A subsidiary of Pinnacle West Capital Corporation

Palo Verde Nuclear
Generating Station

John H. Hesser
Vice President
Nuclear Engineering

Tel: 623-393-5553
Fax: 623-393-6077

Mail Station 7605
PO Box 52034
Phoenix, Arizona 85072-2034

102-06324-JHH/GAM
February 25, 2011

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
Correction to Response to Request for Additional Information for the Review of the PVNGS License Renewal Application (LRA), and LRA Amendment No. 30

By letter no. 102-06285, dated November 23, 2010 (NRC Agencywide Document Access and Management System [ADAMS] Accession No. ML103420101), Arizona Public Service Company (APS) submitted responses to a request for additional information regarding steam generators (SGs) related to the PVNGS license renewal application (LRA). A correction to Response (1) to the RAI is provided in Enclosure 1 to identify the SG divider plate bar material in the Unit 2 SGs as Alloy 600.

Amendment No. 30 of the LRA, provided in Enclosure 2, contains a revision to Commitment No. 61 in LRA Table A4-1 to address the Unit 2 SG divider bar material. In addition, LRA Amendment No. 30 includes an update to reflect the completion of Commitment No. 60.

Should you need further information regarding this submittal, please contact Glenn Michael, Licensing Engineer for License Renewal, at (623) 393-5750.

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

Executed on 2/25/11
(date)

Sincerely,

JHH/RAS/GAM/gat

A138
NRR

Enclosures:

1. Correction to Response to Request for Additional Information Regarding Steam Generators

2. Palo Verde Nuclear Generating Station License Renewal Application Amendment No. 30

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
M. A. Brown	NRC Senior Resident Inspector for PVNGS
L. M. Regner	NRC License Renewal Project Manager
G. A. Pick	NRC Region IV (electronic)

ENCLOSURE 1

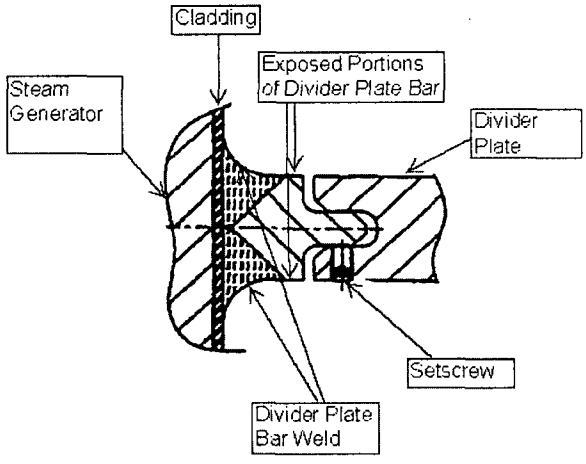
Correction to Response to Request for Additional Information Regarding Steam Generators

Enclosure 1
Correction to Response to Request for Additional Information Regarding Steam Generators

By letter no. 102-06285, dated November 23, 2010 (NRC Agencywide Document Access and Management System [ADAMS] Accession No. ML103420101), Arizona Public Service Company (APS) submitted responses to a request for additional information regarding steam generators (SGs) related to the PVNGS license renewal application (LRA). Response (1) to the RAI stated that the SG primary side components (two divider plates, divider plate bars, patch plates, bolts, and screws) are manufactured from Alloy 690 material. This conclusion was based on the review of Unit 3 as-built documentation and the understanding that the SGs in all units were built to the same specifications. However, it was recently determined from reviewing each unit's SG as-built documentation that the divider plate bars in Unit 2 were made of Alloy 600 as a result of a change report issued during fabrication. As-built documentation has been reviewed to determine if there were other differences in SG primary-side materials between the units, and no other differences were found. However, it was found that the divider bar set screws and the divider patch plate cap screws in the SGs are made of materials other than Alloy 690. The need to correct the RAI response has been entered into the PVNGS corrective action program as Palo Verde Action Request (PVAR) 3588796.

In order to address potential primary water stress corrosion cracking (PWSCC) of the Unit 2 Alloy 600 SG divider plate bars, Commitment No. 61 in LRA Table A4-1 has been expanded, as shown in LRA Amendment No. 30 in Enclosure 2, to include the Unit 2 SG divider plate bars within the scope of the committed analyses, and the exposed portions of the Unit 2 SG divider plate bars within the scope of the committed inspections. The diagram below shows the exposed portions of the divider plate bars that would be accessible for inspection.

Inspection or analysis of the screws is not being included in this commitment because any possible PWSCC that may occur in the screws would not be expected to propagate to the reactor coolant pressure boundary material.



ENCLOSURE 2

Palo Verde Nuclear Generating Station
License Renewal Application
Amendment No. 30

LRA Section
Table A4-1, Item 60
Table A4-1, Item 61

Palo Verde Nuclear Generating Station
License Renewal Application
Amendment No. 30

LRA Table A4-1, License Renewal Commitment No. 60 (deleted text shown in strikethrough and new text underlined):

Item No.	Commitment	LRA Section	Implementation Schedule
60	~~The reactor coolant system transient and cycle tracking procedure 73ST-9RC02 and UFSAR Section 3.9.1 will be enhanced to discuss corrective actions that need to be taken prior to ASME Section III fatigue design limits being exceeded and to state that corrective actions may be required for other fatigue-related analyses, such as certain ASME Section XI supplemental fatigue flaw growth or cycle-dependent fracture mechanics evaluations that are dependent on the number of occurrences of design transients.~~ Completed (RCTSAI 3531679)	~~Response to Draft RAI 4.3-19 in APS letter no. 102-06263, dated October 13, 2010~~	~~11/30/10~~

Palo Verde Nuclear Generating Station
License Renewal Application
Amendment No. 30

LRA Table A4-1, License Renewal Commitment No. 61 (new text underlined):

Item No.	Commitment	LRA Section	Implementation Schedule
61	In response to the NRC staff concern regarding potential failure of the SG reactor coolant system pressure boundary due to possible PWSCC of SG divider plate bar welds <u>in all units and the divider plate bars in Unit 2</u>, APS commits to perform one of the following three resolution options: 1. Perform an inspection of each Palo Verde Unit 1, 2, and 3 steam generator to assess the condition of the divider plate bar welds <u>in all units, and the exposed portions of the divider plate bars in Unit 2</u>. The examination technique(s) will be capable of detecting PWSCC in the divider plate bar welds <u>in all units, and in the exposed portions of the divider plate bars in Unit 2</u>. OR 2. Perform an analytical evaluation of the steam generator divider plate bar welds <u>in all units, and the divider plate bars in Unit 2,</u> in order to establish a technical basis which concludes that the SG reactor coolant system pressure boundary is adequately maintained with the presence of steam generator divider plate bar weld cracking. OR 3. If results of industry and NRC studies and operating experience document that potential failure of the SG reactor coolant system pressure boundary due to PWSCC cracking of SG divider plate bar welds <u>and the divider plate bars in Unit 2</u> is not a credible concern, this commitment will be revised to reflect that conclusion. (RCTSAIs 3561775 [U1], 3561777 [U2], 3561779 [U3])	Response to Draft RAI Regarding Steam Generators in APS letter No. 102-06285, dated November 23, 2010. <u>and</u> <u>Supplemental Response to Draft RAI Regarding Steam Generators in APS letter No. 102-06324, dated February 25, 2011.</u>	If Option (1) is selected, it will be completed for each SG in each unit during an SG tube eddy-current inspection outage between 20 and 25 calendar years of SG operation. If Option (2) or Option (3) is selected, it will be completed prior to September 1, 2023.