U. S. NUCLEAR REGULATORY COMMISSION
REGION V

Report Nos: 50-528/85-32, 50-529/85-31

Docket Nos: 50-528, 50-529 License Nos: NPF-41; CPPR-142

Licensee: Arizona Nuclear Power Project
P. O. Box 52034
Phoenix, AZ. 85072-2034

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

Inspection Conducted: September 9, - November 12, 1985

Inspectors: R C Faerssen 12/5/85
for R. Zimmerman, Senior Resident Inspector — Date Signed

R C Faerssen 12/5/85
for G. Fiorelli, Resident Inspector — Date Signed

R C Faerssen 12/5/85
for C. Bosted, Resident Inspector — Date Signed

Approved By: R C Faerssen 12/5/85
for L. Miller, Chief, Reactor Projects Section 2 — Date Signed

Summary:
Inspection on September 9, through November 12, 1985 (Report Nos. 50-528/85-32 and 50-529/85-31)

Areas Inspected: Routine, onsite, regular and backshift inspection by the three resident inspectors (Unit 1 - 513 hours; Unit 2 - 121 hours). Areas inspected included: review of plant activities; surveillance testing; plant maintenance; preoperational testing activities; engineered safety features configurations; spray pond monitoring; Unit 2 fuel receipt; post core testing program; startup program controls; plant procedures; fire protection; safety committee review; training; quality assurance; previously identified open items followup; Confirmatory Action Letter followup; followup of IE Notice, construction deficiency, and periodic and special reports; and plant tours.

A total of 126 backshift inspection hours were worked by the three resident inspectors.

During this inspection the following Inspection Procedures were covered: 30703, 35501, 40301, 41301, 42400, 42450, 42451, 42452, 60501, 61726, 62703, 64703, 70300, 70301, 70311, 70315, 70316, 70322, 70326, 70434, 71707, 71710, 72300, 72400, 72500, 74300, 82301, 92701, 92705, 93702, 94703.

Results Of the 18 areas inspected, no violations were identified.

DETAILS

1. Persons Contacted:

The below listed technical and supervisory personnel were among those contacted:

Arizona Nuclear Power Project (ANPP)

R. Adney, Operations Superintendent, Unit 2
*J. Allen, Operations Manager
J. R. Bynum, PVNGS Plant Manager
*W. Fernow, Plant Services Manager
R. Gouge, Operations Supervisor, Unit 1
J. G. Haynes, Vice President Nuclear Operations
F. Hicks, Training Manager
*W. E. Ide, Corporate Quality Assurance Manager
*D. B. Karner, Assistant Vice President, Nuclear Production
J. Knox, Integrated Safeguards Test Director
R. Meyer, Fire Protection Supervisor
J. Minnicks, Instrumentation and Control Maintenance Supt.
D. Nelson, Operations Security Manager
R. Nelson, Maintenance Manager
J. Pollard, Operations Supervisor, Unit 2
C. Russo, Quality Audits Manager
T. Shriver, Quality Systems and Engineering Manager
*L. Souza, Assistant Quality Assurance Manager
E. E. Van Brunt, Jr., Executive Vice President
R. Younger, Operations Superintendent, Unit 1
*O. Zeringue, Technical Support Manager

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

*Attended the Exit Meeting on November 12, 1985.

2. Previously Identified Items

a. (Closed) Inspector Followup Item (50-529/85-27-01): "Verify Proper Retest Following Maintenance"

The inspector reviewed 20 maintenance activities requiring retest. The inspector confirmed through reviews of test and work documents that retesting following maintenance had been completed. In some cases extensive effort was required to locate the documentation, and the inspector commented that an improved method for correlating the test documentation to the work package would improve the system. This was also a finding of APS Quality Assurance (QA), and actions have been taken by the licensee toward this end. This item is closed.

b. (Closed) Inspector Followup Item (50-528/85-13-03): "Outdated Nonconformance Report (NCR) Tags on Equipment."

The inspector verified that the licensee had walked down the system and removed the closed out NCR tags as well as any other similar tags which were no longer applicable. During subsequent walkdowns of the various plant systems, no further outdated tags were identified by the inspector. This item is closed.

c. (Closed) Inspector Followup Item (50-529/84-51-01): "Plant Review Board and Standing Committee Training"

The licensee committed to prepare a formal training session discussing the details of 10 CFR 50.59 for all Plant Review Board and standing committee members by February 1, 1985. The inspector verified that the training session was implemented by the required time. This item is closed.

