes are being made to the facilities' normal parameters or in protective or

mitigative action setpoints, and no new failure modes are being introduced.

Therefore, the proposed exemption does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed exemption involve a significant reduction in a margin of safety?

   Response: No

   The proposed exemption does not alter the design basis or any safety limits for BVPS-2, nor does it impact station operation or any facility SSC that is relied upon for accident mitigation.

   Therefore, the proposed exemption does not involve a significant reduction in a margin of safety.

The NRC staff evaluated the issue of no significant hazards consideration using the standards described in 10 CFR 50.92(c). Based on the above evaluation, the NRC staff has determined that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff concludes that the proposed exemption involves no significant hazards consideration, and the requirements of 10 CFR 51.22(c)(9)(i) are met.

Requirements in 10 CFR 51.22(c)(25)(ii) through (v)

The proposed exemption from testing and the associated report submittal activities for the Beaver Valley 2 reactor vessel Capsule Y does not involve any physical plant modifications and would not alter operation of any plant systems. As such, the NRC staff concludes that granting the proposed exemption: (1) would not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite (i.e., satisfies the provisions of 10 CFR 51.22(c)(25)(ii)); (2) would not result in a significant increase in individual or cumulative public or occupational radiation exposure (i.e., satisfies the provisions of 10 CFR 51.22(c)(25)(iii)); (3) would have no significant construction impact (i.e., satisfies the provisions of 10 CFR

51.22(c)(25)(iv)); and (4) would not result in a significant increase in the potential for or consequences from a radiological accident (i.e., satisfies the provisions of 10 CFR 51.22(c)(25)(v)).

Requirements in 10 CFR 51.22(c)(25)(i)

The proposed exemption involves the testing and reporting requirements of the Beaver Valley 2 reactor vessel surveillance program. Performance of the scheduled capsule testing is a surveillance requirement, therefore satisfying the provisions of 10 CFR 51.22(c)(25)(vi)(C).

Conclusion

Based on the above, the NRC staff concludes that the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(25)(i) through (vi). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required to be prepared in connection with the proposed issuance of the exemption.

IV. Conclusion

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants FENOC a permanent exemption from Section IV.A of Appendix H to 10 CFR Part 50 for testing and the submittal of a summary technical report (regarding capsule withdrawal and capsule test results) for reactor vessel Capsule Y to the NRC within 1 year of the capsule withdrawal for Beaver Valley 2.

V. Availability of Documents

The documents identified in the following table are available to interested persons through the NRC's Agencywide Documents Access and Management System (ADAMS).

TITLE	DATE	ADAMS ACCESSION NO.
FENOC letter to the NRC, Request for Exemption from Specific Provisions in Appendix H to 10 CFR Part 50	12/18/2018	ML18352A684
FENOC letter to the NRC, Certification of Permanent Cessation of Power Operations for Beaver Valley Power Station, Unit Nos. 1 and 2; Davis-Besse Nuclear Power Station, Unit No.1; and Perry Nuclear Power Plant, Unit No. 1	4/25/2018	ML18115A007
NRC letter to FENOC, Issuance of Renewed Facility Operating License No. NPF-73 for the Beaver Valley Power Station, Unit 2 (TAC No. MD6593)	11/5/2009	ML092920015 (Package)
WCAP-16527-NP, Revision 0, Analysis of Capsule X from FENOC Nuclear Operating Company Beaver Valley Unit 2 Reactor Vessel Radiation Surveillance Program	3/2006	ML061020406
WCAP-16527-NP, Supplement 1, Revision 1, Enclosure C, Analysis of Capsule X from FENOC Nuclear Operating Company Beaver Valley Unit 2 Reactor Vessel Radiation Surveillance Program	9/2011	ML13151A060
NUREG-1929, Volume 2, Safety Evaluation Report Related to the License Renewal of Beaver Valley Power Station, Units 1 and 2	10/2009	ML093000278
NRC letter to FENOC, Beaver Valley Power Station, Unit Nos. 1 and 2 – Issuance of Amendment Re: Creation of Pressure-Temperature Limits Report (TAC Nos. MB3319 and MB3320)	7/15/2003	ML031960399
FENOC letter to the NRC, Beaver Valley Power Station, Unit Nos. 1 and 22 – Pressure and Temperature Limits Reports and Unit 2, Cycle 18, Core Operating Limits Report	5/12/2014	ML14133A107
WCAP-17790-NP, Revision 1, Enclosure B, PWR Vessel Internals Program Plan for Aging Management of Reactor Internals at Beaver Valley Power Station Unit 2	1/27/2014	ML14030A135
NRC letter to FENOC, Beaver Valley Power Station, Unit Nos. 1 and 2 – Staff Assessment of the Reactor Vessel Internals Aging Management Program Plans (CAC Nos. MF3416 and MF3417)	10/7/2016	ML15363A383

Dated at Rockville, Maryland, this 5th day of June, 2019.

For the Nuclear Regulatory Commission.

/RA/

Craig G. Erlanger, Director,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

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