UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-250/87-06 and 50-251/87-06

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33102

Docket Nos.: 50-250 and 50-251 License Nos.: DPR-31 and DPR-41
Facility Name: Turkey Point 3 and 4

Inspection Conducted: January 12 - February 9, 1987

Inspectors: _____ for 3/4/87
D. R. Brewer, Senior Resident Inspector Date Signed

_____ for 3/4/87
K. W. Van Dyne, Resident Inspector Date Signed

_____ for 3/4/87
J. B. Macdonald, Resident Inspector Date Signed

Approved by: Bruce A. Wilson 3/5/87
Bruce Wilson, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine, unannounced inspection entailed direct inspection at the site, including backshift inspection, in the areas of annual and monthly surveillance, maintenance observations and reviews, operational safety, and plant events.

Results: Violations - Failure to meet the requirements of Technical Specification (TS) 6.8.1 (paragraph 6), and failure to meet the requirements of 10 CFR 50, Appendix B, Criterion XVI (paragraph 7).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*C. M. Wethy, Vice President - Turkey Point
*C. J. Baker, Plant Manager-Nuclear - Turkey Point
F. H. Southworth, Maintenance Superintendent - Nuclear
*D. A. Chaney, Site Engineering Manager (SEM)
D. D. Grandage, Operations Superintendent and Acting Plant Manager
*T. A. Finn, Operations Supervisor
J. Webb, Operations - Maintenance Coordinator
*J. W. Kappes, Performance Enhancement Coordinator
*R. A. Longtemps, Mechanical Maintenance Department Supervisor
D. Tomasewski, Instrument and Control (IC) Department Supervisor
J. C. Strong, Electrical Department Supervisor
*W. Bladow, Quality Assurance (QA) Superintendent
*R. E. Lee, Quality Control Inspector
M. J. Crisler, Quality Control (QC) Supervisor
*J. A. Labarraque, Technical Department Supervisor
R. G. Mende, Reactor Engineering Supervisor
*J. Arias, Regulation and Compliance Supervisor
*R. Hart, Regulation and Compliance Engineer
W. C. Miller, Training Supervisor
P. W. Hughes, Health Physics Supervisor
G. Solomon, Regulation and Compliance Engineer
*J. Donis, Engineering Department Supervisor
J. J. Zudans, Nuclear Engineering, Human Factors Performance
*R. L. Wade, Engineering Department
*W. J. Pike, Safety Engineering Group Engineer

Other licensee employees contacted included construction craftsmen, engineers, technicians, operators, mechanics, and electricians.

*Attended exit interview on February 11, 1987.

2. Exit Interview

The inspection scope and findings were summarized during management interviews held throughout the reporting period with the Plant Manager-Nuclear and selected members of his staff. An exit meeting was conducted on February 11, 1987. The areas requiring management attention were reviewed. The licensee acknowledged the findings without exception.

The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

Two violations were identified:

Failure to meet the requirements of TS 6.8.1, in that: the in-plant equipment clearance order procedure was not properly implemented (paragraph 6) (250,251/87-06-01).

Failure to meet the requirements of 10 CFR 50 Appendix B, Criterion XVI, in that the licensee did not take prompt and adequate corrective action to evaluate the safety significance of operating an intake cooling water check valve in a degraded condition (paragraph 7) (251/87-06-02).

One Unresolved Item (URI) was identified:

NRC review of the licensee's evaluation of the operability of the as-found condition of the Unit 3 and 4 Intake Cooling Water (ICW) check valves replaced in January 1987 (Paragraph 7) (URI 250,-251/87-06-03).

3. In-Office Review of Written Reports of Nonroutine Events (90712)

The following Licensee Event Reports (LER) were reviewed and closed based on an in-office review. The inspectors verified that reporting requirements had been met, root cause analysis was performed, corrective actions appeared appropriate, and generic applicability had been considered. In addition, each LER was reviewed for and determined not to require further onsite inspector followup.

250/86-011, TS Surveillance-Fire Protection Equipment
250/86-013, TS Surveillance-RPS [Reactor Protection System]
250/86-018, ICW [Intake Cooling Water] System
250/86-019, TS Safety Injection System
250/86-020, TS Surveillance-Motor Driven Fire Pump
250/86-021, RPS Actuation-Reactor Trip
250/86-022, EDG [Emergency Diesel Generator] -Closed Air Supply Valves
250/86-024, TS ICW Pump

4. Unresolved Items (URI)

An URI is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation. One URI is addressed in paragraph 7 (URI 250,251/87-06-03).

