



*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

102-05727-JHH/RJR  
August 02, 2007

Mr. James E. Dyer  
Director, Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

- References: (1) Letter 102-05640-CDM/TNW/RJR, dated January 31, 2007, from C. D. Mauldin, Arizona Public Service Company (APS), to NRC, "Mitigation of Alloy 600/82/182 Pressurizer Butt Welds"
- (2) Letter NRR-07-004, dated March 15, 2007, from J. E. Dyer, NRC to Randall K. Edington, APS, "Confirmatory Action Letter = Palo Verde Nuclear Generating Station, Units 1, 2 and 3 (TAC NOS. MD4169, MD4170, AND MD4171)"
- (3) Electric Power Research Institute (EPRI) final report, dated July 31, 2007, from C. Harrington, EPRI, to J. Riley, Nuclear Energy Institute (NEI), "Advanced FEA Evaluation of Growth of Postulated Circumferential PWSCC Flaws in Pressurizer Nozzle Dissimilar Metal Welds, (MRP-216): Evaluations Specific to Nine Subject Plants, 1015383"
- (4) Letter dated August 1, 2007, from A. Marion, NEI, to J. E. Dyer, NRC, "Transmittal of EPRI Report 'Advanced FEA Evaluation of Growth of Postulated Circumferential PWSCC Flaws in Pressurizer Nozzle Dissimilar Metal Weld (MRP-126 [216]): Evaluations Specific to Nine Subject Plants'"

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Unit 2  
Docket No. STN 50-529  
Mitigation of Alloy 600/82/182 Pressurizer Butt Welds in 2008**

In the Reference 1 submittal, Arizona Public Service Company (APS) provided the plans and schedule for the mitigation of pressurizer Alloy 600/82/182 butt welds for Palo Verde Units 1, 2 and 3. In that submittal, APS stated that, based on the current refueling outage schedule, Palo Verde Unit 2 would complete the mitigation action in the

Allo  
Rec'd LEO  
8/29/07

Mr. James E. Dyer  
Director, Office of Nuclear Reactor Regulation  
PVNGS Unit 2 -Mitigation of Alloy 600/82/182  
Pressurizer Butt Welds in 2008  
Page 2

spring of 2008; i.e., beyond the industry-sponsored Materials Reliability Program MRP-139 implementation deadline of December 31, 2007.

Reference 1 also provided regulatory commitments regarding the Palo Verde Unit 2 schedule for mitigation actions, enhanced Reactor Coolant System (RCS) leakage monitoring, and inspection reporting requirements. Also, specific to Palo Verde Unit 2, a commitment was made to adopt contingency plans to shut down by December 31, 2007 to perform weld overlays, if technical information, being developed by EPRI through advanced finite element analyses, does not provide reasonable assurance to the NRC that primary water stress corrosion cracking (PWSCC) conditions will remain stable and not lead to rupture without significant time from the onset of detectable leakage. These regulatory commitments were confirmed in the Reference 2 Confirmatory Action Letter (CAL).

EPRI's advanced finite element analysis, Reference 3, was recently completed and submitted to the NRC by Reference 4. The analysis, which is applicable to Palo Verde Unit 2, assumed the existence of large circumferential cracks in all the analyzed locations. This assumption is very conservative considering field inspections and experience which has shown a relatively low number of PWSCC indications in these components. With this conservatism, the analysis concluded that there is significant time for crack growth between the onset of detectable leakage and development of critical flaw size.

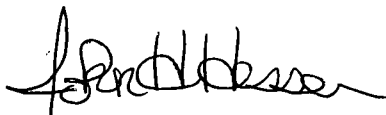
This letter confirms that Reference 3 bounds the Palo Verde Unit 2 pressurizer Alloy 82/182 welded pipe/nozzle components. APS has reviewed the report and verified that the input addresses Palo Verde Unit 2 weld configurations and loads, that the analysis and conclusions are applicable to Palo Verde Unit 2 design, and that all welds representative of Palo Verde Unit 2 are adequately addressed by the crack growth analyses and associated sensitivity cases. Finally, the analytical results applicable to Palo Verde Unit 2 satisfy the leakage evaluation criteria presented in the report.

Therefore, APS concludes that the analytical results presented in Reference 3, and the current plant enhanced leakage monitoring program, provide a reasonable and adequate basis for performing mitigation or inspection activities during the scheduled refueling outage in the spring of 2008 as committed to in Reference 1, after which time Palo Verde Unit 2 will fully satisfy the MRP-139 inspection/mitigation requirements for pressurizer Alloy 600/82/182 components.

Mr. James E. Dyer  
Director, Office of Nuclear Reactor Regulation  
PVNGS Unit 2 -Mitigation of Alloy 600/82/182  
Pressurizer Butt Welds in 2008  
Page 3

This letter contains no new commitments. If you have any questions about this submittal, please contact Glenn A. Michael at (623) 393-5750.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn A. Michael", written in a cursive style.

JHH/GAM/RJR/gt

cc: B. S. Mallett            NRC Region IV Regional Administrator  
M. T. Markley            NRC NRR Project Manager  
G. G. Warnick            NRC Senior Resident Inspector for PVNGS  
U.S. NRC Document Control Desk