

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-528/85-29, 50-529/85-26 and 50-530/85-21

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 at: Palo Verde Site, Wintersburg, Arizona

Inspection Conducted: August 5-16, 1985

Inspector:

R. C. Sorensen
R. C. Sorensen, Reactor Inspector

8/22/85
Date Signed

Approved by:

L. F. Miller, Jr.
L. F. Miller, Jr., Chief
Reactor Projects Section 2

8/22/85
Date Signed

Summary:

Inspection on August 5-16, 1985 (Report Nos. 50-528/85-29, 50-529/85-26 and 50-530/85-21)

Areas Inspected: Routine, unannounced inspection by regional based inspector of QA/QC Administration, QA Audits, Document Control, Maintenance, Temporary Modifications and Tests and Experiments in Unit 2, with some examinations carrying over into Units 1 and 3. NRC Inspection Procedures 35740, 35741, 35742, 35743, 35744 and 35749 were covered during this inspection. The inspection of Units 1, 2 and 3 involved 84 inspector hours onsite by one NRC inspector.

Results: No violations or deviations were identified.

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DETAILS

1. Persons Contacted

a. Arizona Nuclear Power Project (ANPP)

- *D. Karner, Assistant Vice-President, Nuclear Production
- *W. Ide, Director, Corporate QA/QC
- *J. Bynum, PVNGS Plant Manager
- *R. Butler, Director, Technical Services
 - J. Allen, Operations Manager
 - O. Zeringue, Technical Support Manager
- *C. Russo, Manager, Quality Audits and Monitoring
 - T. Shriver, Manager, Quality Systems and Engineering
- *R. Nelson, Maintenance Manager
 - G. Olson, Superintendent, Electrical Maintenance
- *A. Ramey, Supervisor, Quality Audits
- *S. Penick, Supervisor, Quality Monitoring
 - J. Minnicks, Superintendent, I&C Maintenance
 - R. Taylor, Shift Supervisor, Unit 2
 - J. Scott, Shift Supervisor, Unit 2
 - L. Speight, Reactor Operator, Unit 2

*Indicates those personnel attending exit meeting of August 15, 1985.

In addition, the inspector interviewed numerous other licensee and contractor personnel.

2. QA/QC Administration

The inspector reviewed the QA/QC administration portion of the licensee's overall quality assurance program. The inspector interviewed cognizant licensee management in the QA organization to determine how the QA/QC program was administered.

The scope of the licensee's QA program was defined in FSAR Chapter 17.2, FSAR Table 3.2-1, and the Operations Quality Assurance Criteria Manual, as well as Procedure 73AC-0ZZ01, "Quality Classification for Structures, Systems, Components and Spare Parts".

The inspector verified that ANPP Procedure 1N001.01.00 "Review, Approval, and Revision Control" established methods and controls for review, approval, revision and deletion of ANPP Policies, Procedures, and Department Instructions which governed the administration of the QA Program.

The Director, Corporate QA/QC issued a Semi-Annual Quality Assurance Management Report to ANPP upper level management which evaluated the implementation of the QA Program at Palo Verde. It included recommendations for actions to be taken by licensee management to correct identified deficiencies. In addition, the QA organization issued a

monthly report to upper levels of licensee management that indicated the status of Corrective Action Reports issued to various ANPP organizations, problem areas, etc. Also the licensee's QA organization was independently audited on a yearly basis by representatives of other utilities in Region V who assessed the effectiveness of the licensee's QA organization.

Finally, the licensee's Quality Systems and Engineering Department performed a Trend Analysis by entering various deficiencies contained in Quality Audit Reports, Corrective Action Requests, and Non-Conformance Reports into a computer. These deficiencies were trended and analyzed, and this Trend Analysis was used to concentrate Auditing and Monitoring activities on problem areas.

The inspector concluded that the licensee's QA/QC Administration was adequate.

No violations or deviations were identified.

3. Quality Assurance Audits

The inspector examined the implementation of the Quality Assurance audits program in Unit 2. Audits are required by 10 CFR 50 Appendix B, Criterion XVIII.

The inspector interviewed various individuals in the licensee's Quality Audits Department, reviewed ANPP procedure 6N417.13.00, "Quality Auditing", and reviewed a sample of two audit packages for two recently completed audits.

