



Nuclear Energy Oversight Project

*"Oversight of the U.S. Nuclear Regulatory Commission
to protect public health and safety and the environment"*

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November 8, 2020

Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
(Sent via Electronic Mail)

RE: 10 CFR 2.206 PETITION (BEAVER VALLEY POWER STATION, UNIT NO. 2)

The Nuclear Energy Oversight Project (NEOP) - by and through its undersigned Executive Director (Petitioners) - hereby submit a 10 CFR 2.206 Petition requesting that the U.S. Nuclear Regulatory Commission (NRC) take enforcement action against its licensee(s) - **Energy Harbor Nuclear Corp. - Beaver Valley Power Station, Unit No. 2** - as delineated below:

Requested Enforcement Action

Petitioners request that the NRC:

- **DENY** and refuse to accept assertions made by the licensee to the NRC by letter dated October 28, 2020 (L-20-205) - regarding the Reactor Vessel Capsule Y Analysis Report WCAP-18558-NP.
- Issue a Confirmatory Order (CO) requiring the licensee to test Reactor Surveillance Capsules utilizing the **Tinius-Olsen Model IT406 or Model IT542 - Pendulum Impact test machines** - or equivalent machines with the same accuracy or better accuracy - or contract the testing to an outside vendor with such testing equipment - which complies with ASTM E23, EN10045-2 and ISO 148.
- Issue a CO requiring the licensee to identify the model number of the **Instron Impulse system (Striker)** used in concert with the Tinius-Olsen Model 74, 358J machine - to test the Reactor Vessel Capsule Y - for which the licensee obtained the data reported in WCAP-18558-NP to the NRC.

- Issue a CO requiring the licensee to identify any outside contractor that was contracted by the licensee to perform the Charpy tests on the Reactor Vessel Capsule Y from the Beaver Valley Power Station, Unit No. 2 (BVPS-2), reactor vessel.

Basis and Justification

By letter dated October 28, 2020 (L-20-205) - regarding the Reactor Vessel Capsule Y Analysis Report - the licensee notified the NRC - in part relevant - that:

. . . The enclosed report WCAP-18558-NP, "Analysis of Capsule Y from the Beaver Valley Unit 2 Reactor Vessel Radiation Surveillance Program," includes a technical summary of the results of the mechanical property tests conducted on the fifth capsule withdrawn from the Beaver Valley Power Station, Unit No. 2 (BVPS-2), reactor vessel. . . Testing was performed in accordance with ASTM E 185-82, "Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels," as specified in 10 CFR 50, Appendix H, paragraph III.B.1. . . "

(I.d. at p.1).

In the licensee's report WCAP-18558-NP - the licensee advised the NRC in relevant part that:

". . . The Charpy impact tests were performed per ASTM Specification E185-82 [8] and E-23-18 [9] on a Tinius-Olsen Model 74, 358J machine. The Charpy machine striker was instrumented with an Instron Impulse system. . . "

(Id. at p.5-1).

Petitioners aver here that the NRC cannot accept or rely on the data provided by the licensee regarding the Reactor Vessel Capsule Y Analysis Report (WCAP-18558-NP) - because **the licensee failed to identify the Model Number of the Instron Impulse system which the Charpy machine striker was instrumented with.**

Petitioners further aver here that the NRC cannot accept or rely on the data provided by the licensee regarding the Reactor Vessel Capsule Y Analysis Report (WCAP-18558-NP) - because the licensee obtained data on the Beaver Valley Power Station, Unit No. 2 (BVPS-2), reactor vessel Capsule Y - **using an outdated Charpy test machine.** Notably - the Tinius-Olsen Model 74, 358J machine relied upon by the licensee - as modified with the Instron Impulse system - is apparently no longer manufactured - and has been replaced with more accurate Charpy test machines - which do **not involve interpretation of an analog gauge by a human.**

The current Tinius-Olsen pendulum impact testers are versatile and reliable machines designed to fully comply with the specifications outlined in ASTM E23, EN10045-2 and ISO 148. Notably - the Model IT406 and the Model IT542 are widely recognized as the standards of the industry for impact testing - which offer options such as an automatic motorized return -

eliminating the need for an operator involvement other than releasing the pendulum. Moreover - machines with a digital display can be linked to a stand alone PC and connected to Tinius Olsen's Horizon software.

Petitioners note here that digital displays are far more accurate than human interpretations of analog displays.

For the Petitioners



Thomas Saporito
Executive Director

*** A copy of this document will be provided to the NRC Office of the Inspector General (OIG) to enable that agency to monitor NRC's actions in this matter accordingly.**