

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-528/82-28
50-529/82-11
50-530/82-12

Docket No. 50-528, 50-529 License No. CPPR-141, CPPR- Safeguards Group _____
50-530 142, CPPR-143

Licensee: Arizona Public Service Company

P. O. Box 21666

Phoenix, Arizona 85036

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

Inspection at: Palo Verde Construction Site, Wintersburg, Arizona

Inspection conducted: September 13 - October 8, 1982

Inspectors: *Albert Young Jr. for* 10-19-82
L. E. Vorderbrueggen, Senior Resident Inspector Date Signed

Date Signed

Date Signed

Approved by: *Albert Young Jr.* 10-19-82
T. Young, Jr., Chief Reactor Projects Date Signed
Section No. 2

Date Signed

Summary:

Inspection on September 13 - October 8, 1982 (Report Nos. 50-528/82-28, 50-529/82-11, and 50-530/82-12)

Areas Inspected: Routine, unannounced inspection by the resident inspector of construction activities associated with containment post-tensioning and electrical components installation in Unit 2; follow-up of previous inspection items and 50.55(e) items; and, general activities in progress throughout the plant site. The inspection involved 32 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

a. Arizona Public Service Company (APS)

- *J. A. Roedel, Corporate Quality Assurance (QA) Manager
- *D. B. Fasnacht, Nuclear Construction Manager
- *W. E. Ide, Site QA Supervisor
- *D. E. Fowler, Supervising Field Engineer
 - R. Forrester, QA Engineer
 - S. Penick, QA Engineer
 - L. Souza, QA Engineer
 - M. Hodge, Mechanical Engineer - Nuclear Projects

b. Bechtel Power Corporation (Bechtel)

- *S. M. Nickell, Project Superintendent
- *D. R. Hawkinson, Project QA Supervisor
- *W. A. Miller, Project Field Engineer
- *R. M. Grant, Project Quality Control (QC) Engineer
- V. Mallin, Lead Electrical QC Engineer

c. Combustion Engineering, Inc. (CE)

C. Ferguson, Project Manager

d. Western Concrete Structures, Inc. (WSC)

K. Guffey, Field Installation Superintendent

Other persons contacted during the inspection period included construction craftsman, inspectors, and supervisory personnel.

*Management Meeting attendees.

2. Licensee Action on Previous Inspection Items

a. (Open) Follow-up Item (50-528/80-05/01) Concrete Cover over Reinforcing Steel - North Wall of Main Steam Support Structure (MSSS)

The repair method identified on Nonconformance Report CC-1662 was to chip away the concrete to specified dimensions in the areas where the cadweld sleeves were exposed, and then to patch the chipped areas in accordance with the approved grouting procedure in Specification 13-CM-365. This work was completed by Bechtel several months ago. The inspector observed horizontal "hairline" cracks in a uniform pattern approximately the location of the No. 18 reinforcing

bars in the subject wall. These cracks are located some 25 to 35 feet above grade elevation and are large enough to be readily observed. The inspector brought up this matter with the licensee and learned that they were aware of the condition and were also dissatisfied with the adequacy of the repair. The inspector notified the licensee that this item would remain open.

b. (Closed) Follow-up Item (50-528/82-14/01) Electrical Redundancy of Auxiliary Feedwater System Valves

The licensee reviewed this matter and basically concluded that the single failure criteria had been satisfied. It is the inspector's opinion, however, that the manner in which control power is arranged for critical motor operated valves in the subject system does not provide maximized redundancy. The details of this situation were discussed with the NRC Resident Inspector (Operations) and he agreed to pursue the subject further. For this reason, this item is considered closed to further reporting from the construction inspection standpoint.

c. (Closed) Follow-up Item (50-528/79-01/01) Calculation of Chloride Content in Concrete

Based upon further review, it has been concluded that the technique used by Bechtel for calculating the total chloride content of concrete constituents is valid. This item is closed.

3. Unit 2 - Electrical Components and Systems

The inspector examined the Class IE equipment listed below to ascertain that the requirements of the specifications, drawings, and WPP/QCI work and inspection procedures were satisfied.

- a. 125 V.DC/125 V.AC Inverter "B" (No. 2E-PNB-N12)
- b. 120 V.AC Vital Instrument Power Panel "D" (No. 2E-PND-D28)
- c. 125 V.DC Switchgear "B" (No. 2E-PKB-M42)
- d. Containment Exhaust Fan Motors (No. 2M-CPN-J01A and -J01B)

The examination was directed primarily to the correctness of equipment identification and installation location; inspection during and subsequent to installation; post-installation protection and cleanliness preservation; work and inspection procedure revision control; and identification and control of nonconforming components/materials. The inspector also verified

the use of the computerized program to assure the completion of remaining work in connection with Modification Change Notices, Design Change Notices and Nonconformance Reports.

