U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-528/90-08, 50-529/90-08 and 50-530/90-08

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

License Nos. NPF-41, NPF-51 and NPF-74

Licensee: Arizona Public Service Company
P. O. Box 52034
Phoenix, AZ 85072-2034

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

Inspection Conducted: January 29-February 2, 1990 and February 12-16, 1990

Inspectors: W. P. Ang, Project Inspector — 3-12-90 Date Signed

A. Johnson, Enforcement Officer — 3/12/90 Date Signed

Approved By: H. Wong, Chief
Reactor Projects Branch, Section II — 3/13/90 Date Signed

Inspection Summary:

Inspection on January 29-February 2, 1990 and February 12-16, 1990 (Report Nos. 50-528/90-08, 50-529/90-08 and 50-530/90-08)

During this inspection the following Inspection Procedures were utilized: 30703, 37702, 92701 and 92702.

Safety Issues Management Systems (SIMS) Items: None

Results: Of the three areas inspected one violation was identified. This violation identified a lack of timely corrective action for inoperable emergency lighting, paragraph 4.

General Conclusions and Specific Findings

Significant Safety Matters: Untimely Corrective Actions For Inoperable Emergency Lighting

Summary of Violations: 1

Summary of Deviations: None

Open Items Summary: Two new items identified.

DETAILS

1. Persons Contacted

Arizona Public Service (APS)

*R. Adney,	Plant Manager, Unit 3
B. Ballard,	Quality Assurance Director
*T. Bradish,	Compliance Manager
*T. Cogburn,	Standards and Technical Support Director
*R. Fullmer,	QA Audits Manager
*D. Heinicke,	Plant Manager, Unit 2
D. Johnson,	Lead Engineer, Nuclear Engineering Department Standards and Training
L. Leavitt,	Security Operations Supervisor
J. Levine,	Vice President, Nuclear Power Production
*W. Marsh,	Plant Director
T. Navarro,	Unit 3 QC Foreman
C. Russo,	Quality Control Manager
G. Shell,	Quality Systems Manager
*G. Sowers,	Engineering Evaluations Manager
*R. Younger,	Plant Standards and Control Manager

NRC Resident Inspector

*D. Coe, Palo Verde Senior Resident Inspector

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

* Attended the exit meeting held on February 16, 1990.

2. Design Changes and Modifications Program (37702)

An inspection of the licensee's design changes and modifications program was performed to verify licensee compliance with NRC requirements and licensee commitments. Applicable portions of the following licensee procedures were reviewed and discussed with the licensee.

- 62DPP-0QQ01, revision 1, Quality Auditing
- 73AC-0MS01, revision 0, Plant Change Package
- 73AC-0MS02, revision 0, Change Control Process
- 73AC-9MS28, revision 1, Site Modifications
- 73AC-9EE31, revision 0, Technical Input and Review

- 70DP-0ZZ01, revision 1, Engineering Evaluations Department Required Reading
- 73DP-0TR02, revision 0, Qualifications and Training Requirements for System Engineers
- 73PR-0AP01, revision 0, System Engineer Roles and Responsibilities
- 81AC-0DC01, revision 1, Procedure for Plant Change
- 81AC-0DC02, revision 1, Plant Change Request
- 81AC-0DC03, revision 1, Field Change Request
- 81DP-4DC04, revision 1, Design Change Package
- 81DP-4CC05, revision 1, Design and Technical Document Control
- 81DP-4TR03, revision 2, Nuclear Engineer Department Qualifications and Training Program
- 81PR-0DC02, revision 1, Plant Change Program

The inspector determined by review of the above noted licensee procedures that the licensee's program for design change control, and the plant change program, included provisions for the following programmatic elements.

a. A method for initiating a design or modification request was provided.

b. A design change request control form, with provisions for documenting completion of required reviews, evaluations, and approvals prior to implementing the change, was provided.

c. A method for assuring that proposed changes do not involve unreviewed safety questions as described in 10 CFR 50.59 or changes in the technical specifications, was provided.

d. Organizations or personnel responsible for performing design work were identified.

e. Organizations or persons responsible for review of status and adequacy of the overall design change and modification program were identified.

f. Responsibilities and methods for conducting safety evaluations were specified.

g. Procedures and responsibilities for identifying, reviewing, and approving design input requirements were provided.

h. Training of personnel in design change and modifications program procedures were delineated.

i. Methods, procedures, and responsibilities for performing independent design verifications were specified.

j. Design interfaces (internal and/or external) were established.

k. Responsibility for final approval of design documents was specified.

l. Requirements for auditing design activities, including audit reporting and followup, were specified.

