

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-528/84-16, 50-529/84-13, 50-530/84-08

Docket Nos. 50-528, 50-529, 50-530

License Nos. CPPR-141, CPPR-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: February 21 - March 30, 1984

Inspector: Tolbert Young Jr. for 6-6-84
L. E. Vorderbruegggen
Senior Resident Inspector Date Signed

Approved By: Tolbert Young Jr. 6-6-84
Tolbert Young, Jr., Chief
Reactor Projects Section 2 Date Signed

Summary:

Inspection on February 21 - March 30, 1984
(Report Nos. 50-528/84-16, 50-529/84-13, and 50-530/84-08)

Areas Inspected: Routine, unannounced inspection by the resident inspector of construction activities associated with Unit 3 Spray Pond pipe welding and HPSI train B pipe supports; follow-up on licensee corrective action on noncompliance items; follow-up on 50.55(e) items; follow-up on conduit threading die allegation; and general activities in progress throughout the plant site. The inspection involved 108 inspector hours on-site 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)

- *E. E. Van Brunt, Jr., Vice President - Nuclear
- *D. Karner, Assistant Vice President, Nuclear
- *W. E. Ide, Corporate Quality Assurance Manager
- *D. B. Fasnacht, Nuclear Construction Manager
- *B. Kaplan, Quality Systems and Programs Manager
- *L. Souza, Startup Quality Assurance Manager (Acting)
- *D. E. Fowler, Construction QA/QC Manager (Acting)
- D. Wittas, Quality Assurance Engineer
- N. Lossing, Quality Assurance Engineer

b. Bechtel Power Corporation (Bechtel)

- S. M. Nickell, Project Superintendent
- *D. R. Hawkinson, Project Quality Assurance Supervisor
- *H. D. Foster, Project Quality Control Engineer
- *T. L. Horst, Assistant Project Field Engineer
- J. Donaldson, Lead Field Welding Engineer
- J. Sabol, Lead Pipe Hanger Engineer
- H. Fredrick, Electrical Superintendent - Unit 3

Other persons contacted during the inspection period included construction craftsmen, inspector and supervisory personnel.

*Management Meeting Attendees.

2. Licensee Action on Previous Inspection Findings

(Open) Enforcement Items - Group II.A (50-528/83-34 - Special Construction Appraisal Inspection) Electrical Raceway Fill, Identification, Separation

The Notice of Violation included four items in Group II.A. The licensee's corrective action on all four items included expanded sample examination, personnel retraining, a monthly Quality Assurance overview surveillance program, and a specific inclusion of the item in the area turnover walkdown required by WPP/QCI 31.0. Additionally, all identified discrepancies were documented on nonconformance reports, and the corrective actions were applied to Units 2 and 3, as well as to Unit 1.

The inspector verified the revision of WPP/QCI 31.0, the NCR documentation, the development of the monthly QA surveillance program, and portions of the personnel retraining documentation. These items remain open, however, pending verification of the unreviewed segments of the licensee's corrective action.

3. Allegation Regarding Incorrect Thread Cutting Dies Used on Electrical Conduit

Allegation

The machines used for threading conduit at Palo Verde are improperly fitted with tapered NPT dies that are used for pipe instead of straight NPSM dies that are required for conduit.

Details

The allegation was presented to both resident inspectors during a telephone conversation initiated by a man who identified himself by name, and who stated that he had worked as an electrician at Palo Verde for approximately two years until "terminated a few days ago." He also stated that he had informed Mr. S. Nickell, Bechtel Project Superintendent, of this situation approximately two months previously but no action was taken. The man did not ask that his identity be kept confidential, and provided his address and telephone number. He was told that his concern would be investigated and that he would be informed of our findings. The alleged was asked if he had informed the licensee of the matter via their "Hotline" program. He responded in the negative and explained that he preferred to take the matter directly to the NRC.

Assessment of Safety Significance

a. Technical Approach to Resolution

- (1) Determine if the use of NPT thread cutting dies is technically satisfactory or unsatisfactory.
- (2) If unsatisfactory, determine if the licensee has taken appropriate corrective action.

b. Work Performed and Findings Identified

Article 346 - Rigid Metal Conduit, of the National Electrical Code (NEC), 1975 edition, begins as follows:

"NOTE: Where conduit is threaded in the field it is assumed that a standard cutting die providing 3/4-inch taper per foot will be employed."

Additionally, subparagraph (b) of paragraph 346-9. Couplings and Connectors, states: "Running threads shall not be used on conduit for connection at couplings."

