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U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Reference: Arizona Public Service (APS) Letter 102-06233, *Responses to Follow-up Request for Additional Information Regarding Small Bore Piping Socket Welds and Other Items for the Review of the PVNGS License Renewal Application, and License Renewal Application Amendment No. 21*, dated July 30, 2010

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528, 50-529, and 50-530
License Renewal Commitment 59 Change Related to Cavitation Erosion**

The purpose of this letter is to inform the Nuclear Regulatory Commission that Arizona Public Service Company (APS) has revised license renewal commitment number 59 listed in PVNGS Updated Final Safety Analysis Report (UFSAR) Table 19.5-1 related to cavitation erosion on susceptible and potentially susceptible safety injection system components.

The original commitment described a plan to perform time-based replacement of a section of high pressure safety injection (HPSI) system recirculation piping in each PVNGS unit which was found to be susceptible to cavitation erosion. The frequency of the time-based replacement was specified as 7.5 years. The original commitment also provided the schedule for completion of extent of condition inspections of other safety injection system piping locations which were potentially susceptible to cavitation and specified use of a similar replacement plan should other locations be confirmed to be susceptible to cavitation erosion.

The commitment was revised to establish a 6 cycle condition-based monitoring plan which will perform an engineering inspection of the confirmed susceptible piping locations (one location in each PVNGS unit) and perform piping replacement as necessary in lieu of a time-based replacement frequency of 7.5 years. The condition-based monitoring plan will be implemented in accordance with the station's preventive maintenance program.

This commitment change to perform condition-based monitoring in lieu of time-based replacement is based upon the following:

1. The HPSI recirculation piping (downstream of throttle valve JSIBUV0667 on piping PSIBL112, several inches past the first 90-degree elbow) was confirmed to be susceptible to cavitation erosion.
2. The susceptible portion of HPSI recirculation piping has been replaced in each PVNGS unit.

3. The original license renewal commitment and response was made prior to completion of corrective actions (i.e. ultrasonic pipe exams) which subsequently improved the station's understanding of the conditions.
4. Ultrasonic testing (UT) inspections of the replaced piping sections were completed on each unit. These were completed within 6 years of the initial piping replacement. The original 7.5 year piping replacement schedule was found to be unwarranted based upon actual condition of the replaced recirculation piping. An effectiveness review determined that a 6 cycle condition-based inspection (UT inspection and piping replacement only as necessary) plan is the correct strategy. No subsequent pipe replacements were needed or conducted due to the UT inspection results.
5. The piping will be managed by existing Aging Management Programs (AMP):
 - a. Water Chemistry Aging Management Program (AMP) as described in UFSAR Section 19.1.2 (License Renewal Amendment B2.1.2)
 - b. One-Time Inspection AMP as described in UFSAR Section 19.1.16 (License Renewal Amendment B2.1.16)

An additional change to the commitment has removed wording which described the plans for completion of inspections in each unit on other system locations which were potentially susceptible to cavitation. The inspections were completed and no additional component replacement plans were determined to be necessary.

Original license renewal commitment 59, in the UFSAR Table 19.5-1 was written as follows:

As documented in CRAI 3337611, Engineering Study 13-MS-B089, "Cavitation in Safety Injection System," APS identified 26 components and associated piping in each PVNGS unit potentially susceptible to cavitation under design basis maximum flow conditions. One location in each unit, the HPSI recirculation piping downstream of throttle valve JSIBUV0667, has been confirmed to be susceptible to cavitation erosion, and a 7.5-year time-based replacement schedule described below has been established. All of the remaining 25 locations identified as potentially susceptible to cavitation in Unit 2, 20 of the locations in Unit 1, and 15 of the locations in Unit 3 have been inspected by ultrasonic testing (UT) and demonstrated no degradation. The remaining five locations in Unit 1 are scheduled to be inspected in the Unit 1 fall 2011 refueling outage. Of the remaining ten locations in Unit 3, five will be inspected in the Unit 3 fall 2010 outage and five will be inspected in the Unit 3 spring 2012 outage. Therefore, the inspections in all three units will be completed no later than June 30, 2012. If any of the remaining components and associated piping is found to be susceptible to cavitation or a form of flow-related degradation, it will be incorporated into a replacement plan similar to that for the HPSI recirculation piping downstream of throttle valve JSIBUV0667. (RCTSAI 3497597)

The license renewal commitment was revised as follows:

One location in each unit, the HPSI recirculation piping downstream of throttle valve JSIBUV0667 on piping PSIBL112, several inches past the first 90-degree elbow, is susceptible to cavitation erosion. A 6 cycle condition-based monitoring plan (inspection and then replacement as necessary) will be established in accordance with the preventive maintenance program (including the program defined grace period) to address this condition. (RCTSAI 3497597)

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Presently, UFSAR Table 19.5-1 reflects commitment 59 with the pre-change description and reflects "completed" in the implementation column. The existing description will be changed to the revised commitment wording and the implementation column entry will change from "completed" to the new commitment due date of 12/15/2015, which is the date the monitoring plan will be established in the preventive maintenance program. APS will update the PVNGS UFSAR discussion of this license renewal commitment in accordance with the requirements of 10 CFR 50.71(e).

Should you need further information regarding this submittal, please contact Thomas N. Weber, Nuclear Regulatory Affairs Department Leader, at (623) 393-5764.

Sincerely,

MLL/MDD/akf

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| cc: | M. L. Dapas | NRC Region IV Regional Administrator |
| | M. M. Watford | NRC NRR Project Manager for PVNGS |
| | C. A. Peabody | NRC Senior Resident Inspector for PVNGS |
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