The number and complexity of the licensee's design change procedures appeared to the inspector to be cumbersome and gave the appearance that the licensee's total plant change program was fragmented. During discussions with the licensee's engineering personnel (NED and EED), the licensee informed the inspector that similar criticisms had been expressed by others. The licensee further informed the inspector that they were in the process of revising the plant design change program as part of the Engineering Excellence Program and to provide for the above noted criticisms. The program changes were intended to accomplish the following:

° Establish clear design authority for PVNGS,

° Consolidate the Site Modification and Design Change Package

into one process, and

° Incorporate the Plant Modification Committee into the process.

The process of revising the Plant Design Change Program will result in revisions to or replacement of most of the previously noted procedures. The licensee indicated that a transition plan had been developed and was about to be implemented (approximately March/April 1990) with full implementation scheduled for the end of 1990.

This inspection reviewed portions of the licensee's design change and modifications program. Implementations of the program will be inspected separately.

No violations or deviations were identified.

3. Allegation RV-89-A-0038

A. Characterization

1. The following unsafe conditions in Unit 3 exist:

a. Scaffolding material was being thrown to the ground during disassembly inside containment.

b. Personnel were allowed to sleep in containment

° Carpenter "A"

- Supervisor "B" (in trailer outside containment)
- QC
- Radiation Monitors
- Containment Supervisor
- Elevator Shaft has beds

2. The alleger had a visitor's badge and was being escorted by Carpenter "A" who was under the influence of alcohol. APS security stopped alleger for being out of sight of the alleger's escorts (Carpenters "A"/"B").

3. Carpenters "C"/"A" are known to sleep on the job all the time. Supervisor "B" saw Carpenter "A" asleep inside containment on one occasion but left without checking if Carpenter "A" was sick or under the influence of alcohol.

4. Proper tailboard meetings are not being held before doing work in the containment. Some people go into the containment to do work but don't know what they are doing and consequently are exposed to more radiation than necessary.

5. On one occasion, contaminated materials such as scaffolding was being removed from the RCA and taken across the stepoff pads without proper surveys by RP. It was subsequently surveyed and determined to be "high hot stuff". This work was done under work order 00346824.

   No pre-job surveys were performed prior to personnel starting the job. These practices were not consistent with ALARA.

6. Safety meetings in the carpenter shop are a joke - unprofessional; men sleep through meetings, then sign attendance. A meeting to brief the crew on the newly issued "Standards and Expectations" document was limited to a reading of the table of contents but the contents were not discussed. The meeting lasted 30 minutes, but an hour was charged for it.

7. Foreman "D" discriminated against the alleger for raising safety concerns. Foreman "D" was not following the open door policy and will not talk to the alleger without an appointment. Foreman "D" also closed the door on Foreman "E", i.e. the alleger was not allowed to talk to Foreman "E".

8. The alleger was discriminated against for safety shoes.

9. Company "F"'s personnel are not competent. Carpenters "G", "H" and "A" are "scaffolding men" but don't know how to build scaffolding.

10. Security should be more observant of people going into the protected area for individuals under the influence of alcohol or drugs.

11. Scaffolding was erected but does not meet seismic requirements when applicable for seismic applications. Scaffolding is being attached to plant equipment. Wrong clamps are being used. Spacers are being used in clamps rather than using the right size clamp.

12. Scaffolding was being built without tube lock

    - would crush with 40 pound torque
    - bad batch received, still on property and being used
    - oil film on scaffolding was washed off but was still slippery

13. Scaffolding was built on top of the Unit 3 X03 transformer at the 100 foot level. In addition, scaffolding is installed in Unit 3 containment, bridge between a handrail and the reactor head at 160 foot level, and is attached to the reactor head.

14. Carpenter "I" who works for Foreman "J", was rushed into a job in containment with no communications - Carpenter "I" has a bad attitude and bad work habits. This was an ALARA concern and presented unsafe conditions.

