10 CFR 50.90

A subsidiary of Pinnacle West Capital Corporation

Palo Verde Nuclear Generating Station

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102-06255-JHH/CJS
September 24, 2010

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

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528, 50-529, and 50-530
Response to Electrical Branch Request for Additional Information (RAI) - Request to Amend Technical Specification (TS) 3.8.7, "Inverters – Operating," to Extend Completion Time for Restoration of an Inoperable Inverter (TAC Nos. ME2337, ME2338, and ME2339)**

In accordance with 10 CFR 50.90, Arizona Public Service Company (APS) submitted letter number 102-06069, dated September 28, 2009 [Agencywide Documents Access and Management System (ADAMS) Accession No. ML092810227], requesting an amendment to Operating License Nos. NPF-41, NPF-51, and NPF-74, for PVNGS Units 1, 2, and 3, respectively. Specifically, the proposed license amendment would revise Technical Specification (TS) Required Action A.1 of TS 3.8.7, "Inverters – Operating," to extend the Completion Time for restoration of an inoperable vital alternating current (AC) inverter from 24 hours to 7 days.

In letter number 102-06209, dated June 24, 2010 (ADAMS Accession No. ML101880263), APS provided responses to the Nuclear Regulatory Commission (NRC) staff Request for Additional Information (RAI) dated April 20, 2010. On July 15, 2010, the NRC staff provided APS a second RAI to assist in the evaluation of the license amendment request. APS provided the second RAI response, related to probabilistic risk analysis (PRA) issues, in letter number 102-06248, dated September 3, 2010.

During a telephone conference call on September 22, 2010, the NRC staff requested that APS provide detailed schedule information including sub-tasks and durations for inverter corrective maintenance. This information was provided by e-mail to the NRC staff on September 23, 2010. The enclosure to this letter provides the formal APS response to the NRC request.

The basis for the APS determination that the proposed license amendment does not involve a significant hazards consideration, under the standards set forth in A001

10 CFR 50.92(c), is unchanged as a result of the additional information provided in this response.

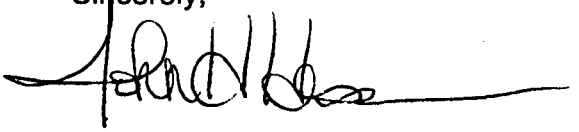
By copy of this letter, this submittal is being forwarded to the Arizona Radiation Regulatory Agency (ARRA) pursuant to 10 CFR 50.91(b)(1).

No commitments are being made by this letter. Should you need further information regarding this response, please contact Russell A. Stroud, Licensing Section Leader, at (623) 393-5111.

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

Executed on 9/24/10 .
(Date)

Sincerely,



JHH/RAS/CJS/gat

Enclosure: APS Response to NRC Electrical Branch Request for Additional Information

cc:

E. E. Collins Jr.	NRC Region IV Regional Administrator
J. R. Hall	NRC NRR Senior Project Manager
L. K. Gibson	NRC NRR Project Manager
J. H. Bashore	NRC Senior Resident Inspector (acting) for PVNGS
A. V. Godwin	Arizona Radiation Regulatory Agency
T. Morales	Arizona Radiation Regulatory Agency

ENCLOSURE

APS Response to NRC Electrical Branch Request for Additional Information

ENCLOSURE

APS Response to NRC Electrical Branch Request for Additional Information

Introduction

By letter number 102-06069, dated September 28, 2009, Arizona Public Service Company (APS) submitted a license amendment request for the Palo Verde Nuclear Generating Station (PVNGS), Units 1, 2, and 3. The proposed amendment would revise Technical Specification (TS) 3.8.7, "Inverters - Operating," to extend the allowable Completion Time for Required Action A.1, applicable when one inverter is inoperable, from 24 hours to 7 days.

In letter number 102-06209, dated June 24, 2010, APS provided responses to the Nuclear Regulatory Commission (NRC) staff Request for Additional Information (RAI) dated April 20, 2010. On July 15, 2010, the NRC staff provided APS a second RAI to assist in the evaluation of the license amendment request. APS provided responses to the July 15, 2010, NRC staff RAI on probabilistic risk assessment (PRA) issues by letter number 102-06248, dated September 3, 2010.

During a telephone conference call on September 22, 2010, the NRC staff requested that APS provide detailed schedule information including sub-tasks and durations for inverter corrective maintenance. This information was provided by e-mail to the NRC staff on September 23, 2010. This enclosure provides the formal APS response to the NRC request.

The basis for the APS determination that the proposed license amendment does not involve a significant hazards consideration, under the standards set forth in 10 CFR 50.92(c), is unchanged as a result of the additional information provided in this response.

NRC Request – April 20, 2010, Original Electrical RAI Question Number 2

Describe in detail the maintenance plan/schedule to conduct online corrective maintenance, which is cited in the LAR as justification for the extension of the completion time from 24 hours to 7 days. In the response, include a description of all post-maintenance and surveillance testing necessary to return the inverter to operable status.

