

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-528/82-30

Docket No. 50-528 License No. CPPR-141 Safeguards Group \_\_\_\_\_

Licensee: Arizona Public Service Company

P. O. Box 21666

Phoenix, Arizona 85036

Facility Name: Palo Verde Nuclear Generating Station-Unit 1

Inspection at: Palo Verde Site, Wintersburg, Arizona

Inspection conducted: October 18 - November 19, 1982

Inspectors: *Albert Young Jr. for* 11-29-82  
G. Fiorelli, Senior Resident Inspector Date Signed

*Albert Young Jr. for* 11-29-82  
G. Johnston, Resident Inspector Date Signed

Approved by: *Albert Young Jr.* 11-29-82  
T. Young, Jr., Chief Date Signed  
Reactor Projects Section No. 2

Summary:

Inspection on October 18 - November 19, 1982 (Report No. 50-528/82-30)

Areas Inspected: Routine Resident inspection of startup testing, design changes, startup quality assurance, preoperational test procedures, housekeeping, piping verification, temporary modifications, measurement and test equipment, drawing and document control, and steam generator chemistry. The inspection involved 275 hours on-site by two resident inspectors.

Results: Of the eleven areas inspected, one item of noncompliance was identified in one area (steam generator chemistry, paragraph 3).

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## DETAILS

### 1. Persons Contacted

#### a. Arizona Public Service Company (APS)

- G. C. Andognini, Electric Operations Vice President
- \*J. Bynum, Nuclear Operations Manager
- \*G. Pankonin, Startup Quality Assurance Manager
- W. Craig, Startup Quality Assurance Supervisor
- R. Cavalieri, Shift Test Coordinator
- D. Sanchez, Test Group Supervisor
- T. Cotton, Operations Engineering Supervisor
- D. N. Willsey, Technical Support Supervisor
- F. Jackson, Operations Support Engineer
- C. Connell, Test Group Supervisor
- M. Jackson, Principal Startup Engineer
- B. Cederquist, Chemistry Supervisor
- F. Hicks, Training Supervisor
- T. Green, Training Supervisor
- \*J. Kirby, Startup Manager

#### b. Bechtel Corporation

- C. Pierce, Test Group Supervisor
- T. Quiggle, Project Group Supervisor
- C. Berg, Construction Field Superintendent

\*Present at exit meeting.

### 2. Follow-up of Previously Identified Items

#### a. Administrative Controls (81-10-91, Closed)

Administrative controls governing startup testing activities have been expanded to include controls which address document control, problem documentation and resolution, system release to operations, flushing, and review of test results.

#### b. Post Maintenance Test Requirement Reviews (81-10-03, Closed)

APS had modified its maintenance work control procedure and now incorporates the consideration of retest requirements following the maintenance of equipment.

3. Steam Generator No. 1

The inspectors reviewed the circumstances associated with the unplanned filling of the No. 1 steam generator and associated steam piping with water. The steam generators were in a dry layup condition using a slightly pressurized nitrogen blanket in accordance with Procedure SP 303, Nitrogen Purge of Steam Generators. On October 19, 1982, flush water was introduced into the No. 1 steam generator when an isolation valve undergoing prerequisite testing was stroked allowing the feedwater/condensate system which was being flushed to communicate with the No. 1 steam generator. Factors contributing to this condition involved a problem with test coordination as well as a condition wherein other valves in series which were considered closed were not fully closed. The quality of the flush water did not meet the specifications of water specified for use in the steam generators. Test personnel became aware of the condition when water was observed discharging from a safety valve (intended for nitrogen overpressure) on top of the No. 1 steam generator. The licensee has developed a program for recovery and evaluation of consequences of this event.

The unplanned introduction of water which did not meet chemical specifications into the No. 1 steam generator is considered an item of noncompliance.  
(82-30-01)

4. Design Changes

Approximately 300 outstanding design changes remain to be completed. A current review is in progress to determine those that are required prior to fuel load.

APS is currently utilizing the Bechtel design change program and procedures for implementing design changes. A review of the design change process as it relates to providing information for startup testing adjustments was made by the inspectors. It was noted that the following areas warrant attention:

- a. Instruction to startup test authors on the Bechtel design change process.
- b. Improved availability of design change technical and engineering information so test authors can identify needed modification to test procedures.
- c. Improved communications to testing staff of effective design changes.
- d. Instructions defining the responsibilities and test program requirements for test personnel in connection with design changes.

APS had previously noted that improvements were in order and had taken action to upgrade the controls of these activities.

An APS design change procedure currently exists to cover APS sponsored design changes. This procedure is undergoing revision and is intended to be in place in time to control APS initiated design changes.

No items of noncompliance or deviations were noted.

5. Startup Quality Assurance

Several audits and surveillance reports were received by the inspectors. It was noted that negative findings requiring significant program upgrading were identified with activities associated with temporary modifications and startup personnel records. The inspector's observations support their findings. APS management has taken action to improve control of temporary modification and improve the qualification records of startup personnel.