5. Monthly Surveillance Observation (61726)

The inspectors observed TS required surveillance testing and verified: that the test procedure conformed to the requirements of the TS, that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation (LCO) were met, that test results met acceptance criteria requirements and were reviewed by personnel other than the individual directing the test, that deficiencies were identified, as appropriate, and were properly reviewed and resolved by management personnel and that system restoration was adequate. For completed tests, the inspectors verified that testing frequencies were met and tests were performed by qualified individuals.

The inspectors witnessed/reviewed portions of the following test activities:

3-OSP-041.1, Reactor Coolant System Leak Rate Calculation

3-OSP-068.2, Containment Spray Pump Inservice Test Unit 3

4-OSP-068.2, Containment Spray Pump Inservice Test Unit 4

4-OSP-019.2, Intake Cooling Water System Flowpath Verification

OP 0206.4, Periodic Visual Leak Inspection of Systems Outside Containment for Control of Radioactive Material Leakage

No violations or deviations were identified within the areas inspected.

6. Maintenance Observations (62703)

Station maintenance activities of safety related systems and components were observed and reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides, industry codes and standards and in conformance with TS.

The following items were considered during this review, as appropriate: that LCOs were met while components or systems were removed from service; that approvals were obtained prior to initiating work; that activities were accomplished using approved procedures and were inspected as applicable; that procedures used were adequate to control the activity; that troubleshooting activities were controlled and repair records accurately reflected the maintenance performed; that functional testing and/or calibrations were performed prior to returning components or systems to service; that QC records were maintained; that activities were accomplished by qualified personnel; that parts and materials used were properly certified; that radiological controls were properly implemented; that QC hold points were established and observed where required; that fire prevention controls were implemented; that outside contractor force activities were controlled in accordance with the approved QA program; and that housekeeping was actively pursued.

The following maintenance activities were observed and/or reviewed:

Replacement of Unit 3 and Unit 4 Intake Cooling Water Check Valves

Unit 4B Intake Cooling Water Pump replacement

Unit 3A2 Circulating Water Pump replacement

Troubleshooting and Repair of Steam Dump Valve CV-2827

a. Between the dates of December 3, 1986, and February 5, 1987, the licensee failed to follow the instruction of Administrative Procedure (AP) 0103.4, In-Plant Equipment Clearance Orders, during maintenance activities requiring the removal of a section of lubricating water system piping. The effected piping contained valve 3-103, a clearance boundary valve, which was danger tagged closed under Clearance Order 3-86-4-114 to isolate system water pressure. In order to properly facilitate the removal of valve 3-103, maintenance personnel had to close the first valve (3-030) upstream of the effected piping to establish a new clearance boundary.

Maintenance personnel failed to follow the instructions of AP 0103.4 regarding proper request for clearance order processing prior to isolating the system at the 3-030 valve. Although the 3-030 valve was closed, a clearance order tag was not processed for the valve. The potential existed for an individual to open the valve, allowing lubricating water to discharge freely to the intake structure area. Further, maintenance personnel failed to follow AP 0103.4, Sec. 8.8, to properly release the clearance order on valve 3-103 prior to physically removing the valve and attached piping from the system.

TS 6.8.1 requires that written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements of section 5.1 and 5.3 of ANSI N18.7-1972 and Appendix A of USNRC Regulatory Guide 1.33. Section 5.1.2 of ANSI N18.7-1972 specifies that procedures shall be followed.

It is essential that rigorous control be maintained over all clearance order danger tags within the plant. Altering the configuration of a system under clearance without adhering to the requirements of AP 0103.4 is a violation (250,251/87-06-01).

b. On January 12, 1987, Unit 3 tripped on low pressurizer pressure from 25% power. The trip occurred during a load reduction that was being performed due to a turbine plant cooling water leak in the main generator exciter. During the load reduction T average increased causing a S/G safety valve to lift. Condenser steam dump valves FCV-3-2827 and 2828 armed, but FCV-3-2827 failed to open. FCV-3-2828 opened and operated properly. The failure of valve FCV-3-3827 to open contributed to a large T average / T reference deviation and the Reactor Control Operator (RCO) initiated emergency boration as a corrective action. The emergency boration decreased T Ave and reactor coolant pressure until a reactor trip was actuated on low pressurizer pressure. The reactor trip was caused by the reactor control operator over borating the primary system. The over boration caused a larger power reduction and temperature decrease than desired. The reactor plant was subsequently stabilized at Hot Standby (Mode 3).

