

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-528/82-38

Docket No. 50-528 License No. CPR-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: December 20 - January 21, 1983

Inspectors: Talbot Young Jr. for 1-28-83
G. Fiorelli, Senior Resident Inspector Date Signed

Talbot Young Jr. for 1-28-83
G. Johnston, Resident Inspector Date Signed

Approved by: Talbot Young Jr. 1-28-83
T. Young, Chief, Reactor Projects Section 2 Date Signed

Summary: Inspection on December 20, 1982 - January 21, 1983 (Report No. 50-528/82-38)

Areas Inspected: Routine resident inspection of startup testing, ILRT, startup quality assurance/quality control (QA/QC), fuel receipt preparations and TMI items. The inspection involved 163 inspector hours on-site by the resident inspectors.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

a. Arizona Public Service Company (APS)

- G. C. Andegrist, Electric Operations Vice President
- *J. B. Dymek, Nuclear Operations Manager
- *J. Kirby, Startup Manager
- K. Taylor, Preoperational Startup Manager
- *G. F. Farlow, Administration Support Manager
- *J. M. Allen, Technical Support Manager
- *G. Pantonia, Startup QA/QC Manager
- F. F. Crowley, Nuclear Supervisor
- *B. Kramer, Licensing Supervisor
- *B. A. Service, Unit 1 Operations Supervisor
- R. Burdick, Shift Test Coordinator
- L. Fly, Test Director
- R. Thomas, System Completion Engineer
- D. Stewart, Scheduling, Supervisor

b. Bechtel Corporation

- J. L. Zeruka, Startup Manager
- T. E. Mays, Assistant Startup Manager
- T. E. Quiggle, NSS Project Engineer Group Supervisor
- R. L. Fetter, Assistant Startup Manager
- E. E. Pierce, Unit 1 NSS Engineer Group Supervisor
- R. Moody, Training Supervisor
- C. L. Schwede, Maintenance Supervisor

*Attended exit meeting.

2. Startup Quality Assurance (QA) - Quality Control (QC)

Quality control follow-up of startup testing activities continues to be performed on a three shift basis. Observations by the APS startup QC staff of preoperational testing of safety related systems are accomplished with the aid of check sheets. These check sheets identify significant items to be confirmed or observed. QC review will be made of all safety-related preoperational tests. A review of one of the QC packages confirmed that the required reviews were being accomplished by QC.

The inspector reviewed several reports of problems identified by QA/QC. These reports are formal and have widespread distribution. Open items are being tracked and response overdue notifications have been necessary in some cases. APS management has been dealing with the issues identified, some of which have been repetitive in nature.

No items of noncompliance or deviations were identified.

3. Preoperational Inspection Test Schedule (PITS)

The PITS identifies those preoperational tests which are required to be completed on individual system components and circuits prior to preoperational testing. To date this schedule has not been complete and has caused some problems with testing efficiency. A major effort has been undertaken to review the PITS in the three disciplines of mechanical, electrical, and I/C in order to have the PITS reflect required testing and proper status of testing. Currently problems may not be identified until the release of instructions to PITS. This does necessitate review and perhaps additional testing at a time which could impact on the start of preoperational testing. Efforts to resolve the matter appear to be getting proper attention.

No items of noncompliance or deviation were identified.

4. Fuel Receipt Preparation

APC has been actively proceeding with preparation for fuel receipt. In this connection procedures are being developed for fuel handling equipment is being preoperationally tested, the radiation protection program is being finalized, security precautions are being developed, and equipment handlers are preparing to train for their certification. Special training at UC is underway. Inspection has been received by APC staff members. All of these activities are currently in progress and are planned to be completed prior to fuel receipt which is tentatively scheduled for February. Based on the Inspector's review of activities in progress and meetings with responsible staff members, it appears that proper efforts are being directed by APC to support receipt of fuel.

No items of noncompliance or deviation were identified.

5. TRC Item 11.1.1.2 Part 2 Auxiliary Feedwater System Flow Rate Indication

A review was made of the plans to incorporate additional auxiliary feedwater flow indication to each of the steam generators. Two installations on the control room boards of two channels of flow indicators FI 40A and 41A to No. 1 steam generator and FI 40B and 41B to No. 2 steam generator was observed by the Inspector. In addition, the Inspector observed the installation of pressure indicators 12A and 12B, one on each of the two safety auxiliary feedwater trains and the installation of four channels of steam generator level indication on each of the two steam generators.