15. Not all carpenters practice good ALARA - they "crap themselves up and don't care, they get more exposure than necessary. Ex. Carpenter "B" while reworking scaffolding, received 30 (MR?) vs 3 (MR?) average for all others because he did not keep low to get less exposure. These carpenters could contaminate the whole plant due to bad work practices."

16. Excessive flammable products stored in contaminated tools storage area in excess of allowed amounts.

B. Implied Significance to Design, Construction or Operation

Unsatisfactory work practices by carpenters, QC inspectors and radiation monitors may prevent safe plant operations.

C. Assessment of Safety Significance

All the concerns listed in paragraph 3.A. above had been turned in to the licensee's Employee Concerns Program by the alleger prior to the alleger's notifying the NRC of the concerns. The licensee's Employee Concerns Program was investigating 35 concerns under hotline file 89-31 for the concerns identified in paragraph 3.A. above. The licensee had investigated 34 of the 35 concerns and was in the process of documenting its findings and corrective actions,

where appropriate. The only concern that remained to be investigated by the Employee Concerns Program dealt with a bridge allegedly erected on top of the Unit 3 reactor vessel head. The Employee Concerns Program manager indicated that the remaining concern was to be investigated, and the hotline file documentation and the total hotline file would be completed by approximately March 15, 1990.

The Licensee's Employee Concerns Program investigation for hotline file 89-31 included licensee documentation of an Arizona State OSHA inspection, Quality Department investigation, Security Department observations, employee interviews, radiation protection records and engineering evaluations. The Employee Concerns Program substantiated five of the 34 concerns investigated. The licensee provided reasonable corrective action for those concerns. In addition, although unable to confirm some of the above noted concerns, the licensee instituted corrective actions where warranted. For example, the licensee had initiated a fitness for duty program that included personnel training and heightened security department and supervisory personnel awareness and monitoring of employee alcohol and substance abuse. Upper management and supervisory personnel tours during back shifts were performed to identify employee inattentiveness to their duties and sleeping.

D. Staff Positions

The inspectors concluded that the licensee's Employee Concerns Program had adequately investigated 34 of the 35 concerns for hotline file 89-31. The employee concerns program had initiated its investigation into the remaining concern. The licensee had performed corrective actions for the concerns. The inspectors further concluded that the licensee actions provided reasonable assurance that the alleger's concerns had been resolved.

E. Action Required

(1) The Employee Concerns Program Manager committed to provide Region V a copy of the summary report for hotline file 89-31, upon completion, by approximately March 15, 1990. Should additional concerns be identified during NRC review of the report, the matter will be reviewed separately.

(2) During review of hotline file 89-31, the NRC inspector reviewed reports of security tours performed on June 1, 1989 and June 21, 1989, which were forwarded by the Security Manager to the Employee Concerns Program by a memorandum dated July 31, 1989. The report dealt with several aspects related to the above noted concerns. In addition, the report identified various security guard observations including several occurrences of visitors observed to be separated from escorts in protected areas and one occurrence of persons smoking in a radiologically controlled area. When initially questioned by the NRC inspector, the licensee was unable to obtain documentation that

the observed conditions had been appropriately reported, evaluated or corrected by the Security Department, Radiation Monitoring or the Quality Department. During this NRC inspection, the licensee interviewed the guards, obtained statements from the guards and documented a correction to the July 31, 1989 memorandum. The interviews determined that no security or radiation monitoring violations were observed by the guards. However, due to the timeliness of the licensee's evaluations for the reported observed conditions, Inspector Follow-up Item 90-08-01 was identified. The timeliness and adequacy of the licensee's evaluations will be reviewed during future inspections by NRC security and health physics specialists.

No violations or deviations were identified during this inspection.

4. Follow-up of Previously Identified NRC Open Items (92702) (92701)

A. (Open) Notice of Violation and Civil Penalty Associated with Inspection Report 89-13

The inspector performed general walkthrough inspections of portions of the Unit 3 Auxiliary Building and Control Building and held discussions with licensee system engineers. During these walkthrough inspections and discussions, the inspector observed that emergency light 3EQBN002-G and emergency lighting inverter 3EQBN004 were inoperable. These emergency lighting components were required by License NPF-74, Condition F.