The 3/4-inch per foot taper specified in the NEC is identical to the American standard taper pipe thread specified in NSI Standard B2.1-1968. This standard taper pipe thread is commonly referred to in the industry as "NPT" thread.

Mr. Nickell was interviewed by the inspector and confirmed the alleged's statement that he had been contacted by the alleged "in the fairly recent past" about the conduit threading dies. Mr. Nickell stated that he directed Mr. Fredrick to have all threading machines examined and corrections made as appropriate.

Mr. Harlan Fredrick, Unit 3 Electrical Superintendent, was in charge of the Bechtel investigation. He was contacted by the inspector and related that his examination found all conduit threading machines to be fitted with dies that were clearly marked with the "NPT" identification and that no die changes were made. This is in keeping with the provisions of the National Electrical Code as outlined above.

Conclusion

Based on the foregoing information, it is concluded that the correct threading dies have been used for threading conduit at Palo Verde and finds that there is no basis for the allegation.

4. Review of 50.55(e) Item - All Units

During this reporting period, the inspector reviewed and closed out the 7 items tabulated below 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 had been arranged. The items marked with an asterisk (*) in the tabulation 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 conclusions.

<u>DER No.</u>	<u>SUBJECT</u>
*82-46	ITT Barton Pressure Transmitters not Suitable for In-Service Pressure Range - Unit 1
83-60	Wiring Separation Deficiencies - Main Steam/Feedwater Isolation Actuation System Cabinets - Unit 2
*83-65	Rust/Contamination Found in Primary Pressurizer Safety Valves - Unit 2
*83-70	Wiring Separation Deficiencies - Emergency Response Facility Isolation Cabinets - Unit 1
83-79	Superimposed AC Spikes on 125 volt DC Bus Affecting Diesel Generator Output - Unit 1
83-85	Faulty Security System Equipment - Unit 1
*83-86	Bolt Hole Overstress - Shutdown Heat Exchanger Base Plates - All three Units

The inspector again pointed out to the licensee what appeared to be inordinate delay in the resolution of certain 50.55(e) items and their

submission of the final reports. Examples cited were DER 82-46-(19 months for final report submittal) and DER's 82-76 and 82-80-(15 months since discovery of both items and final reports not yet submitted). The licensee responded that it is often difficult to obtain full cooperation from sub-vendors (as in the case of the referenced DER's) in the resolution of the related problems. The licensee spokesman stated that renewed attention and emphasis would be directed to this area of DER closeout.

5. Safety-Related Pipe Welding - Unit 3

Five completed welds in the north spray pond spray headers were examined to ascertain compliance with the requirements of Specification 13-PM-204, the ASME Code (Section III-1974 edition), Bechtel installation/inspection procedures WPP/QCI 100.0, 101.0, 202.0, and installation drawings 13-P-ZYA-061 and -062. The welds were:

- ° W-001 and W-003 in the main 24-inch inlet line No. 3-SP-059
- ° W-006, W-008 and W-010 (sizes 14, 8 and 6-inches, respectively) in header branch No. 3-SP-056.

Weld workmanship appeared good and the proper identification markings were present. The records package for each weld was examined. Properly filled-out Field Welding Check Lists (WR-5 Form) were present for each weld which specified the welding procedure used, the preheat and interpass temperatures, the required inspections and the welders who performed the work. The qualification records of the welders were examined and showed that each was currently qualified in the designated procedure (P8-AT-Ag). The WR-5 forms showed all inspection points properly signed off and that the designated NDE procedure (PT) had been performed and showed satisfactory results.

No items of noncompliance or deviations were identified.

6. Pipe Hangers and Supports - Unit 3

Two fixed pipe supports associated with the B train HPSI pump discharge line No. 3-SI-107 were examined to ascertain compliance with Specification 13-PM-204, installation/inspection procedures WPP/QCI 101.0 and 201.1, the ASME Code, and the applicable installation drawings. The supports were:

- ° No. SI-107-H-004 under spool S-003
- ° No. SI-107-H-007 under spool S-005

Both hangers were in the locations specified on the drawings, were complete and had passed final QC inspection. The materials were as specified, dimensions were correct, the welds were properly sized and identified. The records associated with the supports were complete and in order. The identified welders were checked and found to be currently qualified in the welding procedures used. The records also affirmed that NDE was accomplished and the welds were acceptable.

No items of noncompliance or deviations were identified.

7. 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 components, tagging and identification of material, absence of welding electrode stubs lying around the various work areas, presence of caps over pipe openings not being worked on, and presence of cribbing under stored equipment.

No items of noncompliance or deviations were identified.

8. Management Meeting

On April 20, 1984, 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.