No violations of NRC requirements or deviations were identified.

3. Review of Plant Activities

a. Unit 1

1) During the reporting period, Unit 1 continued with power ascension testing at the 50% and 80% power plateaus. The unit tripped from 55% on September 12, during a load rejection test. The generator output breakers were opened to simulate a loss of load. This caused offsite electric loads, approximately 600 MW, to be tripped, and approximately 70 MW of in-house loads remained connected to the generator through the auxiliary transformer. The turbine electro-hydraulic control system could not maintain control due to a design deficiency. The generator tripped, causing a loss of power to the reactor coolant pumps, and a subsequent reactor trip on loss of reactor coolant flow. A relatively low amount of decay heat, increased steam flow through the opening of the main steam line drains, and a slight overfeeding of the steam generators by the auxiliary feedwater pumps, overcooled the reactor coolant system (RCS), and caused a low pressurizer pressure safety injection actuation (SIAS) and a containment isolation actuation (CIAS). A Notification of Unusual Event (NOUE) was declared because of the reactor trip and SIAS.

During the recovery, a malfunction in the Volume Control Tank (VCT) level instrumentation caused the charging pumps to become gas bound as the VCT was emptied. A loss of non-class 1E power occurred when the auxiliary transformer failed to fast transfer loads to the startup transformers. This complicated the licensee's efforts to restore charging flow. Operators attempted to switch the charging pump suction manually from the VCT to the Refueling Water Tank (RWT), but the gas pressure at the pump suction was greater than the static head from the RWT and in-line check valves seated, preventing flow to the

charging pumps. This problem was corrected when non-class power 1E was restored, the boric acid makeup (BAM) pumps were operated, and overcame the charging pump suction pressure. The licensee implemented appropriate corrective actions to assure reliability of the charging pumps prior to returning to power.

The unit was restarted on September 15. The load rejection test was reperformed successfully following incorporation of the necessary procedure changes. These included revision to the method of test initiation to ensure the fast transfer of house loads to offsite power was maintained, as well as a modification to remove the open signal to the main steam line drain valves on a turbine trip.

Subsequest review of the loss of charging pumps by the NRC revealed that capabilities to use the pressurizer auxiliary spray were lost when the charging pumps were gas bound. On September 16, power was reduced to 20%, and a shutdown outside control room test was successfully completed on September 16. On September 17 a Confirmatory Action Letter (CAL) was issued by Region V based on concerns about the potential loss of auxiliary spray capabilities (details are documented in paragraph 7). The unit remained in Mode 3 until the requirements of the CAL were accomplished, and the unit restarted on September 21. On September 24, a power level of 60% was achieved, and on September 26, power was increased to 80%.

2) On October 3, the unit tripped from 52% power on low reactor coolant flow, when offsite power from the two normal startup transformers was interrupted by a malfunction in the computer assisted plant multiplexer (PMUX) system. This system controls the 13.8 KV electrical breakers located in the switchyard. An NOUE was declared by the shift supervisor following the reactor trip and loss of offsite power. The diesel generators automatically started and supplied the class 1E 4160 volt busses. Offsite power was restored locally from the switchyard and plant parameters were stabilized at no-load conditions. The unit remained shutdown while troubleshooting the PMUX computer system. On October 7, another loss of power occurred with the unit shutdown while troubleshooting the electrical system. The shutdown control element assembly (CEA) banks had been withdrawn to the upper electrical limit, when these rods tripped when power was lost. Control of the breakers for Unit 1 was removed from the PMUX computer system and hard wired and tested prior to restarting the reactor.

3) The unit was restarted on October 12. Power ascension resumed at the 80% plateau until the reactor tripped following a scheduled load rejection test from 80% on October 24. When the turbine tripped for the test, an apparent spurious low steam generator level signal caused a reactor trip. A malfunction in the steam bypass control system overcooled the RCS, resulting in a low pressurizer pressure SIAS and CIAS. A NOUE was

declared by the shift supervisor following the reactor trip and SIAS. The unit remained shutdown for investigation. On October 29, after starting a RCP, a 13.8 KV electrical bus bar connection between busses S03 and S01 experienced an electrical failure. A partial loss of non-class power resulted. The unit was cooled down and entered Mode 5 on October 30 to repair the electrical bus bar connection and perform an investigation into the occurrence. The unit remained in Mode 5 at the conclusion of the inspection period.

b. Unit 2

The Integrated Test of Engineered Safety Features was completed during the report period. The plant is currently involved in the completion of work items and surveillance tests in preparation for license issuance.

c. Plant Tours

The following plant areas at Units 1 and 2 were toured by the inspector during the course of the inspection:

- Auxiliary Building
- Containment Building
- Control Complex Building
- Diesel Generator Building
- Radwaste Building
- Technical Support Center
- Turbine Building
- Yard Area and Perimeter

The following areas were observed during the tours:

1. Operating Logs and Records. Records were reviewed against Technical Specification and administrative control procedure requirements.