NRC Request – September 22, 2010, Request for Additional Clarification

While the licensee's response to RAI question 2 provided some level of a qualitative discussion on the maintenance plan to address inverter emergent maintenance, it did not provide the detailed schedule information justifying 7 days (from 1 day). In order to complete its review, the staff needs the licensee to provide a detailed justification for the requested 7 day duration. In its response, the licensee is requested to provide the sub-tasks and durations and how they are related in time (critical path). The staff expects the licensee provide real 'time' data obtained from plant operating experience.

APS Response

Introduction

The response to the original NRC question stated that an objective of the original LAR was to provide a technical basis for the Technical Specification LCO action completion time that is risk-informed, rather than qualitative. The basis for the 7-day extended completion time is the quantitative, risk-informed evaluation provided in the LAR and the RAI responses. APS does not expect that corrective maintenance activities would typically require the full 7-day completion time. While the extended completion time proposed by the LAR could permit routine scheduled maintenance at power, that is not the primary objective of the proposed amendment.

Preventive maintenance on the inverters is currently performed during refueling outages. There are no current plans to perform corrective or routine preventive maintenance on a scheduled basis at power. Should the need for such maintenance be identified as a result of component performance, the necessary corrective or preventive maintenance would be planned and scheduled at that time.

An effect of the LAR will be to permit more time (7-days versus 24-hours) for emergent corrective maintenance and post-maintenance testing, should such a need arise during power operations. This additional time will provide for a more safe, systematic and integrated approach to corrective maintenance with the associated time restraints based upon quantified plant risk and not past qualitative judgment.

Typical Inverter Corrective Maintenance Schedule Information

A qualitative discussion of the major activities required to perform corrective maintenance on the inverters was provided in the original RAI response. The following is a detailed schedule of a hypothetical inverter corrective maintenance scenario, recognizing that the actual equipment maintenance required for any given emergent issue would be different in each case.

If the corrective maintenance included the need to replace a card cage, which has been performed in the past on an inverter, it would likely add approximately 12 hours to this scenario. In addition, should major magnetic components require replacement, which involves significant cabinet internals disassembly, and component testing, this scenario could reasonably be extended an additional 24 hours or more.

Should the initial troubleshooting game plan not identify the cause of failure, the plan would have to be revisited and formally revised to better identify the cause. The multi-discipline team revision process could require an additional 6 to 12 hours.

ENCLOSURE

APS Response to NRC Electrical Branch Request for Additional Information

POSTULATED SCENARIO: AT MIDNIGHT ON OCT 1 THERE IS A FAILURE OF PNBN12 INVERTER WITH NO KNOWN CAUSE.

ACTIVITY DESCRIPTION	START	FINISH
ASSEMBLE ISSUE RESOLUTION TEAM FOR FAILURE OF INVERTER PNBN12 (6 HR)	01 OCT 00:00	01 OCT 06:00
DEVELOP TROUBLE SHOOTING GAME PLAN FOR FAILURE OF INVERTER PNBN12 (12 HR)	01 OCT 06:00	01 OCT 18:00
PLAN TROUBLE SHOOTING WORK ORDER FOR PNBN12 (6 HRS)	01 OCT 18:00	02 OCT 00:00
IMPLEMENT TROUBLE SHOOTING GAME FOR FAILURE OF INVERTER PNBN12 (12 HR)	02 OCT 00:00	02 OCT 12:00
HANG PERMIT FOR INVERTER PNBN12 REWORK (3 HR)	02 OCT 12:00	02 OCT 15:00
PLAN REWORK WORK ORDER FOR INVERTER PNBN12 AND PROCURE PARTS (12 HR)	02 OCT 15:00	03 OCT 03:00
REMOVE CARDS & SEND TO REWORK SHOP TO REPLACE CAPS (8 HR)	03 OCT 03:00	03 OCT 11:00
REMOVE CAPS AND REPLACE ON INVERTER BOARDS (36 HR)	03 OCT 11:00	04 OCT 23:00
INSTALL REWORKED CARDS IN INVERTER (8 HR)	04 OCT 23:00	05 OCT 07:00
PERFORM DE-ENERGIZED TESTING OF INVERTER PNBN12 (12 HR)	05 OCT 07:00	05 OCT 19:00
RELEASE PERMIT FOLLOWING INVERTER REWORK (3 HR)	05 OCT 19:00	05 OCT 22:00
ENERGIZE INVERTER PNBN12 (2 HR)	05 OCT 22:00	06 OCT 00:00
PERFORM ENERGIZED CALS/TESTING (12 HR)	06 OCT 00:00	06 OCT 12:00

TOTAL TIME: 132 HOURS (5 DAYS AND 12 HOURS)