Subsequent discussions with QC and System Engineering personnel identified the following sequence of documentation of the identified conditions and corrective actions taken.

(1) Emergency Light 3EQBN002-G

The Emergency Lighting System Engineering Supervisor informed the NRC inspector that emergency light 3EQBN002-G was required for load center PKA-D21. Illumination of the load center was required to allow operation of valve SSA-UV-203, a hot leg sample valve, which was required to be operated by the licensee's safe shutdown procedure. Although another emergency light 3EQBN002-F was provided in the same room, it would not have enough illumination to allow the required operation of the valve. It also was further reported that emergency light 3EQBN002-F also had a defective support during the time period that 3EQBN002-G was inoperable.

- Work Request (WR) 382867 was initiated on January 15, 1990 identifying emergency light 3EQBN002 as being inoperable. This resulted in issuance of Work Order (WO) 398110.

- On February 7, 1990, an Emergency Lighting System Engineer determined that WO 398110 had been cancelled and the system engineer submitted to QC MNCR 90-QB-0001. As of February 15, 1990, the QC Manager reported that the MNCR had neither been validated nor invalidated and consequently had not been issued for corrective action. The QC organization was aware that another work order (WO 402054) had included the reported condition.

- On February 12, 1990, WR 382867 to "Rework Light Fixture 3EQBN002" was added to WO 402054. WO 402054 was a work order for inspection and replacement of general area lighting in the control building which had a work priority of 3 - routine work.

- On February 16, 1990, the NRC inspector was informed by the licensee's Compliance Department that emergency light 3EQBN002 had been repaired and was operable.

- On February 28, 1990, after the NRC inspection, the NRC inspector requested QC verification of the status of the emergency light and was informed by the Unit 3 QC Foreman that emergency light 3EQBN002 was still inoperable.

(2) Emergency Lighting Inverter 3EQBN004

The Emergency Lighting System Engineering Supervisor informed the NRC inspector that inverter 3EQBN004 supplied power to emergency lights 3EQBN004-A, 3EQBN004-B, 3EQBN004-C, and 3EQBN004-D. These lights are required for the operation of ECCS Train "B" switchgear at load centers PHBM34, PHBM36, and PHBM38. These load centers contained switchgear for Train "B" LPSI shutdown cooling valves, Train "B" containment spray control valves, safety injection tank isolation valves, and Train "B" 1E battery charger supply breakers.

- On January 7, 1990, WR 388112 was initiated identifying that the inverter "power pack is picking up 20-30% load" when it should not have been carrying any load.

- On February 1, 1990, WO 403303 was released to "troubleshoot and rework to correct the problem(s)" identified in WR 388112. WO 403303 was assigned a priority 3A - routine work with a January 22, 1990 due date.

- On February 7, 1990, MNCR 90-QB-0001 also identified a problem with inverter 3EQBN004.

- On February 14, 1990, the NRC inspector, accompanied by the Unit 3 QC Foreman and System Engineer, observed that inverter 3EQBN004 was no longer carrying a load, was showing approximately 24.5 volts battery charge, and the battery charge light was not on. The System Engineer informed the NRC inspector that the batteries rated voltage was 28 volts and in the observed condition, the battery would not be capable of providing power for 8 hours of emergency lighting.

- On February 15, 1990, the QC Manager informed the NRC inspector that troubleshooting of the inverter was performed on February 8 and February 9, 1990. The inspector was further informed that the inverter was determined to have a malfunctioning printed circuit card and that Warehouse Discrepancy Notice (WDN) 3-154-90 had been issued on a replacement inverter assembly that lacked a certificate of conformance and consequently required QC inspection and acceptance. The WDN was completed on February 15, 1990.

- At the end of the NRC inspection, on February 16, 1990, the licensee informed the inspector that discrepant emergency lighting inverter 3EQBN004 had not been repaired or replaced.

The apparent untimely (approximately 40 days) corrective action for inoperable emergency light 3EQBN002 and inoperable emergency lighting inverter 3EQBN004 appeared to be a violation of fire protection requirements (FSAR Table 9.5-1 c, Quality Assurance Program, Item 9, Corrective Action). The apparent violation was identified as Violation 50-530/90-08-02, Untimely Corrective Actions for Inoperable Emergency Lighting.