2. Monitoring Instrumentation. Process instruments were observed for correlation between channels and for conformance with Technical Specification requirements.

3. Shift Manning. Control room and shift manning were observed for conformance with 10 CFR 50.54.(k), Technical Specifications, and administrative procedures.

4. Equipment Lineups. Valve and electrical breakers were verified to be in the position or condition required by Technical Specifications and by plant lineup procedures for the applicable plant mode. This verification included routine control board indication reviews and conduct of partial system lineups. Details are provided in paragraph 4.

5. Equipment Tagging. Selected equipment, for which tagging requests had been initiated, was observed to verify that tags were in place and the equipment in the condition specified.

6. Fire Protection. Fire fighting equipment and controls were observed for conformance with Technical Specifications and administrative procedures.

7. Plant Chemistry. Chemical analysis results were reviewed for conformance with Technical Specifications and administrative control procedures.

8. Security. Activities were observed for conformance with regulatory requirements, implementation of the site security plan, and administrative procedures included vehicle and personnel access, and protected and vital area integrity.

9. Plant Housekeeping. Plant conditions and equipment storage were observed to determine the degree of cleanliness, housekeeping and adherence to fire protection requirements. Housekeeping in the radiologically controlled area (RCA) was evaluated with respect to controlling the spread of surface and airborne contamination. Tours of the Unit 1 RCA during and shortly after the conclusion of the inspection period indicated that although conditions were adequate, continuing problems with the potential for spread of contamination due to a large number of leaking valves was evident, particularly in the mechanical penetration rooms. The control point for containment during the ongoing minor maintenance outage was somewhat cluttered, and appeared to have several drawbacks regarding its workability in a major outage, including difficulty in assuring defined boundaries between clean and potentially contaminated areas were maintained.

No violations of NRC requirements or deviations were identified.

4. Engineered Safety Feature System Walk Down - Unit 1

Selected engineered safety feature systems were walked down by the inspector to confirm that the systems were aligned in accordance with plant procedures. During the walkdown of the systems, items such as hangers, supports, electrical cabinets, and cables were inspected to determine that they were operable, and in a condition to perform their required functions. The inspector also verified that the system valves were in the required position and locked as appropriate. The local and remote position indication and controls were also confirmed to be in the required position and operable. Portions of the following systems were walked down on September 19, 24, and October 1 and 23, 1985.

High Pressure Safety Injection Trains "A" and "B"
Low Pressure Safety Injection Trains "A" and "B"
Containment Spray Systems Trains "A" and "B"
Auxiliary Feedwater Systems "A" and "B"
Diesel Generators Systems "A" and "B"

No violations of NRC requirements or deviations were identified.

5. Surveillance Testing - Unit 1

a. Surveillance tests required to be performed by the Technical Specifications (TS) were reviewed on a sampling basis to verify that: 1) the surveillance tests were correctly included on the facility schedule; 2) a technically adequate procedure existed for performance of the surveillance tests; 3) the surveillance tests had been performed at the frequency specified in the TS; and 4) test results satisfied acceptance criteria or were properly dispositioned.

b. Portions of the following surveillances were observed by the inspector on the dates shown:

	Procedure	Description/Dates
o	41ST-1ZZ23	Control Element Assembly Position Log September 10, and October 16, 1985.
o	72ST-9SB02	CPC/CEAC Auto Restart Check, September 10, and October 16, 1985.
o	41ST-1ZZ18	Routine Surveillance Modes 1-4, September 10 and 24, and October 16, 1985.
o	36ST-9SE03	Excore Safety Channel Quarterly Calibration, September 12, 1985.
o	41ST-1SI06	Iodine Removal System, October 23, 1985.
o	41ST-1ST02	Safety Injection Tank Nitrogen Vent Valve Power Surveillance, October 22, 1985.
o	41ST-1SI04	Containment Spray Valve Test, October 21, 1985.
o	41ST-1ZZ05	Weekly Electrical Distribution Check, October 21, 1985.
o	41ST-1CH03	Boron Injection Flow Path, Operating October 21, 1985.
o	41ST-1ZZ15	Weekly Borated Water Sources Surveillance Checks, all modes, October 22, 1985.