All equipment operated properly following the trip except for condenser steam dump valve FCV-3-2827. Upon investigation of FCV-3-2827 it was discovered that instrument air had been isolated to the valve operator. Specifically, two small, unlabeled instrument air valves were found shut. One supplied air to the current to pneumatic (I/P) converter, while the other supplied air to a trip solenoid. Prior to this event, on August 21, 1986, Plant Work Order (PWO) 63-6919 was initiated to document that the main steam dump to condenser control valve (FCV-3-2827) did not open at the proper sequence. The PWO also noted that operations personnel had isolated instrument air to the valve to prevent inadvertent opening.

This PWO had not been worked prior to the reactor trip on January 12, 1987. During the months between August 1986 and January 1987, the operations staff failed to log valve FCV-3-2827 out of service in the Equipment Out of Service (EOOS) Log when the control air was isolated. Consequently, the operations staff did not remember that the valves control air was isolated and believed that the valve failed to operate properly on January 12, 1987.

The licensee's procedures do not require that broken nonsafety related equipment be logged in the Equipment Out of Service (EOOS) log. However, nonsafety related equipment can be added to the log at the discretion of the operations staff. Had the status of FCV-3-2827 been reflected in the EOOS log, the staff would have had ample opportunity, during required periodic log reviews, to recall that the valve was out of service. Similarly, had the licensee placed clearance tags on the air valves, routine clearance log reviews would have reminded the staff of the valves' status.

7. Operational Safety Verification (71707)

The inspectors observed control room operations, reviewed applicable logs, conducted discussions with control room operators, observed shift turnovers and confirmed operability of instrumentation. The inspectors verified the operability of selected emergency systems, verified that maintenance work orders had been submitted as required and that followup and prioritization of work was accomplished. The inspectors reviewed tagout records, verified compliance with TS LCOs and verified the return to service of affected components.

By observation and direct interviews, verification was made that the physical security plan was being implemented.

Plant housekeeping/cleanliness conditions and implementation of radiological controls were observed.

Tours of the intake structure and diesel, auxiliary, control and turbine buildings were conducted to observe plant equipment conditions including potential fire hazards, fluid leaks and excessive vibrations.

The inspectors walked down accessible portions of the following safety related systems to verify operability and proper valve/switch alignment:

Emergency Diesel Generators
Auxiliary Feedwater
Control Room Vertical Panels and Safeguards Racks
Unit 3 and Unit 4 Component Cooling Water Systems
Unit 3 and Unit 4 Intake Cooling Water Systems
Unit 3 and Unit 4 S/G [Steam Generator] Feedwater Flow Platforms

a. Unit 4 Spent Fuel Pool (SFP) Building Lighting Concerns

On January 27, 1987, the inspectors observed that all the Unit 4 spent fuel pool (SFP) building area lights were burned out. This constituted a poor lighting conditions which prevented a monitoring camera, installed by the International Atomic Energy Agency (IAEA), from operating properly due to film underexposure. Additionally, the poor lighting conditions adversely impacted personnel safety and could have hindered the licensee's response to an off-normal SFP condition had one occurred. This matter was immediately discussed with the licensee. The failed light bulbs were immediately replaced and this action restored adequate lighting conditions.

On four previous occasions in 1986 lighting was temporarily interrupted in the SFP building. In August 1986 the NRC and the IAEA raised concerns over the frequency of these occurrences. The licensee was aware of the need to minimize losses of illumination.

On January 8, 1987, the IAEA had conducted a routine inspection of the surveillance camera and the SFP area. Illumination was adequate for effective camera operation. Apparently, between January 8 and 27, successive bulbs burned out one by one. This condition was not detected by the licensee until a complete failure of all lights had occurred.

The licensee has taken the following measures to prevent recurrence of the lighting problems.

1) Once each day, the Nuclear Operator will observe the SFP lights to verify that no more than 2 are out. Satisfactory completion of this inspection will be noted in the Nuclear Operator's Log (K:NO-LOG:3). This log receives supervisory review.

