

U. S. NUCLEAR REGULATORY COMMISSION
REGION V

Report Nos. 50-528/85-37, 50-529/85-37, and 50-530/85-27

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

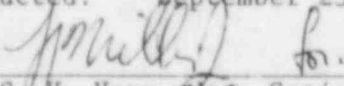
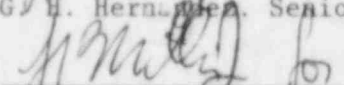
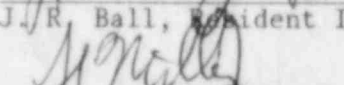
License No. NPF-41

Construction Permit Nos. CPPR-142 and 143

Licensee: Arizona Nuclear Power Project
Post Office Box 52034
Phoenix, Arizona 85072-2034

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

Inspection Conducted: September 23, - November 4, 1985.

Inspectors:		11-13-85
	G. H. Hernandez, Senior Resident Inspector	Date Signed
		11-13-85
	J. R. Ball, Resident Inspector	Date Signed
Approved By:		11-13-85
	L. F. Miller, Chief, Reactor Projects Section No. 2	Date Signed

Summary:

Inspection from September 23 - November 4, 1985 (Report Nos. 50-528/85-37, 50-529/85-37 and 50-530/85-27).

Areas Inspected: A routine, onsite inspection by the Construction Resident Inspectors of activities related to licensee action on one NRC enforcement item, review of quality records related to safety related piping and safety related components, review of the quality implementing procedures and observation of work on safety related components, and review of pipe support and restraint system testing.

The inspection involved 152 inspector hours onsite by two NRC Resident Inspectors.

The following I.E. Manual Chapters were utilized during this inspection: Module Nos. 30703, 49065, 50071, 50073, 50075, 70370B, and 92702.

Results: In the areas inspected, no deviations or violations of NRC requirements were identified.

DETAILS

1. Persons Contacted

a. Arizona Nuclear Power Project (ANPP)

E. E. Van Brunt, Jr., Executive Vice President
*D. B. Karner, Assistant Vice President, Nuclear Production
*W. E. Ide, Corporate Quality Assurance Manager
*D. B. Fasnacht, Nuclear Construction Manager
W. F. Quinn, Licensing Manager
*J. R. Bynum, Plant Manager
A. C. Rogers, Nuclear Engineering Manager
*F. J. Hopkins, Senior Nuclear Engineer
L. A. Souza, Assistant Corporate Quality Assurance Manager
*C. N. Russo, Quality Assurance Audits/Monitoring Manager
D. E. Fowler, Quality Control Manager
T. A. Shriver, Quality Systems Engineering Manager
R. J. Burgess, Field Engineering Supervisor
S. G. Penick, Quality Assurance Monitoring Supervisor
J. C. Sherrin, Quality Document Review Group Supervisor
A. T. Ramey, Quality System Supervisor
W. W. Montefour, Quality Assurance Engineer
D. M. LeBoeuf, Quality Assurance Engineer
*J. D. Bayless, Quality Assurance Engineer
H. L. Green, Quality Assurance Engineer
W. J. Gratza, Quality Assurance Engineer

b. Bechtel Power Corporation (Bechtel)

*G. A. Hierzer, Field Construction Manager
S. M. Nickell, Project Superintendent
W. G. Bingham, Project Engineering Manager
D. R. Anderson, Chief Resident Engineer
*T. L. Horst, Project Field Engineer
D. R. Hawkinson, Project Quality Assurance Manager
*H. A. Foster, Project Quality Control Engineer
H. A. Mear, Assistant Project Quality Control Engineer
R. Ruff, Lead Electrical/Instrumentation Quality Control Eng.
G. Griffith, Lead Civil Quality Control Engineer
R. Hedzik, Lead Mechanical Quality Control Engineer
*C. Berg, Bechtel Construction, General Superintendent
*R. E. Vote, Quality Assurance Engineer
*S. T. Cozzens, Bechtel Resident Engineer

*Denotes personnel attending the NRC Exit Management Meeting conducted on November 4, 1985.

The inspectors also talked with other licensee and contractor personnel during the course of the inspection.