- o 41ST-1ZZ13 Containment Integrity Penetrations, October 21, 1985.

No violations of NRC requirements or deviations were identified.

6. Plant Maintenance - Unit 1

a. During the inspection period, the inspector observed and reviewed documentation associated with maintenance and problem investigation activities to verify compliance with regulatory requirements, compliance with administrative and maintenance procedures, required QA/QC involvement, proper use of safety tags, proper equipment alignment and use of jumpers, personnel qualifications, and proper retesting. The inspector verified reportability for these activities was correct.

b. The inspector witnessed portions of the following maintenance activities:

- o Boric Acid Makeup Pump "A" motor/pump alignment under Work Order (WO) 107598 on September 19, 1985.
- o Preventive maintenance on the movable air monitoring radiation monitor (RV-1) performed under WO number 107459 on October 1, 1985.
- o Running of wiring for Design Change Package 01-E-NA-054 for the Unit 1 13.8 KV breaker controls under WO number 112435 on October 9, 1985.
- o Troubleshooting Plant Multiplexer under WO number 111710 on October 9, 1985.
- o Troubleshooting switchyard 13.8 KV switchgear under WO number 111860 on October 10.
- o Steam Bypass Control System set point verification under WO number 99133 on October 23, 1985.

No violations of NRC requirements or deviations were identified.

7. Confirmatory Action Letter Followup - Unit 1

a. Region V issued confirmatory action letters (CAL) to the licensee on September 17 and 20, 1985, to confirm the licensee's commitment that Unit 1 would not be restarted following the September 16 shutdown until short term compensatory measures were taken to address concerns by the NRC relating to the auxiliary spray system. These measures included:

(1) Monitor the reference leg of the Volume Control Tank (VCT) level indicator on a daily basis.

(2) Revise the appropriate procedures to require alignment of the Refueling Water Tank (RWT) to the charging pump suction promptly on loss of offsite power.

(3) Institute procedural cautions on restart of the charging pumps.

(4) Examine the post-trip review process in light of the September 12, 1985, event to assure that off-normal events are adequately evaluated, particularly with respect to their potential safety significance.

(5) Examine the process for vendor reviews of the remaining power ascension tests to assure that, for equipment particularly sensitive to the test being conducted, appropriate vendor input has been provided in the test development.

(6) Review the shift complement for the remaining power ascension tests to determine if additional staffing may be appropriate.

