U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION V

Report Nos. 50-528/84-13 and 50-529/84-10

Docket Nos. 50-528 and 50-529

License Nos. CPPR-141 and CPPR-142

Licensee: Arizona Public Service Company
P. O. Box 21666
Phoenix, Arizona 85836

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

Inspection at: Palo Verde Site - Wintersburg, Arizona

Inspection conducted: April 9-13, 1984

Inspectors: H S North — 5/31/84
H. S. North, Senior Radiation Specialist — Date Signed

Approved by: G P Yuhas — 5/31/84
G. P. Yuhas, Chief — Date Signed
Reactor Radiation Protection Section

Summary:

Inspection April 9-13, 1984 (Report Nos. 50-528/84-13 and 50-529/84-10)

Areas Inspected: Routine, unannounced inspection of followup items, radiation protection and chemistry organization and staffing, retraining and replacement training, radwaste management, ALARA, radiation monitoring systems, procedures, waste management systems and a facility tour.

The inspection involved 38 hours onsite by one inspector.

Results: In the 9 areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Arizona Public Service Company Personnel

*E. E. Van Brunt, Jr., Vice President, Nuclear Projects
*J. R. Bynum, Director of Nuclear Operations
*J. M. Allen, Operations Manager
*T. Bloom, Licensing Engineer
*L. E. Brown, Radiation Protection and Chemistry Manager
K. Byers, Senior GET Instructor
P. Egebrecht, Radiological Engineer
*R. A. Ferguson, Regulatory Interface Group Supervisor
*W. F. Fernow, Administrative Support Manager
T. Haggard, Radiation Protection Technician
*F. Hicks, Training Supervisor
M. Hill, Radiological Engineer
*W. E. Ide, Corporate QA/QC Manager
M. Lantz, Lead Radiation Physicist
J. Mann, Corporate Health Physicist
*D. Nichols, General Training Supervisor
J. Ong, Radiological Engineer
*C. N. Russo, Operations QA/QC Manager
J. Schlag, Acting Supervising Radiation Physicist (Radwaste)
J. Scott, Shift Supervisor, Unit 2
*R. Selman, Lead ALARA Engineer
*J. Smith, Compliance Engineer
*I. Zeringue, Operations Technical Support Manager

Contractor Personnel

D. Brown, Radiological Engineer, Combustion Engineering
J. Helms, Radiation Protection Technician, Combustion Engineering

*Denotes those attending the exit interview on April 13, 1984.

2. Followup of Previously Identified Items

(Closed 50-528/83-39-04) Verification of Radwaste System tank volumes had been completed. Calculated volumes were based on design drawing dimensions as modified by actual measurements. For liquid containing tanks the volume was based on tank bottom to overflow penetration. The following is a comparison of FSAR described vs. as built tank volumes.

Tank Name/Number	FSAR Specified Volume	Calculated Volume	% of FSAR Volume
Chemical Drain Tanks/LRN-T05 A&B	1100 gal.	1773 gal.	161
Spent Resin Tanks/SRN-X01 A&B	2010 gal.	1969 gal.	98
Concentrate Monitor Tanks/LRN-T03 A&B	5000 gal.	7189 gal.	144
Recycle Monitor Tanks/LRN-T04 A&B	30000 gal.	32060 gal.	107
Hi & Low TDS Holdup Tanks/ LRN-T01 A, B&C	30000 gal.	32060 gal.	107
Gas Surge Tank/GRN-X01	760 ft^3	788 ft^3	104
Gas Decay Tanks/GRN-X02A, B&C	760 ft^3	788 ft^3	104

This matter is closed.

(Open 50-528/83-12-08) Problems associated with communication between the Panasonic Job TLD reader and the IBM-PC had been largely resolved. Minor software refinement remains outstanding. Inspection Report No. 50-528/83-39, paragraph 4., noted that manual input of TLD data from the Panasonic Job TLD reader to the IBM-PC was required. With resolution of this problem a TLD system, including Panasonic job and record TLD readers can communicate with the REM system through the IBM-PC. The IBM-PC replaces the CRACS function in the application of algorithms and TLD correction factors in the conversion of TLD reader data to dose information and provides a communications bridge between the TLD readers and the REM system.

No violations or deviations were identified.

3. Radiation Protection - Chemistry, Organization and Staffing

Proposed changes in organization and staffing levels initially identified in Inspection Report No. 50-528/83-03, February 1983, remained unresolved. This matter was addressed during the exit interview (paragraph 11). During the inspection the licensee's staff received authority to replace staff lost through resignations during the recent employment freeze. The authority did not extend to new positions identified in the proposed staffing plan (83-03-01, open).

No violations or deviations were identified.