2. Plant Status

Unit Three: Pre-operational testing of all Class 1E and non-Class 1E electrical power supply systems was in progress. Additionally, prerequisite and pre-operational testing was in progress on all major systems, except the Reactor Coolant, Safety Injection and Steam Generator/Main Steam systems.

Construction completion of Unit 3 is estimated at 98% by the licensee.

3. Followup on NRC Notice of Violation - Unit Nos. 1 and 2

(Closed) Notice of Violation No. 50-528/50-529/85-01/02: "Failure to assure that welding on HVAC Air Handling Units complied with code and drawing requirements"

The inspector had previously identified that HVAC Air Handling Units (AHU) installed in Unit Nos. 1 and 2 did not conform to welding requirements as specified by code and drawing requirements.

On January 3, 1985, the licensee's engineering staff determined that, based on Calculation No. 13-CC-ZJ-086, the questionable welds for the Unit No. 1 Air Handling Units could be accepted-as-is, and the welds would perform their intended function. The licensee's subsequent review of the identified discrepancies on the Unit No. 2 Air Handling Units resulted in the issuance a Supplier Deviation Disposition Request (SDDR) No. 3989 and a Startup Work Authorization (SWA) No. 15368 to effect repair of the Air Handling Units. The licensee's own examination of the Air Handling Units in Unit No. 3 resulted in the issuance of The Waldinger Corporation (TWC) Nonconformance Report No. 1140F/III and 1141F/III to rework the AHU's to bring them into code and drawing compliance.

The licensee's investigation into the cause of the deficiency determined the cause to be personnel error on the part of the welder and Quality Control Inspector in 1979. However, to provide assurance that no other items similar to this item existed, the licensee reviewed Waldinger's scope of work, performed a sample reinspection of work in Unit Nos. 2 and 3, and conducted evaluations of the reinspections performed by the Waldinger inspectors. Additionally, in response to other NRC and licensee concerns regarding Waldinger's Quality Program, Waldinger had previously strengthened their training and welding program, to further assure that current work activities were accomplished in accordance with project criteria.

Based on the licensee's corrective actions as indicated above and the inspector's examination of the licensee's stated actions, this violation is closed.

4. Safety Related Piping - Review of Quality Records - Unit No. 3

The inspector examined safety-related piping records to determine whether (1) the licensee's system for preparing reviewing and maintaining records was functioning properly, (2) the selected records reflected work accomplishment consistent with NRC requirements and SAR commitments, and (3) the records indicated any potential generic problems, management control inadequacies or other weakness of safety significance. The inspector examined the following areas during this inspection.

a. Nonconformance Reporting System

The inspector reviewed the licensee's system for reporting and dispositioning nonconforming materials, parts, and components associated with safety-related piping to determine whether the records adequately document the status, handling and disposition of nonconformances and deviations. The inspector examined ten nonconformance reports (NCRs) for conformance to Work Plan Procedure/Quality Control Instruction (WPP/QCI) No. 5.0, Revision 29, "Nonconforming Materials, Parts and Components." The NCRs were found to be legible, complete, and reviewed and approved by qualified personnel and processed in accordance with the licensee's nonconformance procedure. The NCRs were reviewed by the quality assurance/quality control organizations for possible trends and generic implications, and for appropriateness of corrective action. The NCRs were properly identified, stored, and easily retrievable.

b. Qualification of Craft and Inspection Personnel

1. Craft Training and Qualifications

The area of craft training for construction craft was previously examined in NRC Report No. 50-528/85-02. In that report the inspector concluded that while there was very little formal craft training required at the site, field discussions with craft workers during NRC hardware inspections found the craft personnel to be very knowledgeable and proficient at their craft.