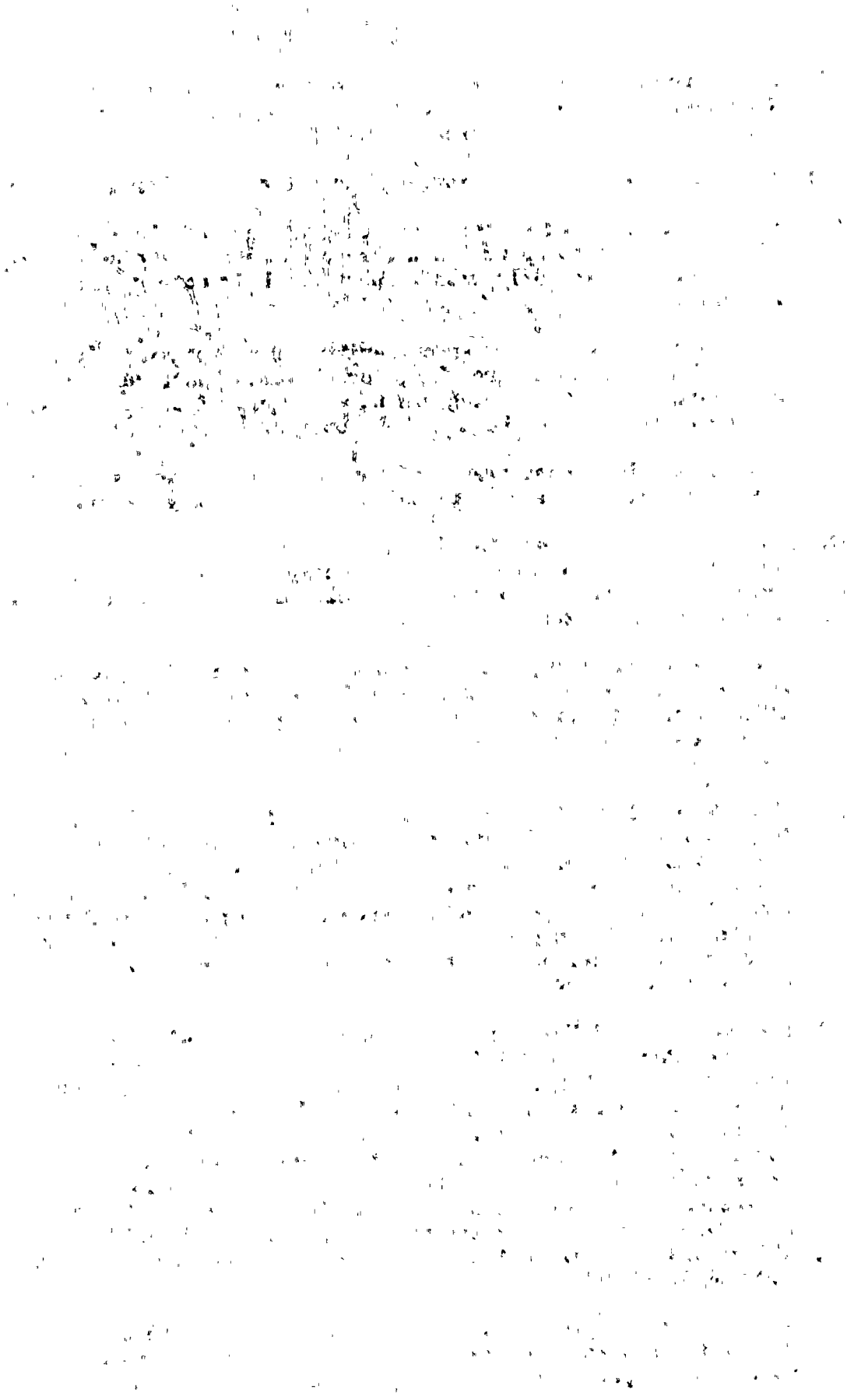
b. The inspector verified that the licensee's actions associated with the confirmatory action letters were properly implemented. In particular, the numbers in parentheses below directly correspond to the compensatory measures listed above.

(1) The inspector, through the review of completed daily preventive maintenance work orders from September 21 through October 14, 1985, verified that the VCT reference leg level was being monitored by the licensee. No change in VCT reference leg level was observed.

(2) Procedures 41AO-1ZZ12, Degraded Electrical Power; 41AO-1ZZ13, Natural Circulation Cooldown; and 41RO-1ZZ14 Loss of Forced Circulation, had procedure change notices (PCNs) issued that incorporated a note to the operator that upon a loss of offsite power the charging pump suction should be swapped from the VCT to the RWT. The inspector verified that the swap was performed in a timely manner during the subsequent October 3 loss of offsite power event.

(3) Procedure 41EP-1ZZ01, Emergency Operations; and 41RO-1ZZ10, Function Recovery; had PCNs issued to include a precaution that, should a charging pump trip, the cause of the trip should be isolated, and it should be ensured that no common mode failure would prevent charging pump operation. Based on comments from the inspector, the licensee stated that other off-normal procedures would be re-reviewed for possible inclusion of the procedural caution, if applicable. Specific procedures for re-review included 41RO-1ZZ04, 41AO-1ZZ12 and 41AO-1ZZ13. The inspector will follow the licensee's actions (50-528/85-32-01).

(4) The Technical Support Manager issued a memorandum that designated several individuals from the various sub-units within his department to form a post trip review team,



responsible for the review of post trip data and information. The licensee's performance associated with post trip reviews has shown steady improvement as experience has been gained.

(5) A letter was issued by the licensee that requested that Combustion Engineering (CE) and General Electric (GE) review the remaining tests associated with the power ascension program to insure that the test method does not lend itself to creating any unnecessary challenges to the plant safety features, or put the plant in an unsafe condition. CE had a representative involved in procedure reviews of all tests since low power licensing; however, the reviews now include concurrence from the Windsor office prior to test approval. GE, which was not formally involved in the procedure reviews previously, now will review those test procedures associated with the performance of the main turbine (i.e. load rejection) prior to test approval.

(6) The Operations Manager has reviewed the shift complement for the remaining tests and has increased manning levels for tests which could result in a significant transient. This action was evident during the October 24, loss of load test from 80% power.