No items of noncompliance or deviations were noted.

6. Preoperational Test Procedure Review

The draft issuances of the following preoperational test procedure were reviewed by the inspectors for technical content, conformance to regulatory requirements, and consistency with administrative controls governing procedure development and approval:

- a. High Pressure Safety Injection
- b. Safety Injection Tanks

Several questions arose as a result of the procedure review. These were forwarded to the APS for evaluation.

No items of noncompliance or deviations were identified.

7. Housekeeping

Several tours were made by the inspectors to determine the state of cleanliness of the facility. Overall, the facility shows a general state of cleanness. However, in several locations considerable debris consisting of paper products and beverage cans had accumulated, most notable were in the Essential Spray Pump rooms. It was expressed to station personnel that since these areas have little work being performed in them, somewhat less notice is paid to them. The areas were promptly cleaned after the tour. No specific conditions that presented a hazard were identified that would threaten equipment or personnel. The areas toured included ESF switchgear rooms, ESF pump rooms, the containment, the Essential Spray Pump rooms, and the Spent Fuel building.

No items of noncompliance or deviations were identified.

8. Piping Verification Program

The inspectors discussed with startup personnel preparations for the Piping Verification Program. The testing will utilize linear movement transducers with a data acquisition system to obtain time history information during

heatup and shutdown. Bechtel personnel will participate in the program to provide support to APS startup personnel. The inspector also examined Bechtel Internal Procedure IP-4.37, "Field Design Verification for Safety Related Piping Systems," to determine the scope of support. The procedure for the test is now in the process of being drafted and will be examined by the inspectors in the future.

No items of noncompliance or deviations were identified.

9. Measurement and Test Equipment

A selection of Measurement and Test Equipment was examined by the inspectors to determine if calibrations are being conducted for equipment used by startup personnel. The following equipment was selected and verified as having been calibrated within the specified interval:

- a. Columbia Clamp On Ammeter No. EM1324
- b. Fluke Digital Multimeter Model 8012A No. EM0030
- c. Snap On Torque Wrench No. MM0025
- d. Triplet Multimeter Model 630PLK No. EM0209

For the above equipment, if the unit was found out of calibration, the range and error was forwarded to the parties to whom the unit was checked out. A further selection of equipment was examined in the field by the inspectors to verify that only equipment currently in calibration was being used.

No items of noncompliance or deviations were identified.

10. Temporary Modifications

In addition to the observation noted under "Startup Quality Assurance," a selection of entries in the Temporary Modifications Log was reviewed by the inspector to verify the modifications were installed and controlled in accordance with administrative procedures. The selection included examples of jumpers, temporary piping, drains strainers, and spool pieces. Two items, a spool piece and a strainer, were examined in the field to confirm that they were installed as described and were identified by a tag.

No items of noncompliance or deviations were identified.

11. Drawing and Document Control

To verify that preoperational test personnel have available for their use the current revised drawings and vendor manuals, the inspectors examined a selection of those currently in use. A comparison was made between the revision in use with the Master Index of current revisions. The documentation available for the following systems and components were examined:

- a. Auxiliary Feedwater System and Pumps
- b. Charging System (CVCS) and Pumps
- c. High Pressure Safety Injection System and Pumps
- d. Emergency Power System and Diesel Generators
- e. Containment Spray System and Pumps

Typical documents included P&IDs; electrical one line drawings; pump and driver vendor manuals; and piping isometric drawings.

No items of noncompliance or deviations were identified.

## 12. Preoperational Test Witnessing

The inspectors observed selected portions of local leak rate testing of containment penetrations to verify that testing activity was in conformance with procedures. Test activity included the instrument air penetration and the L-03 airlock. The test personnel had the proper clearances, calibrated test equipment, and the current revised test procedure. The test personnel conducting the test were cognizant of the status of equipment and all prerequisites for the test were met prior to commencing the test.

The inspectors also discussed with startup personnel the progress of testing in support of the December 1982 Containment Integrated Leak Rate test (CILRT). All effort is being expended to meet that date. The pressurization skid was examined by the inspector and was found to conform to the needs of the CILRT.

No items of noncompliance or deviations were identified.

## 13. Plant Maintenance

The major plant activity for maintenance during the report period was the replacement of the Reactor Coolant Pump diffuser bolts. The inspectors observed portions of the work activity to verify that the work was being done according to procedure, and that cleanliness requirements were being met. Plant preventative maintenance of equipment under the jurisdiction of APS is now being conducted by APS maintenance. The inspector examined lubrication records for the charging pumps, and the High Pressure Safety Injection pumps to verify preventative maintenance is being conducted on those components.

No items of noncompliance or deviations were identified.

14. Exit Meeting

An exit meeting was held on November 18, 1982, with Mr. J. Bynum, Nuclear Operations Manager, and his staff. The findings were discussed and the inspectors were updated on pertinent APS project planning.