The Quality Audits Department maintained a schedule of audits to be performed which are required by Technical Specifications. This schedule was then used to develop a Quality Audits Matrix. This matrix contained a list of audits to be performed, scope of the audits, and areas to be covered by the audit. Checklists were then prepared by the lead auditor that covered the areas to be audited, and approved by the Quality Audits Supervisor. The Quality Audits and Monitoring Manager provided input to each audit performed. In addition, the Nuclear Safety Group (NSG) provided an overall assessment of audits that were to be performed under their cognizance as required by Technical Specifications, as well as an audit team member.

The inspector reviewed the Quality Audits Matrix and compared the areas to be covered with the audits required by the Technical Specifications. The inspector was satisfied that the audits required by Section 6 of the Technical Specifications were being implemented by the licensee.

The inspector reviewed the checklists for the sample of two completed audits, and verified that the areas to be covered in the audits, as dictated by the Quality Audits Matrix, were covered.

The auditors were independent and did not have any responsibility for the activities that they audited. They appeared to be knowledgeable of the

activities and organizations which were audited, and were selected for the audit because of their knowledge.

Deficiencies identified during the audits were either corrected during the course of the audit, or resulted in a Quality Assurance Observation, (QAO) or Corrective Action Request (CAR). These QAOs and CARs were tracked by the Quality Systems and Engineering Department by an individual specifically assigned for this purpose. Status of CARs and QAOs was maintained by this individual from initiation, through response and final verification by the initiating organization. The inspector verified that the CARs and QAOs identified during the course of the two sample audits were being tracked, and that the audited organization had responded or were responding in writing to the QAOs and CARs as required by Procedure 6N417.13.00.

Finally, Procedure 6N417.13.00 required distribution of the Audit Reports, with CARs and QAOs as attachments, to upper levels of licensee management as well as responsible management of the audited organization.

The inspector reviewed the two audit packages and verified that the distribution list was consistent with the requirement of Procedure 6N417.13.00.

However, the inspector noted that there appeared to be no upper level management from the Startup organization present for the Test Control Audit post-audit conference between QA and the audited organizations. There were three QAOs and nine CARs generated as a result of the Test Control Audit. The inspector expressed his concern that startup management had not attended this post-audit conference to resolve the identified audit findings.

Licensee management responded that steps were being taken to ensure greater management presence from the audited organization at post-audit conferences.

The inspector will followup on the licensee's actions during a future inspection (Followup Item 50-529/85-26-01).

Also, the inspector pointed out to licensee representatives at the exit meeting that the Post Accident Sampling System (PASS) was a subject of the Plant Chemistry Audit, but appears to not have been examined in detail. The inspector pointed out that the licensee may have thereby missed an opportunity to identify potential problems with the PASS.

No violations or deviations were identified.

4. Special Tests and Experiments

The inspector interviewed key plant management personnel and reviewed applicable procedures to determine the licensee's compliance with 10 CFR 50.59 concerning special tests and experiments.

The following procedures outlined the sequence of events used for approving any proposed special tests that might be performed:

- A. 70AC-OZZ19 - Special Tests and Experiments
- B. 7N407.03.00 - Handling of Unreviewed Safety Questions
- C. 79AC-9ZZ07 - Nuclear Safety Review and Evaluation
- D. 5N404.03.00 - NRC Correspondence Control

The licensee staff, when preparing a procedure for a special test or experiment, was required to perform a 10 CFR 50.59 review of the procedure. This review corresponded to the required actions of 50.59, and determined whether or not the test was included in the FSAR, and whether or not the test constituted an unreviewed safety question. If the test involved an unreviewed safety question, it was then reviewed by the Operations Engineering Manager, in some cases the Operations Manager, the Plant Review Board (PRB), and the Nuclear Safety Group (NSG) for impact on Nuclear Safety. It was then submitted to NRC for approval by Licensing and tracked by the Action Tracking System.

The inspector interviewed the Plant Manager, Operations Manager and the Technical Support Manager to ensure they were familiar with the requirements for special tests and their own program for handling potential special tests. The inspector was satisfied with their familiarity. No special tests had been proposed or performed in Unit 2 at the time of the inspection.

No violations or deviations were identified.

5. Document Control

The inspector selected a sample of ten as-built drawings, three technical manuals, five station manual procedures, and the FSAR, to verify implementation of the document control program for Unit 2. The inspector compared the master copies of these documents with copies located at various places around the site to ensure that licensee staff members were working to current revisions.

As-built Records Management (ABRM) was responsible for distributing as-built drawings, and revisions thereto, to controlled copies around the site. Nuclear Project Records Management (NPRM) provided the same function for FSARs, technical manuals, and procedures. The inspector checked these samples of documents for current revisions at the Unit 2 control room, Unit 2 maintenance area, Unit 2 I&C area, the EOF, TSC, operations engineering, and the maintenance service building.

