10 CFR 26.719(c)(1)

A subsidiary of Pinnacle West Capital Corporation

Palo Verde Nuclear Generating Station

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May 13, 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 50-528/529/530
Unanticipated Result for an FFD Performance Test Sample

Pursuant to 10 CFR 26.719(c)(1), Arizona Public Service Company hereby provides, as an enclosure to this letter, a report of an unanticipated result for a Fitness for Duty (FFD) performance test sample.

On March 29, 2010, the PVNGS FFD collection facility received, from a Department of Health and Human Services (HHS) certified laboratory, a performance test result that was not consistent with the expected result for an adulterated challenge sample.

The investigation was completed on April 15, 2010. Results of the investigation are documented in the enclosure to this letter.

No commitments are being made to the NRC by this letter. Should you need further information regarding this submittal, please contact Marianne Webb, Compliance Section Leader, at (623) 393-5730.

Sincerely,

FOR DWIGHT C. MIMS

DCM/MNW/DFH/gat

Enclosure

cc: E. E. Collins Jr. NRC Region IV Regional Administrator
J. R. Hall NRC NRR Project Manager
L. K. Gibson NRC NRR Project Manager
R. I. Treadway NRC Senior Resident Inspector for PVNGS

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ENCLOSURE
Unanticipated Result for an FFD Performance Test Sample

Description

In accordance with 10 CFR 26.168, the Palo Verde Fitness for Duty (FFD) Program requires performance test samples to be submitted to a Department of Health and Human Services (HHS) certified laboratory for analysis.

On March 26, 2010, a performance test for an adulterated challenge sample was sent to the Southwest Laboratories, an HHS-certified laboratory, for testing. On March 29, 2010, an unexpected result for the challenge sample from the laboratory was received by the Palo Verde FFD Group. The laboratory's analysis found all monitored parameters as negative and having a normal pH. The sample results should have shown a lower than normal pH, because the challenge sample was adulterated with acid.

On April 6, 2010, Palo Verde FFD Group requested the laboratory conduct an investigation of the challenge sample results.

Pursuant to 10 CFR 26.719(c)(1), a report of the condition and corrective actions taken or planned is required to be submitted to the NRC within 30 days of completion of the investigation.

Investigation

On April 15, 2010, the result of the Southwest Laboratories investigation was provided to the Palo Verde FFD Group. The challenge sample was tested using an automated analyzer (Olympus AU640). Using the automated analyzer, the challenge sample tested negative for all drugs, had normal creatinine and a pH of 5.3. During the investigation, the laboratory determined that the challenge sample had an unusual odor and was more effervescent than normal when slightly shaken, but not to the extent that would have been detected by an analyst.

As a part of the investigation, the challenge sample was tested using a pH meter which yielded a value of 1.2, indicating the addition of an acid in the challenge sample.

The laboratory re-validated the accuracy, precision and range of their equipment by analyzing known samples with pH values from 2 to 11. The analysis showed the accuracy and precision to be acceptable.

To further test the analytical performance of the equipment, donor specimens were randomly selected and spiked with acid. These specimens would simulate adulterated specimens similar to the challenge sample sent from Palo Verde. All donor simulated specimens tested were correctly flagged by the automated analyzer as having a low pH.

Unlike the the donor simulated specimens, the challenge sample presented a high background absorbance for the automated analyzer which gave an incorrect response.

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Conclusion

The laboratory investigation concluded that the synthetic nature of the challenge sample that was adulterated by the addition of an acid possessed an unusually high background absorbance for the automated analyzer pH assay. During initial testing, the presence of acid in the challenge sample overwhelmed the background absorbance and the analyzer gave a response that was at the lower cutoff of an acceptable pH result. As a result of the background interference, standard pH screening used by Southwest Laboratories was not reliable for pH screening of the synthetic challenge sample.

Actions Taken

Southwest Laboratories determined the sample was unique in its background absorption; therefore, Southwest Laboratories has reformulated its routine pH screening assay so that the pH of synthetically adulterated sample content can be more accurately detected. However, this pH assay method makes pH more difficult to accurately measure in samples with low ionic strength (diluted samples). Therefore, the laboratory has adopted a new protocol for pH screening of Palo Verde's samples which will allow samples with unusual background absorption to be reliably screened. For samples that are diluted (as flagged by a low creatinine value), a secondary screening will be performed using a 2-place digital pH meter. All presumptive positive samples will continue to be confirmed using a 3-place digital pH meter.