The color coding of the instrument labels for the groups of instrumentation indicated that the channels are supplied from different power sources. A selected review of drawings for the pressure and flow indicators confirmed the power sources to the pressure and flow indicator channels are from bus P5A - M41 for channel A instrumentation and from bus P5B - M42 for channel B instrumentation. The 120V electrical supplies to the channels are separate and backed up by the batteries and diesel generators. The instrumentation is designed to be safety-grade and environmentally qualified.

The findings of this review are consistent with provisions of Section 11.2.1.2, Para 2, of NRC 50CFR.

No items of noncompliance or deviations were identified.

6. 100 Year 11.2.1.1 Auxiliary System Performance Evaluation

The licensee has conducted an analysis of the auxiliary feedwater system which has been submitted to NRC and incorporated in the TDR.

Actions initiated as a result of this study included the following:

1. A design change has been initiated to supply the third auxiliary feedwater pump and its motor operating valves from the third A channel generator.
2. Test valves from Tests 8 (Rankine driven pump) and Tests 9 (Diesel driven pump) will have positive interlocks to prevent a valve to not completely closed in the control room.
3. Submittal technical specifications contain provisions for total system testing every 18 months. This was one of the specifications of the study.

The findings of this review are consistent with provisions of Section 11.2.1.1, of NRC 50CFR.

No items of noncompliance or deviations were identified.

7. Preoperational Startup System

The preoperational testing program has been limited to the testing of fuel handling equipment and the completion of preoperational testing following a major design change related to the modifications. Testing has been limited due to a major electrical outage on the A train. The outage was used to incorporate design changes. The primary coolant system has been filled to allow the chemical volume and control and safety injection systems. The system has been drained for the TDR. The filling was accomplished by an approved temporary operating guide. A review of system chemistry control limits were being maintained.

The primary coolant system pressure protection is being maintained by two pressure relief valves, one on the A loop discharge cooling line, the second a temporarily installed valve on a section of a loop stud down cooling branch piping. The valves are set to release at 420 psig and 475 psig, respectively.

No items of noncompliance or deviations were identified.

8. Containment Integrated Leak Rate Test (CILRT)

The CILRT and SIT combined test commenced on December 16, 1982, with 0 psig pressure data for the SIT being taken. Pressurization commenced on December 18, with full SIT test pressure (69.2 psig) reached on December 19. During this period, in support of Region V inspection personnel, the inspectors observed portions of data collection undertaken for the SIT.

Following the SIT the containment pressure was lowered to 41.8 psig for the 24 hours outgassing period at 41.8 psig (80 percent of Pa.). Following this period the containment was pressurized to greater than 49.2 psig, the design basis pressure (Pa) of the containment. The applicant's test director then opted, after T.W.G. approval, to do a short duration CILRT as permitted in the PSAR commitments for testing the containment. The test was conducted for eight hours with a verification test of 6 hours.

Following completion of test the inspectors examined the test log and the control room log. The logs presented a concise record of the activity during the test. No notations in the logs were inconsistent with the events of the test and were accurate as to the conduct. The inspectors toured the containment on January 3, 1983, to determine the condition of the building. There was no evidence at that time of conditions imposed by the test that caused any damage. Equipment was clean and had no appearance of residue from the compressors such as oil or moisture. Several penetrations were closely inspected and showed no damage from the pressurization.

The overall results of the test will be examined by Region V inspection personnel in another report. The CILRT preliminary results show a mass plot linear regression analysis of the leak rate of 0.0142 weight percent per day versus the acceptance criteria of 0.075 weight percent per day.

No items of noncompliance or deviations were identified.

9. Tours

Several plant tours were conducted during the period. Housekeeping conditions within containment are very good as a result of the extended efforts expended to prepare the containment building for the structural integrity test and the ILRT. Cable pulling operations resulting from TMI-related modifications appear to be conducted in a proper manner. No instances of unauthorized work were observed and fire protection controls during welding were observed to be in place. Several instances of lock breakage have occurred in the past several months. The absence of equipment damage, led investigators to conclude entries were made for work purposes and the existence of the locks presented an inconvenience to those needing access to rooms or cabinets.

A review of selected chemistry results of the refueling water storage tank water and the condensate storage tank water confirmed limits were being maintained.

No items of noncompliance or deviations were identified.

10. Exit Meeting

An exit meeting was held January 21, 1983, with Messrs. J. R. Bynum, G. Pankonin, and members of the APS staff. The findings of the inspection were reported. The inspectors were updated on appropriate startup planning.