All work areas inspected had been provided with the current revision to as-built drawings. The Unit 2 control room had not been provided the current revision to a Shutdown Cooling Heat Exchanger technical manual. In addition, procedure 420P-2FT01, located in the operations engineering library, was missing the latest Procedure Change Notice (PCN), and the FSAR located in the Unit 2 maintenance area had been deleted from controlled distribution, but had not been pulled from the shelf. The inspector reviewed a larger sample of approximately 10 procedures and reviewed them for current revisions and PCNs and identified no other deficiencies, and determined that the missing PCN was an isolated case.

The inspector spoke with the applicable NPRM supervisor about these deficiencies. The NPRM supervisor had already taken immediate action to correct these deficiencies. The inspector verified that these deficiencies had been corrected.

No violations or deviations were identified.

6. Temporary Modifications

The inspector reviewed the implementation of the temporary modification (T-mod) program in Unit 2. Four temporary modifications were selected from the temporary modification log and examined for 1) actual status, 2) approved procedures covering the modification available, and 3) independent verification by the licensee of the installation.

Two of the T-mods involved lifted leads and installed jumpers and two involved installation of temporary equipment in safety-related piping.

The controlling procedure was 73AC-9ZZ05, "Temporary Modifications". Special T-mod tags were required to be hung on or near the T-mods, by procedure, to identify them.

The status of the T-mods selected appeared to be consistent with the temporary modification log. Approved procedures covering the temporary modification were judged to be unnecessary by the cognizant operations engineers. The inspector agreed with this assessment based on the simplicity of the T-mods. Independent verification was performed and documented in the T-mod log.

Finally, cognizant operations engineers reviewed the T-mod log on a monthly basis, as directed by the Department Manager, for continued necessity of the T-mods, and for ensuring expiration dates were not exceeded. However, this review was not required by any department instructions or procedures.

The inspector spoke with the Operations Engineering Department Manager and requested him to consider making this monthly review a part of a department instruction. The Department Manager agreed.

No violations or deviations were identified.

7. Maintenance

The inspector reviewed a sample of preventive maintenance (PM) and corrective maintenance (CM) work orders (WO) for Unit 2 to verify compliance with applicable regulatory requirements.

The inspector selected a sample of eight CM WOs and PM WOs from the electrical, I&C, and mechanical disciplines.

The inspector verified that the WOs were properly initiated, reviewed, and approved; procedures were used to cover the maintenance activities; where applicable, measurement and test equipment (M&TE) used was identified; where applicable, inspections were performed and documented in accordance with QC hold points; appropriate functional testing was

performed; cause of malfunction, as applicable, was documented; corrective action documented, as applicable; personnel performing the maintenance were identified; replacement parts were identified, as applicable; system cleanliness was maintained. All WOs reviews were satisfactory to the inspector, with one exception (WO #98581).

WO #98581 performed corrective maintenance on a backup power supply battery on a fire alarm control panel in Unit 2. The maintenance involved lifting and relanding battery cables. A Determination/ Retermination sheet was provided as an attachment to the WO where the electrician performing the work signed his name to document the lifting and relanding of leads or cables. No independent verification of relanding the battery cables was performed. Also, the retest requirements were vague and were not clearly documented in the WO. Finally, four different individuals reviewed this work order and did not identify these deficiencies.

The inspector reviewed a larger sample of approximately 20 electrical corrective maintenance WOs in all three units and determined that this instance was an isolated case, based on the sample he took. However, based on the increased sample the inspector determined that the electrical group was required to use Determination/ Retermination sheets infrequently, and was concerned that they might, therefore, be unfamiliar with their use.

The Instrument and Control group used these sheets frequently, as evidenced by the sample the inspector reviewed, and no problems were identified.

Licensee management committed to the following actions for the electrical maintenance group:

- a. Review this WO during an upcoming weekly safety meeting emphasizing the importance of Retermination/Determination sheets.
- b. Issue a new work order to functionally retest the battery concerned.
- c. Formalize a method to determine, clearly specify, and document correct retest requirements following maintenance.

The inspector will followup the licensee's actions during a future inspection (Followup Item 50-529/85-26-02).

The inspector also verified that a file existed of qualifications of personnel who performed special welding processes and was maintained current.

No violations or deviations were identified.

8. Exit Meeting

An exit meeting was conducted with the licensee personnel indicated in Paragraph 1 on August 15, 1985. The scope and findings of the inspection as described in this report were discussed.