No violations of NRC requirements or deviations were identified.

8. Review of Preoperational Testing Activities - Unit 2

a. Major Test Activities

During the inspection period, the Integrated Test of Engineered Safety Features (ESF) was completed following 22 days of testing. The testing was intended to confirm that the ESF functioned as designed. With minor exception, the systems performed as required. Corrective actions were taken to resolve identified deviations. The plant is currently engaged in the completion of design changes, corrective work items, and surveillance tests needed as a prerequisite to licensing.

b. Preoperational Test Witnessing

The inspector witnessed portions of the Integrated Test of Engineered Safety Features, 93PE-2SA01.

The inspector verified that an approved procedure was used, test personnel were knowledgeable of the test requirements, and data was properly collected. Procedure changes and test exceptions were identified and significant events were recorded in the test log. Other test related activities such as the 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.

c. Preoperational Test Results Review

The results of the Integrated Test of Engineered Safety Features 93PE-2SA01 were reviewed by the inspector.

The inspector verified that activities such as test data acquisition, test exception resolution, test report issuance, test modifications and acceptance criteria verification had been accomplished in accordance with procedures.

No violations of NRC requirements or deviations were identified.

9. Spray Pond Monitoring

Section 6.8.4(f) of the facility Technical Specifications states that the monitoring of the Essential Spray Pond and piping is to be conducted in accordance with Procedure 73AC-SP01. The inspector confirmed that the licensee has issued the procedure entitled "Spray Pond Piping Verification" describing the monitoring program. The program includes maintaining and monitoring of spray pond chemistry, monitoring of corrosion coupons, inspection of spray piping welds and the monitoring of spray system pressures.

The licensee has developed a correlation of pressure loss at the flow inlet to the spray nozzle piping with the loss of heat sink capability. This determination was made through a combination of engineering analyses by Bechtel and spray pond testing in which the amount of nozzle bypass flow was correlated with pressure loss.

The monitoring program established an alert limit of less than 6.2 psig and an action limit of less than or equal to 5.5 psig which represent decreasing ability of the spray pond to provide an adequate heat sink.

Plots of weekly pressure measurements of the Unit 1 "A" and "B" trains of the Essential Spray Pond System show pressure values of 8.2 psig and 8.3 psig, respectively. The Unit 1 pressures taken over a period of six months since March 1985 show only a plus or minus 0.2 psig fluctuation; however, the trend is level. Although Unit 2 pressure valves have been monitored less frequently, the results are comparable and also indicate a flat trend. A review of two pressure instruments used to measure pressure drop revealed the M&TE instruments to have 0-15 psig ranges, accuracies of 0.5% and to have current calibrations. An independent calculation by the inspector of temperature effect on pressure readings concluded that any effect was insignificant.

The licensee's efforts in monitoring spray pond system pressures appeared to be consistent with the provisions of Technical Specification 6.8.4(f) for early detection of piping degradation.

The inspector noted that the longer time constant determinations of corrosion monitoring, and pipe weld and heat exchanger inspections should also enhance the monitoring program.

No violations of NRC requirements or deviations were identified.

10. Licensee Action on 10 CFR 50.55(e) Reports

a. (Closed) DER 85-20, "Diesel Generator Cracked Rocker Arm" - Unit 2

The problem discussed in the report concerned a broken rocker arm which was detected in the 5R cylinder of the "B" Diesel Generator. The condition was detected during the initial testing of the engine. From an inspection of the assembly, the test engineers determined that it was caused by the improper installation of the rocker arm assembly at the vendor's plant. The broken component was replaced. An inspection by the test engineers confirmed no additional engine damage existed. The inspector observed that the work document had been closed, and that Quality Control (QC) had signed off the work. Extensive engine testing, including a 24 hour continuous run at 110% load, was subsequently conducted. No problems related to this deficiency were noted. This item is closed.

b. (Closed) DER 85-25, "Auxiliary Feedwater Pump Failed to Succ essfully Start During Hot Functional Testing" - Unit 2

The problem discussed in this report concerned overspeed tripping of the auxiliary feedwater turbine. The overspeed trips occurred during the testing of the auxiliary feedwater turbine driven pump conducted during the hot functional test. Corrective actions included shortening of the steam bypass valve opening time from 10 to 6 seconds, adjustment of the governor controls, and repair of steam condensate dump valves in the steam supply lines to the turbine. Following the repairs, the turbine was successfully tested repetitively from cold start conditions as required by the test document. Flow and pump response criteria were successfully confirmed to meet design requirements. This item is closed.

c. (Closed) DER 85-24, "Fracture of Emergency Diesel Turbocharger Bolts" - Units 1 and 2.

