



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

December 20, 2017

Mr. Richard D. Bologna  
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: SUMMARY OF DECEMBER 5, 2017, MEETING WITH FIRSTENERGY  
NUCLEAR OPERATING COMPANY TO DISCUSS A POTENTIAL LICENSE  
AMENDMENT REQUEST RE: EXTENDING SLEEVE LIFE ON THE STEAM  
GENERATOR AT THE BEAVER VALLEY POWER STATION, UNIT NO. 2.  
(EPID L-2017-LRM-0061)**

Dear Mr. Bologna:

On December 5, 2017, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of FirstEnergy Nuclear Operating Company (the licensee) and of Westinghouse at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss the licensee's plan to submit a license amendment request (LAR) for extending the approved service life of the Alloy 800 leak-limiting sleeves in the Beaver Valley Power Station (Beaver Valley), Unit No. 2, steam generators. The meeting notice and agenda, dated November 7, 2017, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML17335A054. A list of attendees is enclosed.

The licensee presented meeting slides (ADAMS Accession No. ML17335A037) regarding its plan to submit an LAR in March 2018 that would request extending the service life of Alloy 800 leak-limiting sleeves for three additional operating cycles. The licensee indicated that license Amendment No. 184, approved on December 16, 2015 (ADAMS Accession No. ML15294A439), authorized use of the Alloy 800 leak-limiting sleeves for up to five operating cycles. The new LAR will request NRC approval by March 2019 for a planned implementation by April 2020. The licensee also indicated that this LAR will be specific to Beaver Valley, Unit No. 2, and the request will not reference any topical report. The presentation included a brief overview of the Beaver Valley, Unit No., 2 steam generator program, a discussion on the Alloy 800 leak-limiting sleeves, and a summary of the technical justification for extending the service life of the Alloy 800 leak-limiting sleeves.

The licensee highlighted that when all data is considered, the proposed service life extension of Alloy 800 leak-limiting sleeves will not reduce the levels of assurance of steam generator tube integrity required by the technical specifications. In addition, the licensee mentioned that it is considering a separate future LAR to allow unlimited use of installed Alloy 800 leak-limiting sleeves, subject to the qualification of the appropriate non-destructive examination technique. Further, the licensee noted that it is also considering future qualification of a new Alloy 800 leak-limiting sleeve that does not use a nickel band.

The NRC staff asked questions related to the U.S. and international operating experience of Alloy 800 leak-limiting sleeves, particularly sleeves installed in mill-annealed Alloy 600 tubing. The NRC staff also asked about the design variations of the sleeves installed at Beaver Valley, Unit No. 2, the reasons why three sleeves were removed from service, and possible changes to the installation process of new sleeves that might be installed at Beaver Valley, Unit No. 2. In addition, the NRC staff asked questions related to additional laboratory testing and finite element modeling that the licensee discussed in relation to the technical basis for the service life extension of the Alloy 800 leak-limiting sleeves. Finally, the NRC staff asked questions related to development of an inspection process for the Alloy 800 leak-limiting sleeves that was qualified to Appendix H of the Electric Power Research Institute's, "Pressurized Water Reactor Steam Generator Examination Guidelines." The NRC staff provided feedback to the licensee that its review of the proposed LAR would focus on any new analysis, additional laboratory data since the original sleeve license amendment approved on December 16, 2015, and operating experience of Alloy 800 sleeves (particularly in mill-annealed Alloy 600 tubing).

Mr. Rich Janati and Mr. Larry Winker, representing the Department of Environmental Protection, State of Pennsylvania, attended the meeting by telephone. Mr. Janati had two questions for the NRC after the business portion of the meeting related to the operating experience of Alloy 800 sleeves in the United States and NRC inspections of the sleeves. No public meeting feedback forms were received.

Please direct any inquiries to me at (301) 415-2934 or [Booma.Venkataraman@nrc.gov](mailto:Booma.Venkataraman@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "V. Booma", with a horizontal line drawn through the middle of the signature.

Booma Venkataraman, Project Manager  
Plant Licensing Branch I  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure:  
List of Attendees

cc w/Enclosure: Distribution via Listserv

LIST OF ATTENDEES

MEETING WITH FIRSTENERGY NUCLEAR OPERATING COMPANY

POTENTIAL LICENSE AMENDMENT REQUEST RE: EXTENDING SLEEVE LIFE ON THE  
STEAM GENERATOR AT THE BEAVER VALLEY POWER STATION, UNIT NO. 2

**NRC Participants**

Steven Bloom  
James Danna  
Booma Venkataraman  
Andrew Johnson  
Paul Klein  
Alan Huynh

**FENOC Participants**

Mark Manoleras  
Tom Lentz  
Charles O'Neill  
Gary Alberti  
Tim Saibena  
Greg Kammerdeiner

**Westinghouse Participants**

William Cullen  
Damian Testa  
Rob Taylor

**Members of the Public\***

Rich Janati (Department of Environmental Protection, State of Pennsylvania)  
Larry Winker (Department of Environmental Protection, State of Pennsylvania)

\*participated by telephone

SUBJECT: SUMMARY OF DECEMBER 5, 2017, MEETING WITH FIRSTENERGY NUCLEAR OPERATING COMPANY TO DISCUSS A POTENTIAL LICENSE AMENDMENT REQUEST RE: EXTENDING SLEEVE LIFE ON THE STEAM GENERATOR AT THE BEAVER VALLEY POWER STATION, UNIT NO. 2. (EPID L-2017-LRM-0061) DATED DECEMBER 20, 2017

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JBowen, OEDO	

**ADAMS Accession No.: ML17347A808****\*by e-mail**

OFFICE	NRR/DORL/LPL1/PM	NRR/DORL/LPL1/LA	NRR/DMLR/MCCB/BC*
NAME	BVenkatamaran	LRonewicz	SBloom
DATE	12/14/2017	12/14/2017	12/18/2017
OFFICE	NRR/DORL/LPL1/BC	NRR/DORL/LPL1/PM	
NAME	JDanna	BVenkatamaran	
DATE	12/20/2017	12/20/2017	

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