4. Retraining and Replacement Training

Inspection Report No. 50-528/83-35, August 1983, noted that retraining and replacement training programs for radiation protection and chemistry technicians were under development. Based on discussions with Training Department personnel it appeared that the planned program would satisfy requirements.

The inspector was informed that little progress had been made in the implementation of the program. The program, as presently planned, would include core training, or testing followed by training in areas of specifically identified weakness, in the basics required for technician qualification to ANSI 3.1-1978 standards. The training was expected to require approximately one month during the first year of plant operation.

Training in subsequent years was expected to be a mixture of refresher and advanced training, topics to be identified on the basis of specific need. The proposed training would be applicable to radiation protection, chemistry and radwaste technicians. The Training Department has examined other utility and contractor training programs in the development of the planned program. A testing/training program for radwaste technicians to be developed by a contractor under APS direction was being considered.

The apparent lack of progress in implementation of a retraining and replacement training was called to managements attention during the exit interview.

The status of the retraining program will be examined during a subsequent inspection (50-528, 84-13-01).

No violations or deviations were identified.

5. Radwaste Management

The licensee was considering contractor support for a radwaste training program. In addition a proposal was being prepared for a computerized waste management program. The proposed program would provide for waste classification, initially using default values, incorporating waste stream analytical results as plant specific data becomes available. The program would also provide for inventory and shipment load selection.

In the absence of the CRACS which was to provide for generation of gaseous waste release permits using direct input of data from various plant monitoring and analytical systems, the licensee is developing a gaseous waste effluent release permit system based on the use of IBM-PC and IBM-XT microcomputers. The licensee demonstrated the generation of a release permit using the IBM-PC. Initial program verification, based on a single hand calculation of a pathway dose to the adult liver, produced values within 2%. The IBM-PC, in the Administration Building can interrogate the Unit computer for engineering data using an IBM-XT interface. Release permit specific data, isotope identification, must be entered by hand. The computer generates a release permit, release rate data, age group whole body and organ dose summary, air dose, annual dose rate, effluent monitor set points (high and alert alarm) and quarterly and annual air and organ dose summaries. Procedure 75RP-9ZZ92, Radioactive Effluents Release Permits, was being revised to reflect the use of this system to generate release permits. The program appeared to satisfy the requirements for tracking to limit offsite doses and to be consistent with the draft Offsite Dose Calculation Manual (ODCM). System documentation, validation and verification and procedure revision will be examined during a subsequent inspection (50-528/84-13-02).

No violations or deviations were identified.

6. ALARA

Discussion with licensee personnel established that the concerns identified in Inspection Report No. 50-528/84-05 related to ALARA review of Design Change Packages (DCP) were being resolved. The ALARA

procedures identified in paragraph 5 of Inspection Report No. 50-528/84-05 were examined. The review established that the ALARA procedures required an ALARA review of design changes. The procedures governing review of design or facility changes, Plant Change Request (PCP), 73 AC-0ZZ12, Rev. 1, 4/28/83, and Plant Change Package (PCP), 73 AC-0ZZ15, Rev. 0, 4/27/83, did not include provisions for an ALARA review pursuant to ALARA Design Review, 75 AC-9ZZ06, Rev. 0, 7/27/83. The licensee's staff had previously identified the matter and had instituted appropriate procedure changes to correct the inconsistency. This matter will be examined during a subsequent inspection (50-528, 84-05-02, open). In other respects no discrepancies in the ALARA procedures were identified.

No violations or deviations were identified.

7. Radiation Monitoring System (RMS)

The March 1, 1984, RMS Task Force meeting minutes and consultant's report were discussed with licensee personnel. The consultant's report addressed a number of areas of concern:

Airborne effluent grab sampling,
Isokinetic Sampling Fuel Handling Building Vent,
Containment high range monitor cable environmental qualification,
Annunciator panels for radiation monitors,
Procedures,
Heat tracing airborne monitor sample lines,
Waste gas discharge monitor flow sensor,
Gas monitor pressure compensation,
Gas monitor sample filtration,
Containment purge monitor relocation,
Plant vent moving paper particulate filter,
Microprocessor software default values,
CRT screen printout,
RMS system response time,
Functional check of RMS system software, and
Plant vent sample isokinetic nozzle location.

The Task Force appeared to be experiencing some difficulty in achieving appropriate recognition of problems identified with the radiation monitoring system. This matter was identified during the exit interview as possibly warranting management attention.

With respect to the plant vent sample isokinetic nozzle location, the inspector was informed that the location was near a major transition, the junction with the Auxiliary Building vent, and did not meet the requirements for isokinetic sampler location contained in ANSI N13.1-1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities. This particular matter was addressed at the exit interview. These matters will be examined during a subsequent inspection (50-528/84-13-03).