2. Inspection Personnel Training and Qualification

The inspector reviewed the licensee's system for the qualification, training, and certification of inspection personnel to determine whether the records adequately documented the status of personnel employed in the inspection of safety-related piping. The inspector examined the qualification records for ten mechanical and piping Quality Control Engineers (QCE) for conformance with Bechtel Quality Control Procedure No. 8.0, "Qualification Certification and Training of Quality Control Personnel" and ANSI N45.2.6-1978. The records were found to be current, to support the qualification in terms of

certification, experience, proficiency, training, and testing. Additionally, the inspector noted that the Bechtel organization performed a verification of prior employment and experience references (of personnel being certified) to independently authenticate the record material.

c. Audits

The inspector reviewed the licensee's contractor (Bechtel Power Corporation) system for conducting internal audits associated with the installation of safety-related piping to determine whether the required audits have been performed in accordance with the predetermined audit schedule. The inspector examined nine internal audits for conformance with Bechtel Quality Assurance Department Procedure No. 5.0, "Audits and No. 8.1, Qualification of Auditors/Lead Auditors." The audits examined were found to have been reported in sufficient detail and the followup actions to the audit findings were found to be appropriate. The inspector noted that findings were trended and a monthly quality assurance report issued to highlight quality matters to upper management. This report is provided to both licensee and Bechtel quality assurance management.

No deviations or violations of NRC requirements were identified.

5. Safety Related Components - Procedure Review - Unit No. 3

The inspector reviewed the following specification and Work Plan Procedures/Quality Control Instructions (WPP/QCI's) for installation of safety related components in Unit 3:

- . Specification 13-MM-510 - Installation Specification for Mechanical Equipment
- . WPP/QCI 151.0 - Mechanical Equipment Installation
- . WPP/QCI 156.0 - Special Inspections of Mechanical Equipment
- . WPP/QCI 150.0 - Alignment of Drive Couplings on Rotating Equipment
- . WPP/QCI 28.0 - Maintenance of Materials and Equipment

The inspector found the specifications and work procedures adequate to assure accomplishment of component installation in accordance with applicable technical requirements.

No deviations or violations of NRC requirements were identified.

6. Safety Related Components - Review of Quality Records - Unit No. 3

The inspector examined quality records relating to the receipt, storage, installation and subsequent preventive maintenance of safety related components installed in Unit 3 to determine if records reflected that items were handled and installed in accordance with specification requirements and required inspections were

properly performed, recorded, reviewed and evaluated by qualified personnel. The inspector also reviewed documentation concerning the resolution of nonconforming conditions identified by the licensee during the course of component installation. Recent audits by the licensee in these areas were also reviewed.

The following components were reviewed for conformance to the applicable quality assurance documents:

<u>Component Tag No.</u>	<u>Description</u>
3-M-EWA-P01 and 3-M-EWB-P01	Essential Cooling Water Pumps
3-M-PCA-E01 and 3-M-PCB-E01	Fuel Pool Cooling Heat Exchangers
3-M-ECA-E01 and 3-M-ECB-E01	Essential Chillers
3-M-EWA-T01 and 3-M-EWB-T01	Essential Cooling Water Surge Tanks
3-M-AFB-P01	Motor Driven Auxiliary Feedwater Pump

The inspector reviewed receipt inspection packages, completed construction inspection plans and maintenance action cards for each component. The inspector reviewed ten nonconformance reports specifically related to these installations. Review of audits performed by the licensee over the past four years in the area of safety related component installation revealed no significant findings.

No deviations or violations of NRC requirements were identified.

7. Safety Related Components - Observation of Work - Unit No. 3

The inspector observed during the course of this inspection the installation of the pump impeller into the motor driven auxiliary feedwater pump 3-M-AFB-P01. The inspector found that activity to be well controlled, appropriate precautions were taken to prevent damage during placement, appropriate inspections were conducted and documented, and personnel appeared knowledgeable and well acquainted with the work activity.

No deviations or violations of NRC requirements were identified.

8. Testing of Pipe Support and Restraint Systems - Unit No. 2

The inspector reviewed completed test packages for the following tests performed during Hot Functional Testing:

- 91 HF-2FW02 - Auxiliary Feedwater Water Hammer Test
- 91 HF-2ZZ08 - BOP Piping Thermal Expansion Test

The inspector verified that approved procedures were used and that data was properly recorded, and that procedure changes and test exceptions were identified and significant events were recorded in the test log. Other test related activities such as use of calibrated Measuring and Test Equipment (M&TE) and completion of

test prerequisites were also verified to have been accomplished in accordance with administrative control procedures.

No deviations or violations of NRC requirements were identified.

9. Exit Interview

The NRC inspectors met on November 4, 1985, with licensee management representatives denoted in paragraph 1. The scope of the inspection and the inspection findings as noted in this report were discussed.