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

July 24, 2014

Mr. Eric A. Larson, Site Vice President
FirstEnergy Nuclear Operating Company
Beaver Valley Power Station
Mail Stop A-BV-SEB1
P.O. Box 4, Route 168
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NO. 2 – SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTED LICENSING ACTION RE: LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATION 4.3.2, SPENT FUEL STORAGE POOL MINIMUM INADVERTENT DRAINAGE ELEVATION (TAC NO. MF4213)

Dear Mr. Larson:

By letter dated June 2, 2014, FirstEnergy Nuclear Operating Company (FENOC) requested an amendment to the operating license for Beaver Valley Power Station, Unit No. 2 (BVPS-2). The proposed amendment would correct the minimum drain elevation for the spent fuel storage pool specified in BVPS-2 Technical Specification 4.3.2, "Drainage."

The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this license amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the NRC staff to make an independent assessment regarding the acceptability of the proposed amendment request in terms of regulatory requirements and the protection of public health and safety and the environment.

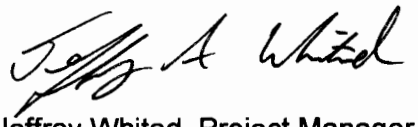
In order to make the application complete, the NRC staff requests that FENOC supplement the application to address the information requested in the enclosure by August 15, 2014. This will enable the NRC staff to complete its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC staff will cease its review activities associated with the application. If the application is subsequently accepted for review, you will

be advised of any further information needed to support the NRC staff's detailed technical review by separate correspondence.

The information requested and the associated time frame in this letter were discussed with Mr. Phil Lashley of your staff on July 23, 2014.

If you have any questions, please contact me at (301) 415-4090 or via e-mail at Jeffrey.Whited@nrc.gov.

Sincerely,



Jeffrey Whited, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure:
As stated

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SUPPLEMENTAL INFORMATION NEEDED

REVISED TECHNICAL SPECIFICATION 4.3.2, SPENT FUEL STORAGE POOL

MINIMUM INADVERTENT DRAINAGE ELEVATION

FIRSTENERGY NUCLEAR OPERATING COMPANY

BEAVER VALLEY POWER STATION, UNIT 2

DOCKET NO. 50-412

The Nuclear Regulatory Commission (NRC) staff has reviewed the application submitted by FirstEnergy Nuclear Operating Company (FENOC, the licensee) to amend the operating license for Beaver Valley Power Station, Unit No. 2 (BVPS-2) by letter dated June 2, 2014,[1] and concluded that the information delineated below is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed license amendment request in terms of regulatory requirements and the protection of public health and safety and the environment.

Pursuant to the *Code of Federal Regulations* (10 CFR) Part 50.90, whenever a holder of an operating license desires to amend the license, application for the amendment must be filed with the Commission, as specified in 10 CFR 50.4(b)(1), as applicable, fully describing the changes desired, and following as far as applicable, the form prescribed for original applications.

In the enclosure to the letter dated June 2, 2014, FENOC, submitted an evaluation which supports the request to change Technical Specification (TS) 4.3.2, "Drainage." Specifically, TS 4.3.2 requires that the spent fuel storage pool be designed to prevent inadvertent draining of the pool below a certain specified elevation. The proposed change would revise this specified elevation in TS 4.3.2 to reflect the actual installed piping by lowering the elevation by 5 inches. The licensee discusses how the amendment request meets the five design provisions listed in General Design Criterion (GDC) 61, "Fuel storage and handling and radioactivity control," set forth in Appendix A, "General Design Criteria for Nuclear Power Plants," of 10 CFR 50. These provisions require that fuel storage and handling, radioactive waste, and other systems that may contain radioactivity be designed to assure adequate safety under normal and postulated accident conditions. However, it is unclear how provision two of General Design Criterion 61 is met to ensure that suitable shielding for radiation protection is available with the given information.

GDC 61 states, in part, that:

> The fuel storage and handling, radioactive waste, and other systems which may contain radioactivity shall be designed to assure adequate safety under normal and postulated accident conditions. These systems shall be designed . . .
>
> (2) with suitable shielding for radiation protection

[1] Agencywide Documents Access and Management System Accession No. ML14153A388.

Page 4 of the enclosure, in reference to GDC 61 (2), states, in part, that:

> This design provision directly relates to the proposed [TS] change. A discussion of the effects of the proposed [TS] change on radiation shielding is provided later in this Technical Evaluation.

Page 5 of the enclosure states, in part, that:

> The conservatively high calculated gamma radiation dose rate for personnel located at the fuel building operating floor elevation, directly above freshly discharged fuel assemblies stored in the spent fuel storage pool with the pool water level reduced to the 750 feet, 10 inch elevation (providing at least 9.84 feet of water above the active fuel) is estimated to be approximately 280 millirem per hour. This calculated result can be used to estimate operator exposure for post drain-down event mitigation activities . . .

Page 6 of the enclosure states, in part, that:

> Reducing the spent fuel storage pool minimum shielding depth from the UFSAR specified 10 feet above the top of the fuel stored in the racks to 9.84 feet above the top of the active fuel stored in the racks corresponds to an approximate 51 millirem per hour increase in the radiation dose rate for personnel located at the fuel building operating floor elevation . . .

The basis of the above statements is unclear to the NRC staff, since no calculation sheet was provided with the license amendment request. In order to make the application complete, the NRC staff requests that FENOC supplement the application with:

1) A calculation sheet which cites the appropriate Regulatory Guide methodology and provides the calculation that demonstrates an estimated dose rate of approximately 280 millirem per hour for a person located at the fuel building operating floor elevation, directly above freshly discharged fuel assemblies stored in the spent fuel storage pool with the pool water level reduced to the 750 feet, 10 inch elevation.

be advised of any further information needed to support the NRC staff's detailed technical review by separate correspondence.

The information requested and the associated time frame in this letter were discussed with Mr. Phil Lashley of your staff on July 23, 2014.

If you have any questions, please contact me at (301) 415-4090 or via e-mail at Jeffrey.Whited@nrc.gov.

Sincerely,

/RA/

Jeffrey Whited, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure:
As stated

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