The records pertaining to the receipt, care, and installation of the electrical components listed above were also examined in order to verify their availability and to ascertain that they reflect work accomplishment consistent with the quality requirements and commitments. The review focused principally on material requirements; receipt inspection for shipping damage and verification that purchase order requirements were satisfied; installation inspection and protection after installation; and qualification of personnel.

No items of noncompliance or deviations were identified.

4. Unit 2 - Containment Post-Tensioning

The inspector examined the quality records pertaining to tendon shipments that were received at the Palo Verde site on July 13 and 20, and August 24, 1981. The records were the certificates of receipt inspection, and the supplier's fabrication and material identification certifications. The shipments included four horizontal and six vertical tendons, identical in construction except for length. Also, the test data report for the shipment (one railroad tankcar) of protective grease (Visconorust 2090 P-4, Lot 1725) which was received at the site on September 13, 1982, was examined to verify that the specified physical and chemical properties had been met.

Additionally, the records relating to the pulling, buttonheading, tensioning, capping, and greasing of six completely installed tendons were examined to ascertain that the work performance and inspection requirements had been met. The tendons were: V-32, V-35, V-75, V-77, V-79, and V-82.

No items of noncompliance or deviations were identified.

5. Review of 50.55(e) Items - All Units

During this reporting period, the inspector reviewed and closed out six items which the licensee had identified to the NRC as having potential 50.55 (e) reportability significance. Each item was documented on a Deficiency Evaluation Report (DER) as required by the licensee's procedure. The DER describes the discrepant condition, identifies supporting documents and the corrective action to be taken, and is the basis for the licensee's

report to the NRC. For each of the items, the records indicate that the licensee's evaluations were thorough and that satisfactory corrective action had been completed or has been arranged.

In the DER tabulation below, only the two marked with an asterisk (*) were judged by the licensee to be reportable under the 50.55(e) criteria and have been satisfactorily reported; the others were considered not reportable. The inspector concurs with the licensee's decisions.

<u>DER NO.</u>	<u>SUBJECT</u>
81-15	Inability of Auxiliary Feedwater Flow to Reach Steam Generator Within 10 Seconds During Offsite Power Failure
81-39	Non-Traceability on Code Data Report of Certain Materials - Unit 1 Gas Stripper
*81-43	CE Manufacturing Discrepancies in Steam Separators/Dryers - Unit 1 Steam Generators
81-44	Incorrect Downstream Pressure Rating on CE Supplied Pressure Regulating Valves - Units 1, 2, and 3
*81-55	Leak in Underground Construction Service Water Line - Unit 3 Auxiliary Building
82-35	Undertorquing of Casing Hold-Down Bolts During Reassembly - Unit 2 LPSI and Containment Spray Pumps

DER 80-30 pertains to Borg-Warner Motor-operated gate valves (three inch) and the possibility of their failure to close under operating conditions. This matter was the subject of NRC IE Bulletin 81-02. In order to address the identified concerns, CE had Borg-Warner perform a test to demonstrate the valve design adequacy under the Palo Verde operating criteria. Because of several apparent inconsistencies in the Borg-Warner test procedure and lack of detailed results in the test report (by an independent testing laboratory), the inspector was unable to accept the validity of the report. A meeting was held with licensee personnel and the CE Project Manager during which the major items of the inspector's concern were clarified. It was agreed that CE would obtain the raw test data from Borg-Warner for the inspector's review. This DER is being held open pending the results of that review.

No items of noncompliance or deviations were identified.

6. Inspection Tours of Plant Site

At various times during this inspection period, the inspector toured the plant site in order to observe general housekeeping conditions, care and preservation of equipment, handling of heavy components, tagging and identification of material, absence of welding electrode stubbs lying around the various work areas, adequacy of caps over pipe openings not being worked on, and presence of cribbing under stored pipe spools, valves, and other components.

No items of noncompliance or deviations were identified.

7. Management Meeting

On October 8, 1982, the inspector met with the licensee and Bechtel representatives identified in paragraph 1. During the meeting, the inspector summarized the scope of the inspection activities and reviewed the inspection findings as described in this report.