This report discusses the discovery of loose and sheared bolts on the Unit 2 Train "B" diesel turbocharger. An engineering evaluation of the design concluded that the eight bolts in the vertical plane should be replaced with A-193, Grade B7 bolts with 3-1/4" threads and torqued to 110 foot pounds. The inspector reviewed the completed Unit 2 work order which installed these bolts, and noted a Quality Control sign off on the work. This work was also completed on the two Unit 1 emergency diesels which had similar loose and sheared bolts. Reinspection of the bolts after repetitive starts and extended runs did not identify any further problems. This item is closed.

d. (Closed) DER 84-81, "Reportable Condition Relating to High Pressure Safety Injection (HPSI) Valves" - Unit 2

During the performance of Unit 2 preoperational test 91PE-2SI08, "SI Full Flow Verification Test," operational problems with the high pressure safety injection valves were encountered. These problems involved the failure of the valves to close with HPSI pumps running

in the injection mode and the erosion of the injection valves due to flow induced cavitation.

An evaluation of the problems led to corrective actions which included reversal of the valves from a "flow over" the seat orientation to "flow under" the seat orientation; installation of higher capacity motor operator switch spring packs; replacement of the pinion and gear in the motor operators; and the installation of a second orifice downstream of the originally installed orifice.

The generic tests were repeated on the valves as was the retest of 91PE-2SI08. Successful performance of the valves was confirmed. The inspector confirmed the work documents issued to complete design change DCP-2SM-SI150 issued to correct the problems has been closed out. Similar modifications were made to the Unit 1 HPSI valves to enhance their performance, and were planned at Unit 3. This item is closed.

No violations of NRC requirements or deviations were identified.

11. Fuel Receipt - Unit 2

All of the 241 fuel element assemblies needed for core loading have been received on site. The bundle which had been received with a broken grid strap spring, as reported in NRC Inspection Report 50-529/85-27, was evaluated by APS and Combustion Engineering (CE). CE's generic evaluation concluded that the broken spring would not adversely affect the integrity of the fuel assembly.

No violations of NRC requirements or deviations were identified.

12. Post Core Testing Program

The inspector reviewed the post core testing program for Unit 2. The administrative controls such as test conduct, test procedure review and approval, test results review and approval, document control, test program organizational structure and administration, and use of measurement and test equipment were the same as those used at Unit 1. Revisions to the procedures were limited to minor changes which did not affect FSAR commitments.

Test controlling procedures associated with initial fuel load, initial criticality, post core hot functional testing, and power ascension testing will be the same as those used at Unit 1 with the exception that no low power physics testing will be conducted at 320 degrees F. This condition, as stated in CESSAR table 14.2-1, is only required for a "first of a kind" plant as was the case for Unit 1.

Specific power ascension test procedures to be used at Unit 2 are also the same as those used at Unit 1 with the exception that: 1) the following tests are not required to be performed; or 2) the licensee intends to submit an FSAR change to delete or modify specific tests, as follows:

a) These tests were only required for a "first of a kind plant" per CESSAR Section 14.1 and 14.2.

72PA-IRX18 - CEA Shadowing Factor/Radial Peaking (thermal annealing portion only).

72PA-1RX03 - Natural Circulation from 80%.

72PA-1RX02 - Variable Tave (20%).

72PA-1RX35 - Variable Tave (80%).

72PA-1RX30 - Xenon Oscillation Testing (65%).

72PA-1RZ47 - Dropped and Ejected CEA Test (100%).

72PY-1RX30 - Psuedo Dropped and Ejected CEA Worth Test at 565 degrees F.

72PY-1RX30 - Shutdown CEA Group Worth Test at 565 degrees F.

b) The licensee stated that FSAR changes were expected to be submitted to delete or modify the following tests:

72PA-1RZ02 - Movable Incore Detector Test (20%) - delete

72PA-1RZ11 - Movable Incore Detector Test (80%) - delete

73PA-1MT02 - Turbine Trip Test (100%) - delete

73PA-1SF05 - Control Systems Checkout Test (80%) - modify

The power ascension program implementing controls and procedures for Unit 1 had been previously reviewed by the inspector and found satisfactory.

No violations of NRC requirements or deviations were identified.