B. <u>(Open) Violation 50-528, 529, 530/89-34-01, Lack of Timely Completion of Post Trip Review Corrective Actions</u>

Violation 50-528, 50-529, 50-530/89-34-01 identified that Post Trip Review (PTRR) 2-88-001 concerns, regarding the adequacy of operating procedures affected by site modifications, had not been adequately corrected in a timely manner. The inspection report also discussed approximately 115 PTRR/IIR/SPEER action items that were overdue, some of which by as much as 16 months. The licensee responded to the Notice of Violation (NOV) and the expressed concern regarding overdue corrective actions in Letter 102-01402-WFC/TDS/TRB dated September 8, 1989. The letter stated that delays in the implementation of corrective actions are not acceptable. Attachment 1 of the letter addressed the specific violation identified regarding operating procedures affected by site modifications and stated that the potential impact on plant operations would be determined and was scheduled to be completed by October 20, 1989. The NRC inspector reviewed licensee documentation of corrective actions for PTTR 2-88-001, concern 5. The licensee determined that

no other impact on plant operations was identified by their reviews of site modifications, and that the action was completed on October 26, 1989. Licensee corrective actions appeared to be reasonable. The licensee also committed to the following actions, provided in Attachment 2 of the above noted letter, to avoid further violations.

(1) The then current Incident Investigation Program would be revised to allow more timely corrective actions.

The inspector determined that improvements to the program had occurred with the initiation of a new program and items requiring corrective actions were being identified as MNCRs or QDRs, which already had programmatic corrective action time limits and escalation provisions.

(2) The licensee committed to disposition the backlog of open corrective actions by November 30, 1989, and to elevate to the Executive Vice President, Nuclear, the items not dispositioned by November 30, 1989.

The inspector determined that as of February 2, 1990, no items had been elevated, six items had not been dispositioned and over 100 items had not been corrected/closed. One of the six items that had not been dispositioned was assigned to the Executive Vice President, Nuclear, for action and a second item was assigned to the Vice President, Nuclear Production, for action. The majority of the open items appeared to be enhancements to the licensee's programs rather than violations of requirements or deviations from commitments. The licensee stated that appropriate MNCRs or QDRs were written on violations or deviations.

The inspector discussed the licensee's response with the Compliance Manager and the inspector reiterated that 10 CFR Part 50, Appendix B, Criterion 16, required conditions adverse to quality be promptly corrected rather than dispositioned as specified in the September 8, 1989 letter. The inspector left the violation open pending licensee completion of corrective actions. No new violation or deviation was identified.

C. (Open) Unresolved Item 50-528, 529, 530/89-34-02, Plant Modifications Procedures Questions

The unresolved item identified a need to further inspect Plant Modifications Review Committee Procedures for clarification of the implementation priority codes. The NRC inspector reviewed procedure 026B-OZZ01, Revision 0, Plant Modification Committee (PMC), and determined that the planned committee changes for plant modifications had been implemented. The inspector also reviewed a December 21, 1989, letter from the NED Director and the EED Director to the PMC Chairman recommending a priority system. The priority system was discussed in a January 30, 1990, PMC meeting and was approved for use starting February 1, 1990. However, the priority

system had not been incorporated in the licensee's existing design change and modifications procedures. Existing procedures contained similar priority systems as discussed in Inspection Report 89-34. The licensee informed the inspector that planned changes to the Plant Modification procedures, discussed in paragraph 2 of this inspection report, would incorporate the new priority system. Pending issuance and review of those procedure changes, the unresolved item was left open.

No violations or deviations were identified.

5. Exit Interview (30703)

The inspection scope and findings were summarized on February 16, 1990, with those persons indicated in paragraph one above. The inspector described the areas inspected and discussed the inspection findings. No dissenting comments regarding the inspection findings were received from the licensee. The following new items were identified during this inspection.

Violation 50-528, 529, 530/90-08-02 - Lack of timely corrective action for inoperable emergency lighting.

Followup Item 50-528, 528, 530/90-08-01 - Timeliness of licensee evaluations for reported discrepant conditions.