



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

December 6, 2017

**LICENSEE:** Entergy Operations, Inc.

**FACILITY:** Waterford Steam Electric Station, Unit 3

**SUBJECT:** SUMMARY OF OCTOBER 19, 2017, PUBLIC MEETING WITH ENTERGY OPERATIONS, INC. REGARDING NEUTRON FLUENCE CALCULATION METHOD FOR THE WATERFORD STEAM ELECTRIC STATION, UNIT 3 (CAC NO. MG0183; EPID L-2017-LRM-0037)

On October 19, 2017, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Entergy Operation, Inc. (Entergy, the licensee) at NRC headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The meeting notice and agenda, dated September 25, 2017, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML17290A691. The purpose of the meeting was to discuss neutron fluence calculation codes that would be used in the Updated Final Safety Analysis Report (UFSAR) and for license renewal for the Waterford Steam Electric Station, Unit 3 (Waterford 3). A list of the meeting attendees is enclosed.

During the meeting, the licensee indicated its plan to submit a license amendment request (LAR) to incorporate the RAPTOR-M3G code and associated fluence calculation method into the Waterford 3 UFSAR. The planned amendment would permit Waterford 3 to use the RAPTOR-M3G code to calculate fluence values for the plant's initial license term and, potentially, for the plant's proposed period of extended operation (PEO).

The licensee and NRC staff provided supporting documents for this meeting. The licensee provided an initial slide presentation, which is available at ADAMS Accession No. ML17290A655. The NRC staff provided a document of discussion topics describing technical items that need to be considered when preparing the planned LAR. These discussion topics are available at ADAMS Accession No. ML17290A049. The licensee provided a revision to its original slide presentation just prior to the meeting. The revised presentation contains minor changes and additional backup slides. The revised presentation is available at ADAMS Accession No. ML17306A165.

During the pre-submittal meeting, the licensee presented information regarding its planned LAR and discussed questions from the NRC staff. The licensee divided its presentation into three parts. The first part focused on the planned LAR to incorporate the RAPTOR-M3G code as it relates to the Waterford 3 current licensing basis (CLB). The licensee presented a brief description of how Waterford 3 would meet each of the 13 applicable regulatory positions that are specified in Regulatory Guide (RG) 1.190, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence." The licensee stated that the planned LAR

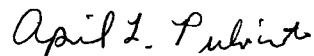
would also be structured to address the applicable regulatory positions in RG 1.190 and the acceptability of the licensee's method.

The second part of the licensee's presentation focused on fluence calculation methodology as it relates to the proposed PEO for Waterford 3, which would commence under a renewed license. The licensee presented its analytic uncertainty analysis results, including sensitivity studies, as applied to the extended beltline region.

Finally, the licensee addressed each of the the discussion topics that had been provided by the NRC staff (ADAMS Accession No. ML17290A049). The licensee described how the planned LAR would address bias and uncertainty estimates, sensitivity calculations in the extended beltline, measurement benchmarks for the extended beltline, and calculation benchmarks in the extended beltline.

The licensee stated that the planned LAR is scheduled to be submitted by December 1, 2017. No regulatory decisions were reached at this meeting. No member of the public called in to listen or provided comments to the NRC staff after the business portion of the meeting and, thus, no Public Meeting Feedback forms were received.

Please direct any inquiries to me at 301-415-1390 or by e-mail at [April.Pulvirenti@nrc.gov](mailto:April.Pulvirenti@nrc.gov).



April L. Pulvirenti, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosure:  
List of Attendees

cc: Listserv

LIST OF ATTENDEES

OCTOBER 19, 2017, PUBLIC MEETING WITH ENTERGY OPERATIONS, INC.

REGARDING NEUTRON FLUENCE CALCULATION METHOD

FOR WATERFORD STEAM ELECTRIC STATION, UNIT 3

**U.S. Nuclear Regulatory Commission**

David Alley  
Lois James  
Phyllis Clark  
Elaine Keegan  
Robert Lukes  
James Medoff  
Seung Min  
Amrit Patel  
Robert Pascarelli  
Tom Wengert  
April Pulvirenti  
Benjamin Parks  
Lisa Regner  
Steve Ruffin

**Entergy Operations, Inc.**

Alan Cox  
Remy Devoe  
Kevin Fitzsimmons  
Alan Harris  
Mandy Halter  
Paul Hymel  
John Jarrell  
Maria Zamber

**Westinghouse**

Benjamin Amiri  
Jinawei Chen  
Greg Fischer  
James Smith

Public  
None

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**ADAMS Accession No. ML17331A088**

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM
NAME	APuvirenti	PBlechman	RPascarelli	APuvirenti
DATE	12/4/2017	12/4/2017	12/5/2017	12/6/2017

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