

U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-528/92-38, 50-529/92-38, 50-530/92-38

License Nos. NPF-41, NPF-51, NPF-74

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 26-30, 1992 and November 16-20, 1992

Inspected by:	<u>R. Bocanegra</u>	<u>12/17/92</u>
	R. Bocanegra, Radiation Specialist	Date Signed
Approved by:	<u>James H. Reese</u>	<u>12/22/92</u>
	James H. Reese, Chief	Date Signed
	Facilities Radiological Protection Branch	

Summary:

Areas Inspected: Routine, unannounced inspection of the licensee's radiation protection program, surveys, and occupational exposure during the Unit 2 refueling outage. Inspection Procedures 83750 and 83729 were used.

Results: Within the areas inspected, the licensee's radiation protection program met its objective of protecting radiation workers and maintaining occupational exposure as low as reasonably achievable (ALARA). Several areas were identified that merited additional licensee attention, including Respiratory Protection Program records control, radiological surveys, and survey instrument control. One procedure violation was identified regarding a radiological survey (Section 2.b.).

DETAILS

1. Persons Contacted

Licensee

- ¹K. Akers, Technical Specialist, Quality Auditing and Monitoring
- ²R. Bernier, Supervisor, Nuclear Regulatory Affairs
- ²T. Bradish, Manager, Nuclear Regulatory Affairs
- ¹J. Draper, Site Representative, Southern California Edison
- ²D. Eastman, Supervisor, Quality Systems
- ¹D. Elkinton, Sr. Technical Specialist, Quality Assurance & Monitoring
- ¹R. Fountain, Supervisor, Quality Assurance & Monitoring
- ¹R. Fullmer, Manager, Quality Assurance & Monitoring
- ¹F. Gowens, Site Representative, El Paso Electric
- ^{1,2}P. Hughes, General Manager, Site Radiation Protection
- ²G. Hurley, Supervisor, Radiation Protection Services
- ^{1,2}D. Kanitz, Engineer, Compliance
- ²M. Lantz, Supervisor, Dosimetry
- ¹G. Mobbs, Technical Specialist, Quality Assurance
- ²T. Murphy, Supervisor, RMS Effluents
- ²A. Ogurek, Consultant, Nuclear Safety
- ¹R. Roehler, Supervisor, Compliance
- ¹S. Sawschenko, RP Supervisor, Unit 2
- ¹T. Shriver, Assistant Plant Manager, Unit 2
- ^{1,2}J. Sills, RP Manager, Unit 1
- ^{1,2}W. Sneed, Manager, Unit 3 Radiation Protection
- ²C. Spell, ALARA Supervisor, Radiation Protection

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- ¹F. Ringwald, Resident Inspector
- ²J. Sloan, Sr. Resident Inspector

¹ Denotes the individuals that attended the meeting held October 30, 1992.

² Denotes the individuals that attended the exit meeting held November 20, 1992. The inspector also held discussions with other personnel during the inspection.

2. Occupational Exposure During Extended Outages (IP 83729)

a. External Exposure Control and Control of Radioactive Materials

The inspector, accompanied by licensee personnel, performed inspections and confirmatory radiological surveys of the facilities and interviewed workers. The inspection included tours of Unit 3 containment and accessible portions of the Radiological Controlled Area (RCA) in all three units. Selected portions of the licensee's exposure control program were examined by the inspector to verify

compliance with requirements found in Sections 6.11 and 6.12 of the Technical Specifications and 10 CFR Part 20.

The material condition and housekeeping was generally satisfactory in all three Units. Posting was adequate and accurately reflected radiological conditions in the area as required by procedures. The inspector verified that conventional signs, labels and signals were used and that radiological postings were conspicuously displayed on all accessible sides. Dose rates at Radiation Area and High Radiation Area boundaries did not exceed limits. The inspector observed that barriers and postings did not interfere with the safe access or egress to the controlled areas. "Contact RP Prior to Entry" signs were minimized in the areas inspected. Radiological Controlled Areas were conspicuously segregated and appropriate postings were observed.

Except as noted in the discussion of the apparent violation in Section 2.b., the licensee's program for external exposure control and control of radioactive material was satisfactory.

b. Failure to Follow Survey Procedure

The inspector surveyed a posted High Radiation Area in the Unit 3 RCA yard where the licensee stored drums containing compacted radioactive waste prior to shipping them off-site. The NRC instrument used by the inspector was an R02 survey instrument with serial No. 4042 that was next due for calibration April 7, 1993. The inspector found an arrangement of three drums where the cumulative effect of the radiation created a zone between the three drums where dose rates were measured at 1200 mR/hour. The inspector noted that the area where the high dose rates were measured appeared to be inaccessible, however, dose rates up to 900 mR/hour were measured at 18 inches from the three drums. The survey documents reviewed by the inspector prior to entering the RCA did not indicate the presence of radiation levels encountered by the inspector. The inspector notified the RP Supervisor who performed confirmatory surveys. The inspector discussed the issue with the licensee and determined that the area between the three barrels surveyed by the inspector had not been previously surveyed and documented as required by procedure 75RP-9RP07 Revision 2.03, "Radiological Surveys."

Unit 3 Technical Specifications Section 6.8 requires that written procedures be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978 (Reg Guide 1.33).

