



Maria L. Laca
Vice President, Nuclear
Regulatory & Oversight

**Palo Verde
Nuclear Generating Station**
P.O. Box 52034
Phoenix, AZ 85072
Mail Station 7605
Tel 623.393.6491

102-07112-MLL/JR
September 15, 2015

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Sirs:

Subject: **Palo Verde Nuclear Generating Station (PVNGS) Unit 2
Docket No. STN 50-529
Response to Request for Additional Information Regarding
Exigent License Amendment Request to Amend Technical
Specification Surveillance Requirement 3.1.5.3**

By letter number 102-07109, dated September 4, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15247A518), Arizona Public Service Company (APS) requested a license amendment to revise PVNGS Technical Specification (TS) Surveillance Requirement (SR) 3.1.5.3 for Unit 2. The proposed amendment would add a note to SR 3.1.5.3, Control Element Assembly (CEA) freedom of movement surveillance, such that Unit 2 CEA 88 may be excluded from the last remaining quarterly performance of the SR in Unit 2, Cycle 19. Repairs to CEA 88 will be completed during the 2R19 refueling outage currently scheduled to commence on October 10, 2015.

The U.S. Nuclear Regulatory Commission (NRC) staff provided a request for additional information (RAI) by e-mail dated September 11, 2015, to complete its review of the license amendment request. A clarification call relating to the RAI was held on September 11, 2015, with participants from APS and the NRC. The NRC staff requested the APS response to the RAI by September 15, 2015.

The enclosure to this letter provides the APS response to the NRC RAI. The RAI response remains consistent with the conclusion of the no significant hazards consideration determination (10 CFR 50.91(a), *Notice for public comment*) provided in the original license amendment request (LAR).

By copy of this letter, this submittal is being forwarded to the Arizona Radiation Regulatory Agency (ARRA) pursuant to 10 CFR 50.91(b)(1).

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No commitments are being made by this letter. Should you need further information regarding this submittal, please contact Michael D. Dilorenzo, Licensing Section Leader, at (623) 393-3495.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 15, 2015 .
(Date)

Sincerely,

MLL/JR

Enclosure: Response to Request for Additional Information Regarding Exigent License Amendment Request to Amend Technical Specification Surveillance Requirement 3.1.5.3

cc:	M. L. Dapas	NRC Region IV Regional Administrator
	M. M. Watford	NRC NRR Project Manager for PVNGS
	L. J. Klos	NRC NRR Project Manager
	B. K. Singal	NRC NRR Project Manager
	C. A. Peabody	NRC Senior Resident Inspector for PVNGS
	A. V. Godwin	Arizona Radiation Regulatory Agency
	T. Morales	Arizona Radiation Regulatory Agency

ENCLOSURE

**Response to Request for Additional Information Regarding
Exigent License Amendment Request to Amend Technical
Specification Surveillance Requirement 3.1.5.3**

Enclosure

Response to Request for Additional Information Regarding
Exigent License Amendment Request to Amend Technical Specification
Surveillance Requirement 3.1.5.3

Introduction

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The NRC request is stated first followed by the APS response.

NRC Request 1

The licensee's amendment request states that the proposed amendment is necessary due to a degrading upper gripper coil (UGC). The licensee further noted in Section 3.1, "Description/Justification," of the submittal that "the coil will further degrade with continued use or if energized". The amendment states that administrative controls have been put in place to only energize the UGC if necessary through the remainder of Cycle 19. Please describe in detail what administrative controls are in place to prevent energizing the UGC and causing further degradation.

APS Response

Operations leadership has issued a Unit 2 standing order which includes instructions to not move any Control Element Assembly (CEA) that is currently on the lower gripper without permission from the Unit 2 Operations Manager. Standing orders are reviewed at the start of each shift by the operating crews during turnover activities. In addition to the Unit 2 standing order, the mode select switch for the Control Element Assembly Drive Mechanism System (CEDMCS) has been flagged with an equipment status tag to draw attention to the CEA 88 UGC condition and the associated standing order.

Enclosure

Response to Request for Additional Information Regarding
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Surveillance Requirement 3.1.5.3

NRC Request 2

The licensee's submittal states in Section 3.1 that "should an automatic CEA motion demand occur, the UGC for CEA 88 would re-energize and the CEA should move with its group". How do the administrative controls address the possible automatic CEA motion for CEA 88? What would cause an automatic motion of CEA 88 for the remainder of Cycle 19?

APS Response

The administrative controls that have been put in place for CEA 88 in Unit 2 will not impact or prevent automatic CEA motion. The administrative controls ensure operator manual movement of CEA 88 is not done without knowledge of the current condition of the CEA 88 UGC.

The current condition of the UGC for Unit 2 CEA 88 does not impact or prevent automatic CEA motion (where the coils of CEA 88 are de-energized) including the following two conditions:

- In a Reactor Power Cutback (RPCB) regulating groups 4 and 5 fully insert into the core reducing reactor power to approximately 60 percent. The established standing order directs the operating crew to take the unit offline from this condition which eliminates the need for CEA 88 movement post RPCB.
- In a reactor trip all CEAs insert into the core.

Automatic CEA motion demand that would require the CEA 88 UGC to energize would come from the Reactor Regulating System working with the CEDMCS to match reactor temperature to secondary plant power. At this time in core life the need for the Unit 2 CEA 88 coils to be energized is highly unlikely because the demand for motion would first be sent to regulating group 5 which would need to insert 90 inches (about 10 percent of reactor power) before regulating group 4 would receive an automatic motion demand.

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NRC Request 3 (Item 1)

The licensee's amendment request states in Section 3.2 that "a parametric study was conducted from 450 effective full power days (EFPD) to the end of Cycle 19 to determine the minimum SDM [shutdown margin] that would exist following a reactor trip assuming that both CEA 88 and the CEA of the highest reactivity worth fail to insert." Further, the application states that "the calculations were based on the same models and methods as those used to perform the TS surveillances." The NRC staff has the following questions:

1. *What date does 450 EFPD correspond to in Cycle 19 (i.e. August 27, 2015)?*

APS Response

In Unit 2, Cycle 19, 450 EFPD corresponds to August 7, 2015. This timeframe encompasses and is conservative for the remaining portion of Unit 2, Cycle 19.

NRC Request 3 (Item 2)

2. *Are the models and methods used to perform the TS surveillances and subsequently the parametric study used to determine the minimum SDM of 7.27% $\Delta k/k$ NRC approved?*

APS Response

APS used CASMO-4/SIMULATE-3 as the primary core physics predictive tool to determine the minimum SDM of 7.27% $\Delta k/k$. The NRC approved the use of CASMO-4/SIMULATE-3 for APS to perform nuclear design calculations in License Amendment No. 132 and is currently listed in PVNGS TS 5.6.5.b.11.