13. Preoperational Testing Program Controls - Unit 2

The controls used during preoperational testing and the program tests conducted were the same as those used during the preoperational testing of Unit 1. The controls, which include procedure review and approval, jurisdictional controls, test conduct, test results evaluation, work control, temporary modifications, design changes, document control, and FSAR testing commitments were modified during the Unit 1 recovery period following the shutdown of safety related testing in the fall of 1983. They have been reviewed by the inspector. Some changes to the basic program have been noted; however, these revisions involved changes in organizational responsibility; clarification of instructions; and increased detail of the Test Working Group (TWG) reviews. The changes have not negated regulatory commitments made by the licensee. The test program is consistent with FSAR commitments.

No violations of NRC requirements or deviations were identified.

14. Plant Procedures - Unit 2

Plant procedures covering administrative controls, system operations, maintenance, emergency and abnormal conditions, and surveillance testing have already been developed, reviewed and approved for Unit 1, and have been implemented since the issuance of the Unit 1 operating license. Representative samples of these procedures have been reviewed by the inspector. These same procedures will also be used at Unit 2, and contain the same instructions, with differences being the use of Unit 2 equipment identification and procedure numbers. The incorporation of revisions to the Unit 2 procedures, developed as a result of Unit 1 operating experience, has been completed and verified on a sampling basis by the inspector.

No violations of NRC requirements or deviations were identified.

15. Fire Protection Program - Unit 2

The fire protection program for Unit 2 is the same as that for Unit 1. This program has been in use since the issuance of the Unit 1 operating license and has been inspected by the NRC.

No violations of NRC requirements or deviations were identified.

16. Safety Committee - Unit 2

The Unit 2 onsite and offsite safety committee organizations are the same as those used at Unit 1. These programs have been functioning since the issuance of the Unit 1 operating license and have been previously inspected by the NRC. The July minutes of the Plant Review Board (PRB) and Nuclear Safety Group (NSG) meetings were reviewed. The inspector verified that the safety committees were addressing the areas of responsibility delineated in the Technical Specifications, and that the meeting frequency and quorum requirements were being satisfied. No PRB staff changes have transpired. Two changes in committee membership have occurred in the NSG. Both individuals met the requirements of the facility Technical Specifications.

No violations of NRC requirements or deviations were identified.

17. Operating Staff Training - Unit 2

The training program for the Unit 2 operating staff is the same as that used for the Unit 1 operating staff. This training program has been implemented for several years and has been inspected by the NRC.

The training records of 6 newly hired employees were reviewed by the inspector. The training received was consistent with time on the job. All had received site access and radiation protection training. Several had received specialized training in such areas as diesel operation, fire protection and Foxboro instrumentation maintenance.

No violations of NRC requirements or deviations were identified.

18. Post Core Testing Quality Assurance - Unit 2

A review of the monitoring and auditing program associated with Unit 2 post core testing confirmed that activities such as, test conduct, test exception identification and tracking, test data documentation control of measuring and test equipment were included in the program. Discussions with two of the Quality Assurance (QA) monitoring personnel confirmed their understanding of the program and the check sheets used to monitor testing activities.

No violations of NRC requirements or deviations were identified.

19. Review of Periodic and Special Reports - Unit 1

Periodic and special reports submitted by the licensee pursuant to Technical Specifications 6.9.1 and 6.9.2 were reviewed by the inspector. The following reports were reviewed:

- Monthly Operating Reports for August and September 1985.
- Notification of Unusual Events on September 12, September 30, October 3, October 7, and October 24, 1985.

No violations of NRC requirements or deviations were identified.

20. Information Notice 84-83 - Various Battery Problems

This Information Notice discussed the potential for degradation of the Class 1E DC power system through overloading by the addition of loads to the battery system, and the improper use of solvents on battery cases and covers.

The inspector observed a communication written by the APS Engineering Manager stating that controls to prevent exceeding the design loading of the batteries through the addition of new loads is covered by generic Bechtel and APS engineering documents. These documents were identified in the communication.

A review of the APS surveillance test procedures used to maintain and check battery performance confirmed the incorporation of statements that the only approved cleaning solution for batteries is demineralized water (or a solution of demineralized water and bicarbonate of soda).

The licensee's actions adequately addressed the concerns in this Information Notice. This item is closed.

21. Exit Meeting

The inspector met with licensee management representatives periodically during the inspection and held an exit on November 12, 1985. The scope of the inspection and the inspector's findings, as noted in this report, were discussed and acknowledged by the licensee representatives.