

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-528/91-39, 50-529/91-39, 50-530/91-39

License No. NPF-41, NPF-51, NPF-71

Licensee Arizona Public Service Company  
P.O. Box 53999, Sta. 9012  
Phoenix, Arizona 85072-3999

Facility Name: Palo Verde Nuclear Generating Station Units 1, 2, and 3

Inspection at: Wintersburg, Arizona

Inspection Conducted: October 7-11, 1991

Inspected by: Ray Bocanegra  
R. Bocanegra, Radiation Specialist

11/5/91  
Date Signed

Approved by: G.P. Yuhás  
G. P. Yuhás, Chief  
Reactor Radiological Protection Branch

11/6/91  
Date Signed

Summary:

Areas Inspected: Inspection of secondary water chemistry and review of inspection followup items and licensee reports. Inspection procedures 84750 and 92701 were used.

Results: The licensee initiated changes in their secondary water chemistry program including adoption of the Electric Power Research Institute (EPRI) guidelines and installation of in-line cation conductivity and sodium analysis capability. High soil moisture found in a moisture detection well near the evaporation ponds appeared to have no radiological significance. No violations were identified.

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## DETAILS

### 1. Persons Contacted

#### Licensee

D. Goodwin, Supervisor, Chemistry Technical Services  
S. Grier, Manager, Proc. Engineering  
P. Guay, Chemistry Manager, Unit 3  
P. Hughes, General Manager, Radiation Protection  
A. Johnson, Supervisor, Compliance  
D. Kanitz, Engineer, Compliance  
S. Kanten, Site Representative, APS  
J. Santi, Technical Advisor, Chemistry Technical Services  
J. Scott, General Manager, Site Chemistry  
B. Sneed, RP Manager, Unit 3

#### Nuclear Regulatory Commission

F. Ringwald, Resident Inspector

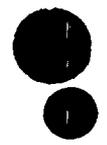
The individuals listed above attended the exit meeting held October 11, 1991. The inspector also held discussions with other personnel during the inspection.

### 2. Followup (92701)

Open Item 50-528/90-56-01 (Open): Assess Corrective Action For Strontium (Sr) Analysis. The inspector reviewed the licensee's progress in implementing corrective actions for Sr analysis including changes to the analytical procedure, training, and review of past intercomparison tests results. The licensee stated that the final corrective actions will be in place by December 31, 1991. This item will remain open until remaining corrective actions are in place.

### 3. Radioactive Waste Treatment, and Effluent and Environmental Monitoring (84750)

- A. The inspector interviewed chemistry management and reviewed selected procedures and documents. The inspector noted the following items:
- o The licensee is proceeding with plans to install in-line cation conductivity and sodium analysis capability on the steam generator (SG) hot-leg and downcomer sample lines.
  - o The licensee plans to change to the Electric Power Research Institute (EPRI) NP-6239 guidelines for secondary water chemistry. They received concurrence from their steam generator manufacturer to follow EPRI guidelines.



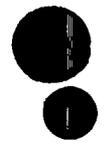
10 CFR 50.59 review for the change was complete, and the Updated Final Safety Analysis Report (UFSAR) changes were initiated to reflect the new guidelines.

The inspector concluded that the proposed changes to the chemistry program were appropriate and were being implemented in accordance with established procedures.

- B. The inspector reviewed the licensee's 10 CFR 50.72 Reportable Event Number 21910 relating to high moisture content found in one of three moisture detection wells between the evaporation ponds on-site. The inspector also toured the site and noted the following:
- o The licensee was in the process of draining and desludging one pond in preparation for relining.
  - o The licensee performed quarterly moisture inspections required by the state of Arizona to detect evaporation pond liner leaks.
  - o On September 24, 1991, a moisture detection well showed moisture saturation conditions. The state was notified as required, and NRC was also notified pursuant 10 CFR 50.72(b)(vi), "notification to other government agencies."
  - o The ponds' surface water was routinely sampled and the results reported in the "1990 Annual Environmental Operating Report" to the NRC.
  - o Occasionally, low levels of I-131 and H-3 were reported. I-131 activity was attributed to hospital waste in the influent Phoenix waste water. The H-3 activity was believed to be an analytical problem as discussed in NRC report 50-528/91-27.
  - o Sludge from the drained pond was analyzed by the licensee's Radiation Protection Technical Services and no licensee generated radioactivity was found. Fall-out cesium-137 was found at levels comparable to pre-operational surveys.

Based on the analytical results and discussions with the licensee, the inspector concluded that there appears to be no significant radiological hazard from the presumed leak in the evaporation pond liner.

- C. The inspector received respirator and self-contained breathing apparatus (SCBA) certification while auditing the licensee's respiratory training program. The training given to the inspector, including mask fitting, appeared to meet American National Standard Institute (ANSI) Z88.2-1980 section 7.3.2 "Training of Respirator Wearer" and licensee's procedure 75RP-9EE01.



The licensee's programs in the areas reviewed appeared to meet their safety objectives. No violations of NRC requirements were identified.

4. Exit Interview

The inspector met with the individuals denoted in paragraph 1 at the conclusion of the inspection on October 11, 1991. The scope and findings of the inspection were summarized. The licensee acknowledged the inspector's comments. At the conclusion of the meeting, the licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector.

