



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

November 2, 2017

LICENSEE: Entergy Operations, Inc.

FACILITY: River Bend Station, Unit 1

SUBJECT: SUMMARY OF OCTOBER 12, 2017, MEETING WITH ENTERGY OPERATIONS, INC. ON ITS INTENT TO CHANGE NEUTRON ABSORBERS FOR THE RIVER BEND STATION, UNIT 1 SPENT FUEL POOL (CAC NO. MG0268; EPID L-2017-LRM-0040)

On October 12, 2017, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Entergy Operations, Inc. (Entergy, the licensee) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss a proposed change to the spent fuel pool (SFP) criticality analysis to credit a new type of neutron absorber in the SFP for River Bend Station, Unit 1 (RBS). The meeting notice and agenda dated October 2, 2017, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML17283A325. A list of meeting attendees is enclosed.

The licensee presented information in its slideshow (ADAMS Accession No. ML17283A310). Entergy provided an overview of its proposed change to install NETCO's SNAP-IN[®] neutron absorber inserts into the RBS SFP storage cells and its proposed change to the SFP criticality analysis. Entergy explained that the current RBS SFP criticality analysis credits Boraflex neutron absorber material, and the proposed change would remove credit for Boraflex and credit the SNAP-IN[®] inserts in the new criticality analysis. The licensee explained the design of the SNAP-IN[®] inserts, described in Slide 3 of the presentation, and stated that there is an error in the nominal boron carbide (B₄C) content. The slide states there is a 21 percentage by weight of B₄C; however, the correct amount is 21 percent by volume. The licensee stated that new monitoring coupons will accompany the inserts and will follow the most current industry guidance, Nuclear Energy Institute (NEI) 16-03, "Guidance for Monitoring of Fixed Neutron Absorbers in Spent Fuel Pools," Revision 0, May 2017 (ADAMS Accession No. ML17263A133).

Entergy discussed the proposed change in criticality analysis methodology and stated that it will follow the most current NRC and industry guidance, including the Division of Safety Systems Interim Staff Guidance, (DSS-ISG) DSS-ISG-2010-01, Revision 0, "Staff Guidance Regarding the Nuclear Criticality Safety Analysis for Spent Fuel Pools," September 2011; and NEI 12-16, Revision 1, "Guidance for Performing Criticality Analyses of Fuel Storage at Light-Water Reactor Power Plants," Revision 1, dated April 2014 (ADAMS Accession Nos. ML110620086 and ML14112A515, respectively). The criticality analysis methodology will address the current fuel type (GNF2), the next potential fuel product, and all legacy fuel. The licensee also stated that the analysis will include an evaluation of a misload of fuel outside the rack. The NRC staff inquired what other abnormal events are being considered in the analyses. The licensee stated that it will evaluate all events mentioned in the NEI guidance. The licensee stated that it will use the guidance in NEI 16-03 as well as the guidance in NEI 12-16. The NRC staff approved the use of NEI-16-03, Revision 0, by letter dated October 5, 2017 (ADAMS Accession No. ML17262A000).

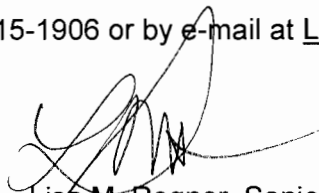
Entergy further discussed the implementation strategy for the proposed change. The licensee stated the new neutron absorbers will be installed in the SFP in addition to the existing boroflex in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.59, "Changes, test, and experiments." While the new neutron absorbers are being added, the existing SFP criticality analysis will continue to be the analysis of record. The installation of the inserts is scheduled for April through November 2019, following the spring refueling outage.

The licensee plans to use a two-step process for NRC review of the proposed change. First, the licensee will submit its updated criticality analysis crediting the new neutron absorbers by the end of the first quarter of 2018. If NRC approves the criticality analysis, the licensee plans to submit a license amendment request by the end of the third quarter in 2018. The NRC staff asked under what process the licensee will submit step one, and if it anticipates any changes in the SFP criticality analysis between the proposed submission in the first quarter of 2018 to the license amendment request. The licensee further stated it does not anticipate the criticality analysis to change; however, it plans to use conservative analysis to encompass any changes that might occur after submission. The licensee referred to a previous two-step approval process used by Indian Point Nuclear Generating. The NRC suggested a followup conversation with the NRC Project Manager to further discuss the proposed two-step process.

The NRC staff stated that the slides did not provide the needed technical detail for the staff to provide feedback on the licensee's analysis methodology. The NRC staff queried in what ways the criticality analysis methodology would deviate from the guidance. The licensee stated that it planned to use precedent and approved guidance in developing the new criticality analysis and therefore, no new or unique aspects were expected. Entergy also stated its plan to have a second pre-submittal meeting around 1 month before the planned submittal of the new criticality analysis to discuss the proposed changes in more detail. The NRC staff encouraged the licensee to have the pre-submittal meeting earlier to ensure the licensee has time to modify its analysis if needed.

Members of the public were not in attendance. Public Meeting Feedback forms were not received.

Please direct any inquiries to me at 301-415-1906 or by e-mail at Lisa.Regner@nrc.gov.



Lisa M. Regner, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosures:
List of Attendees

cc w/encls: Distribution via Listserv

LIST OF ATTENDEES

OCTOBER 12, 2017, MEETING WITH ENTERGY OPERATIONS, INC.

REGARDING INTENT TO CHANGE NEUTRON ABSORBERS FOR THE SPENT FUEL POOL

FOR RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

NAME	ORGANIZATION
Margaret O'Banion	U.S. Nuclear Regulatory Commission (NRC)
Kent Wood	NRC
Alex Chereskin	NRC
Matt Yoder	NRC
Alan Huynh	NRC
Alyson Coates	Entergy Operations, Inc.
Don Lomax	Entergy Operations, Inc.
Brian Holman	Entergy Operations, Inc.
John Giddens	Entergy Operations, Inc.
Kristin Bennett	General Electric – Hitachi

SUBJECT: SUMMARY OF OCTOBER 12, 2017, MEETING WITH ENTERGY OPERATIONS, INC. ON ITS INTENT TO CHANGE NEUTRON ABSORBERS FOR THE RIVER BEND STATION, UNIT 1 SPENT FUEL POOL (CAC NO. MG0268; EPID L-2017-LRM-0040) DATED NOVEMBER 2, 2017

DISTRIBUTION:

PUBLIC	TWertz, NRR
RidsACRS_MailCTR Resource	KWood, NRR
RidsNrrDorlLpl4 Resource	ACHereskin, NRR
RidsNrrPMRiverBend Resource	MYoder, NRR
RidsNrrLAPBlechman Resource	AHuynh, NRR
RidsRgn4MailCenter Resource	MO'Banion, NRR
RidsNrrDssSnpb Resource	TWertz, NRR
RidsNrrDmlrMccb Resource	JBowen, EDO RIV
RidsNrrDeEseb Resource	

ADAMS Accession No.: Meeting Notice ML17283A325; Meeting Summary ML17303A042;
Handouts ML17283A310

*via email

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DSS/SNPB/BC	NRR/DMLR/MCCB/BC
NAME	MO'Banion	PBlechman	RLukes	SBloom
DATE	10/13/2017	10/31/2017	10/30/2017	10/30/2017
OFFICE	NRR/DE/ESEB/BC*	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM	
NAME	BWittick	RPascarelli	LRegner	
DATE	10/31/2017	11/02/2017	11/02/2017	

OFFICIAL RECORD COPY