



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

June 16, 2015

**LICENSEE:** Arizona Public Service Company

**FACILITY:** Palo Verde Nuclear Generating Station, Units 1, 2, and 3

**SUBJECT:** SUMMARY OF MAY 11, 2015, MEETING WITH ARIZONA PUBLIC SERVICE COMPANY TO DISCUSS UPCOMING LICENSE AMENDMENT REQUEST REGARDING A REVISED METHODOLOGY FOR SPENT FUEL POOL CRITICALITY ANALYSIS FOR PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 (TAC NOS. MF5843, MF5844, AND MF5845)

On May 11, 2015, the U.S. Nuclear Regulatory Commission (NRC) staff hosted a Category 1 public meeting with staff from Arizona Public Service Company (APS, the licensee) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss the licensee's upcoming license amendment request (LAR) to revise the spent fuel pool (SFP) criticality analysis for the Palo Verde Nuclear Generating Station, Units 1, 2, and 3 (Palo Verde). The meeting notice and agenda, dated April 30, 2015, are available in Agencywide Documents Access and Management System (ADAMS) at Accession No. ML15120A322. The licensee provided updated presentation slides,<sup>1</sup> which are available at ADAMS Accession No. ML15134A359. The enclosure to this document contains the meeting attendance list.

The licensee presented its plans for licensing changes associated with the updated SFP criticality analysis and the addition of neutron absorbing inserts to the SFP racks. The licensee stated that the SFP criticality analysis was necessary to replace a non-conservative technical specification (TS) analysis and to account for the site's transition to Westinghouse Next Generation Fuel (NGF).

The NRC staff asked if the LARs for the transition to NGF and for the SFP criticality analysis would be 'linked.' Linked actions are those where the NRC approval of one licensing action is contingent upon the NRC approval of another currently under review. Generally, the NRC staff does not accept linked actions because all prerequisite actions should be completed before a licensee submits an application for review. The licensee stated that the current schedule requests review of the SFP criticality analysis LAR prior to the expected completion of the staff's review of the transition to NGF LAR, which means the amendments would be linked. The staff explained why this situation is undesirable and emphasized that the licensee should reevaluate its schedule to complete all prerequisites before submittal of the SFP criticality analysis.

The licensee discussed the expected TS changes which would incorporate new burnup and enrichment curves, new fuel arrays, a possible increase in SFP boron concentration, and a monitoring program for the SFP neutron absorbing materials.

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<sup>1</sup> The draft presentation slides from the licensee were made publicly available prior to the meeting and are available at ADAMS Accession No. ML15126A207.

The NRC and APS staff discussed how to provide for a seamless transition for the plant between the current conditions specified in the TS and the new (i.e., the old criticality analysis and the new). The licensee suggested a temporary license condition allowing for both states: (1) the old criticality analysis before the new fuel is added, and (2) immediately following addition of the new fuel. The NRC staff stated that another discussion on this topic would be useful.

Depletion analysis was discussed including the licensee's depletion code, whether the burnable absorbers in the core and soluble boron are addressed in the analysis, and the depletion uncertainty analysis methodology.

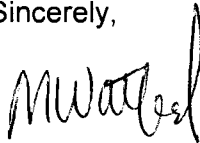
The licensee stated that it would only use NRC staff-approved methodologies and software, and, more specifically, it would not use site-specific software to prevent multiple fuel misloadings. APS staff also discussed six of the possible 2-by-2 fuel assembly array designs but stated that the final decision had not been made on which arrays would be used. The licensee requested to have another pre-application meeting with the NRC staff.

The licensee plans to submit a license amendment in November of this year, and requests that the NRC approve the LAR within 18 to 24 months of the submittal date.

Two members of the public attended the meeting via telephone. There were no public comments. The NRC also did not receive public meeting feedback forms.

If you have any questions, please contact me at (301) 415-1233 or via e-mail at [Margaret.Watford@nrc.gov](mailto:Margaret.Watford@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'MWatford', with a stylized flourish at the end.

Margaret M. Watford, Project Manager  
Plant Licensing Branch IV-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-528, STN 50-529,  
and STN 50-530

Enclosure:  
List of Attendees

cc w/encl: Distribution via Listserv

LIST OF ATTENDEES

MAY 11, 2015, PUBLIC MEETING WITH ARIZONA PUBLIC SERVICE COMPANY (APS)

REGARDING PROPOSED PALO VERDE, UNITS 1, 2, AND 3

SPENT FUEL POOL CRITICALITY ANALYSIS AMENDMENTS

<b>Name</b>	<b>Affiliation</b>
Lisa Regner	U.S. Nuclear Regulatory Commission (NRC)
Kent Wood	NRC
Amrit Patel	NRC
Gursharan Singh	NRC
Khadijah West	NRC
Kamishan Martin	NRC
Thomas Weber	APS
Brian Hansen	APS
Michael Dilorenzo	APS
John Conly	APS
Ed Mercier	Westinghouse Electric Co.
Andrew Blanco	Westinghouse Electric Co.
Derin Smith	Westinghouse Electric Co.
Marvin Lewis	Public
Donna Gilmore	Public

Enclosure

The NRC and APS staff discussed how to provide for a seamless transition for the plant between the current conditions specified in the TS and the new (i.e., the old criticality analysis and the new). The licensee suggested a temporary license condition allowing for both states: (1) the old criticality analysis before the new fuel is added, and (2) immediately following addition of the new fuel. The NRC staff stated that another discussion on this topic would be useful once the conditions are better understood and the appropriate NRC staff is present.

Depletion analysis was discussed including the licensee's depletion code, whether the burnable absorbers in the core and soluble boron are addressed in the analysis, and the depletion uncertainty analysis methodology.

The licensee stated that it would only use NRC staff-approved methodologies and software and, more specifically, it would not use site-specific software to prevent multiple fuel misloadings. APS staff also discussed six of the possible 2-by-2 fuel assembly array designs but stated that the final decision had not been made on which arrays would be used. The licensee requested to have another pre-application discussion with the NRC staff. The NRC staff stated it would support another public meeting.

The licensee proposes to submit in November of this year, and requests that the NRC approve the LAR within 18 to 24 months of the submittal date.

Two members of the public attended the meeting via telephone. There were no public comments. The NRC also did not receive public meeting feedback forms.

If you have any questions, please contact me at (301) 415-1233 or via e-mail at [Margaret.Watford@nrc.gov](mailto:Margaret.Watford@nrc.gov).

Sincerely,  
*/RA/*

Margaret M. Watford, Project Manager  
Plant Licensing Branch IV-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-528, STN 50-529,  
and STN 50-530

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NCarte, NRR/DE/EICB

HVu, NRR/DE/EICB

**ADAMS Accession Nos.:** Meeting Notice ML15120A322; Meeting Slides ML15134A359; Meeting Summary ML15140A314  
\* concurrence by email

OFFICE	NRR/DORL/LPL4-1/PM	NRR/DORL/LPL4-1/PM	NRR/DORL/LPL4-1/LA	NRR/DSS/STSB/BC	NRR/DSS/SRXB/BC
NAME	LRegner	MWatford	JBurkhardt	RElliott	CJackson (KWood for)
DATE	5/19/15	5/19/15	5/20/15	6/9/15	6/15/15
OFFICE	NRR/DE/EICB/BC *	NRR/DRA/ARCB/BC	NRR/DORL/LPL4-1/BC	NRR/DORL/LPL4-1/PM	
NAME	JThorp (DRahn for)	UShoop	MMarkley	MWatford	
DATE	5/19/15	5/21/15	6/16/15	6/16/15	

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