No violations or deviations were identified.

8. Procedures

Certain reviewed and approved procedures were examined for implementation of and compatibility with the FSAR and NRC regulations.

75RP-9XC04 Control of Radiation Protection Instrumentation Rev. 0 10/14/83
75RP-9XC05 Flow Calibration and Maintenance of Air Samplers Rev. 0 7/6/83
75RP-9XC08 Leak Testing and Inventory of Radioactive Sources Rev. 1 3/21/82
75RP-9ZC01 Containment Entry at Power Rev. 0 9/16/83
75RP-9ZC02 Containment Initial Entry at Shutdown Rev. 0 11/5/82
75RP-9RI01 Entry into the Incore Detector Chase Rev. 0 11/23/83

No violations or deviations were identified.

9. Waste Management Systems

Inspection Report No. 50-529/84-05, section 9, identified certain components of the Unit 2 liquid waste management system which had been found to be as described in Table 11.2-1 Amendment 11 of the FSAR. Additional waste management system components were examined and compared with the FSAR description. The following major components of liquid, gaseous, and solid radwaste systems were found to be as described in the FSAR.

Liquid Radwaste System (LRS) Equipment Descriptions FSAR Table 11.2-1 Amendment 11

Chemical Drain Tanks (T-05 A and B)
LRS Evaporator Distillate Pumps (P-09 A and B)
LRS Ion Exchanger Prefilters (F-01 A and B)

Gaseous Radwaste System Process Equipment Description FSAR Table 11.3-1

Gas Surge Tank (2-N-GRN-X01)
Compressors (2N-GRN-C01 A and B)
Waste Gas Decay Tank (2-N-GRN-X02 A, B and C)

Filtered discharge specified; FSAR Section 11.3.1.1 and 11.3.1.1.1

Filter (2N-GRN-F01)

SRS (Solid Radwaste System) Equipment Descriptions FSAR Table 11.4-3 Amendment 11

Spent Resin Tanks (2-N-SRN-X01 A and B)
Waste Feed Tank (2-N-SRN-T01)
Chemical Addition Tank (2-N-SRN-T03)
Dry Additive Feed Tank (SRN-T02)
Radwaste Holdup Tank (2-N-SRN-Q03)
Resin Transfer/Dewatering Pump (2-SRN-P01)
Waste Feed Pump (2-N-SRN-P02)

Cement/Waste Mixer (2-N-SRN-Q01)
Additive Feed Rotary Valve (SRN-M08)
Radwaste Baler (2-N-SRN-M01)

No violations or deviations were identified.

10. Plant Tour

During the inspection, portions of the Unit 1 and 2 containment, auxiliary and radwaste buildings and the Unit 1 laundry-decon and calibration facilities were toured. The calibration facility was found to be well organized, neat and well maintained with facilities for radiological instrument maintenance and repair and a developing inventory of appropriate spare parts.

During the inspection a means of possible uncontrolled access to the Unit 1 and 2 spent fuel tube bellows via an outside double shield plug hatchway with permanently mounted strongback and chainfall was identified. Initially the persons interviewed appeared to be unaware of this mode of access, however at the exit interview the inspector was informed that it was known to the ALARA group and that appropriate measures, probably administrative, would be taken to control access. The controls imposed will be examined during a subsequent inspection (50-528, 84-13-04 50-529, 84-10-01).

No violations or deviations were identified.

11. Exit Interview

The scope and results of the inspection were discussed with the individuals denoted in paragraph 1 at the conclusion of the inspection. The licensee was informed no violations or deviations were identified.

The inspector addressed three topics which appeared to warrant management attention.

First, the proposed Radiation Protection and Chemistry organization and staffing plan had not been approved. It appeared that if the licensee were to complete recruiting and training prior to the proposed fuel load date prompt action on the organization and staffing plan would be required.

Second, delays appear to have developed in the implementation of the retraining and replacement training program. If the program is to be implemented in a timely fashion management attention supporting the implementation would appear to be appropriate.

Third, NRC experience has shown that the installation, preop testing and calibration of radiation monitoring systems have been major problem areas at other facilities as the time for license issuance approached. APS has established a task force which is attempting to avoid the problems experienced at other facilities. It appears that the task force is experiencing some difficulty in obtaining adequate recognition and cooperation in the resolution of significant and valid concerns. There

have been indications that these problems are gradually being resolved. It is the inspector's belief that management attention to the resolution of concerns related to the radiation monitoring system would be appropriate.

The senior licensee representatives present at the meeting, Messers Van Brunt and Bynum, indicated an awareness of the problems and commented that they were receiving managements attention.