Section 7 of Appendix A to Reg Guide 1.33 includes operations to limit personnel exposure as an activity needed to be covered by procedures. Palo Verde procedure 75RP-9RP07, "Radiological Surveys," implements this requirement and states in Section 3.2, "When Radwaste Volume Reduction (RVR) drums are added to or

accumulated within an area, a survey shall be performed and documented to illustrate the impact of cumulative dose rates."

Section 1 of Appendix A requires that procedure adherence be covered by procedures. Palo Verde procedure 01PR-OAPO1 which implements this requirement, states in Section 3.7, "Procedures shall be used, adhered to, and enforced."

Failure to follow procedure 75RP-9RP07 is a violation of Technical Specification 6.8. (Violation 50-530/92-38-01)

When the inspector notified the licensee of the unexpected dose rates in the yard, the licensee took prompt corrective action by rearranging the drums and performing surveys of the area. The licensee also inspected the other two units' storage areas and were found to be in compliance with posting requirements. Other corrective actions taken included alerting the other RP shifts and revising a night order that contained wording that may have been misinterpreted by RP Technicians performing the surveys. The deficient night order and poor communication appeared to be major contributors to the violation. The licensee planned to discuss the event with employees during the regularly scheduled Industry Events session.

Based on the licensee's prompt and extensive corrective actions taken for this violation, the inspector concluded that a written response for this violation was not required. This violation is closed.

c. Internal Exposure Control

The inspector reviewed records, interviewed workers, and inspected licensee facilities related to the licensee's respiratory protection program. NUREG 0041, 29 CFR 1910, and 10 CFR 20 contain the requirements and guidance for the program. A random sampling of workers' records was selected for the records review.

The inspection included verifying that current medical examination forms were on file, that fit test reports were complete and accurate, and that workers wearing respirators had current respirator training. The inspector also verified that approved written procedures exist for selecting, fitting and maintenance of the respirators. Respiratory equipment examined by the inspector was tested and certified by the National Institute of Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA). The inspector noted that after cleaning, the respirators were stored in plastic bags.

Several workers were observed taking the respirator quantitative fit tests. The inspector observed that the test was administered in accordance with procedure 75RP-9EE01 Revision 3, and that the series of exercises was conducted in accordance with 29 CFR 1910.

Overall, the respiratory protection program was satisfactory; however, several discrepancies were noted including the following items:

- Five examples of respiratory protection mask fit reports that did not have reviewer signatures were identified.
- Two examples of mask fit reports that contained incorrect dates were found.
- A deficiency was noted in licensee's method of maintaining respiratory protection records. The inspector found it very difficult to perform an effective audit of this portion of the program.

The discrepancies listed above were immediately brought to management's attention. Before the end of the inspection, the inspector verified that the items identified had been corrected. Based on the inspector's observations, the licensee's respiratory protection program met its safety objectives with respect to internal radiation protection.

d. Survey Instrument Control

The inspector identified several cases that indicated a weakness in the licensee's instrument control. The following items were identified:

- Licensee procedures required that defective survey instruments be tagged and separated from functional ones so as to prevent a worker from inadvertently using a rejected instrument. As an added precaution, the procedures required that the "Rejected" tag be placed over the instrument's calibration sticker since calibration date verification was required when issuing an instrument.

During an inspection of the licensee's Unit 2 instrument room, the inspector identified six examples of defective survey instruments where the "Rejected" sticker was placed on the instrument handle.

- During an inspection of the licensee's respirator cleaning facility, the inspector noted that the calibration sticker on a radiation monitor had the wrong calibration due date. The licensee examined calibration records and verified that the wrong year was entered on the calibration sticker. The licensee immediately corrected the discrepancy.
- The inspector noted that an instrument issue log had not been reviewed since July 1992. The inspector identified this problem to the licensee who took prompt corrective action.

- The inspector found one example of an instrument being used in the radiological control area (RCA) that did not have the required daily response check initials on the instrument. The licensee examined the daily instrument response logbook and determined that the instrument's response check was current, but the technician missed writing his initials on the instrument sticker.
- The daily instrument response checks were performed by the licensee using radioactive sources appropriate for the different types of instruments. Radiation Protection Support Services (RPSS) personnel establish the acceptance criteria and issue response check data sheets. Procedures required RPSS to periodically update the data sheets to account for source decay. However, the procedure did not state a frequency that the data sheets should be updated. The inspector found data sheets in use that had not been updated since February 21, 1991. The sources included Sr-90 and Cs-137 sources. Other sources the licensee used included shorter lived nuclides like Eu-152. The inspector pointed out this procedure weakness to the licensee.

The deficiencies listed in this section were either corrected before the inspection was completed, or substantial progress was made towards completing corrective actions. The inspector discussed with licensee management the large the number of deficiencies identified in this area and the concern with continued lack of attention to detail.

One violation was identified.

3. Exit Interview

The inspector met with the individuals denoted in Section 1 on October 30, 1992, and at the conclusion of the inspection on November 20, 1992. The scope and findings of the inspection were summarized. The inspector informed the licensee that failure to follow the survey procedure was a violation of NRC requirements (Section 2.b.). The licensee acknowledged the inspector's comments. At the conclusion of the meeting, the licensee did not identify as proprietary any material provided to or examined by the inspector.