



A subsidiary of Pinnacle West Capital Corporation

Palo Verde Nuclear
Generating Station

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102-06331-JHH/GAM
March 17, 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
Clarification to Response to Request for Additional Information for
the Review of the PVNGS License Renewal Application (LRA), and
LRA Amendment No. 31**

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 the RAI response, and LRA Amendment No. 30 containing a change to Commitment No. 61 was provided in letter no. 102-06324, dated February 25, 2011 (ADAMS Accession No. ML110670168).

Enclosure 1 contains a clarification to Commitment No. 61. Clarification is also provided regarding the materials of the SG divider patch plate cap screws and divider bar set screws. Amendment No. 31 of the LRA in Enclosure 2 contains the updated LRA Commitment No. 61.

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

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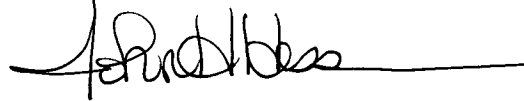
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Clarification to Response to Request for Additional Information for the Review of the
PVNGS License Renewal Application (LRA), and LRA Amendment No. 31
Page 2

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

Executed on 3/17/11
(date)

Sincerely,



JHH/RAS/GAM/gat

Enclosures:

1. Clarification to Response to Request for Additional Information Regarding Steam Generators
2. Palo Verde Nuclear Generating Station License Renewal Application Amendment No. 31

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)

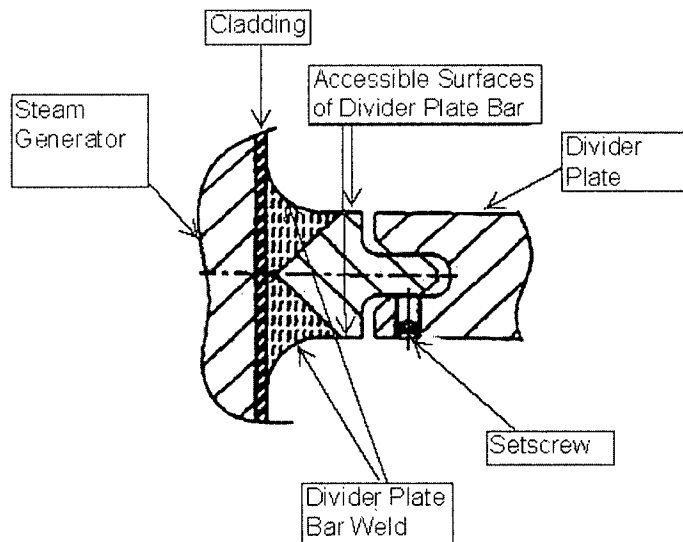
ENCLOSURE 1

**Clarification to Response to Request for Additional
Information Regarding Steam Generators**

Enclosure 1
Clarification 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). A correction to the RAI response and LRA Amendment No. 30 containing a change to Commitment No. 61 was provided in letter no. 102-06324, dated February 25, 2011 (ADAMS Accession No. ML110670168).

In order to clarify the inspection of the divider plate bars in the Unit 2 SGs, Commitment No. 61 in LRA Table A4-1 is changed from inspecting the "exposed portions" of the divider plate bars to inspecting "accessible surfaces" of the divider plate bars. This change, which is intended to use standard industry terminology to refer to surfaces that can be accessed for examination, is shown in LRA Amendment No. 31 in Enclosure 2.



The February 25, 2011, letter stated that the divider bar set screws and the divider patch plate cap screws in the SGs are made of materials other than Alloy 690. Although the SGs' parts lists specified the use of either Alloy 600 or Alloy 690 for the divider patch plate cap screws, further reviews have identified that the installed divider patch plate cap screws in all SGs are made of Alloy 690. The need to submit this clarification is being tracked as Palo Verde Action Request (PVAR) No. 3666912. The divider bar set screws are made of stainless steel and are under a compressive stress, and therefore are not susceptible to primary water stress corrosion cracking (PWSCC). Further, the set screws are welded in place.

ENCLOSURE 2

Palo Verde Nuclear Generating Station License Renewal Application Amendment No. 31

LRA Section
Table A4-1, Item 61

**Palo Verde Nuclear Generating Station
License Renewal Application
Amendment No. 31**

LRA Table A4-1, License Renewal Commitment No. 61 (new text underlined, deleted text shown with strike-through):

Item No.	Commitment	LRA Section	Implementation Schedule
61	<p>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 in all units and the divider plate bars in Unit 2, APS commits to perform one of the following three resolution options:</p> <ol style="list-style-type: none"> 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 in all units, and the exposed portions <u>accessible surfaces</u> of the divider plate bars in Unit 2. The examination technique(s) will be capable of detecting PWSCC in the divider plate bar welds in all units, and in the exposed portions <u>accessible surfaces</u> of the divider plate bars in Unit 2. <p>OR</p> <ol style="list-style-type: none"> 2. Perform an analytical evaluation of the steam generator divider plate bar welds in all units, and the divider plate bars in Unit 2, 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. <p>OR</p> <ol style="list-style-type: none"> 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 and the divider plate bars in Unit 2 is not a credible concern, this commitment will be revised to reflect that conclusion. <p>(RCTSAIs 3561775 [U1], 3561777 [U2], 3561779 [U3])</p>	<p>Response to Draft RAI Regarding Steam Generators in APS letter No. 102-06285, dated November 23, 2010.</p> <p>and</p> <p>Supplemental Response to Draft RAI Regarding Steam Generators in APS letter No. 102-06324, dated February 25, 2011.</p> <p>and</p> <p>Clarification in APS letter No. 102-06331, dated March 17, 2011.</p>	<p>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.</p> <p>If Option (2) or Option (3) is selected, it will be completed prior to September 1, 2023.</p>