2) The Plant Supervisor-Nuclear (PSN) will be notified immediately by the Nuclear Operator if more than 2 lights are out. He shall ensure that immediate corrective action is initiated to restore the lights to an operable condition as soon as possible.

3) The 100 watt bulbs are being replaced with 200 watt long life bulbs, providing increased illumination and longer bulb endurance.

4) A training brief will be issued to emphasize the importance of the SFP lighting.

b. Intake Cooling Water Check Valve Concerns

On January 14, 1987, the inspectors observed a Plant Work Order (PWO) deficiency tag on Intake Cooling Water (ICW) check valve 4-311, the 4A ICW pump discharge check valve. The deficiency description, which was dated October 29, 1986, stated that the "disk may be partially separated from the shaft." The status of the repair effort was reviewed to verify that appropriate corrective action was being implemented.

Discussions with members of the maintenance department revealed that approximately 10 weeks had elapsed since PWO 2188 was written. The corrective action request described the problem as "cylinder shafts do not fully extend while pump is running." The corrective repairs were scheduled for the next outage of sufficient duration at which time the valve was to be removed from the system, rebuilt and reinstalled.

The design of the check valve was reviewed with the ICW system engineer. The check valve disk is designed to be firmly attached to the valve shaft. The shaft extends through the valve body. The ends of the shaft are attached to air cylinders which assist in closing the check valve when its associated ICW pump is turned off. By closing the valve before a backflow condition develops, check valve slam is reduced. There is a check valve installed at the discharge of each Unit 3 and Unit 4 ICW pump. There are three ICW pumps for each Unit.

The licensee's technical department staff believed that the valve disk had become loosened on the valve shaft. This conclusion was based on observations of the valve shaft and air piston assemblies during the performance of weekly ICW pump shifts. When the 4A ICW pump was started the shaft would not move and consequently the attached air pistons would not move. However, the pump developed the appropriate 20 psi discharge pressure. Apparently the check valve disk was opening to allow flow but the disk rotated without movement of the shaft. When the pump was stopped the check valve could be heard to slam closed. The absence of reverse flow through the secured pump indicated that the valve remained in the closed position. This performance was observed each week between October 29, 1986, and January 14, 1987. Prior to October 29, 1986, the disk inside check valve 4-311 appeared to be firmly attached to the shaft. Weekly pump starts performed between April 1986 and October 29, 1986, resulted in movement of the shaft and expansion of the attached air pistons as the disk opened. Similarly, the shaft rotated when the pump was stopped and this resulted in the air pistons applying a force to pull the valve closed.

Since the check valve disk was originally firmly attached to the shaft and this design condition no longer existed, and since the loosening of the disk prevented the air pistons from performing as intended, the inspector questioned the ICW system engineer as to the cause of the failure and the extent of the degradation. It was determined that no formal evaluation had been performed to explain why the disk loosened from the shaft. Additionally, no assessment had been performed addressing the potential for the disk to continue to separate from the shaft and no determination had been made as to the existence of failed components inside the valve.

The licensee first observed the free rotation discrepancy in September 1985 on valve 3-311. No visual inspection of the valve was performed. The valve was determined to be operable in engineering letter JPE-PTPM-85-1149, dated October 21, 1985, which described the symptom but did not identify a specific root cause. The letter erroneously stated that the valves did not contain keys or keyways. Therefore, the envisioned rotation methodology was simplistic and did not account for the key breakage, binding and shaft/disk damage which would exist if keys were present. The valve was repaired in late October 1985. No NCR or safety evaluation was written until March 1986 and that evaluation did not mention the as-found condition of the valve when it was repaired.

In March 1986, during inspections associated with NRC inspection report 250,251/86-10 the inspectors identified numerous discrepancies in the ICW pump area (IFI 250,251/86-10-07). This resulted in renewed licensee efforts to identify and correct all outstanding concerns. A NCR and a safety evaluation (JPE-M-86-017) were written to address concerns associated with check valve 3-311. The safety evaluation stated that the valve lacked keys and keyways. The licensee decided to purchase redesigned check valves that used a square key to preclude disk rotation about the shaft. Additionally, a weekly surveillance program was established and implemented to verify that each Unit 3 and 4 valve opened and closed in response to pump flow.

In August 1986, the surveillance program identified that valve 3-321 was rotating freely about its shaft. A concern existed, as expressed in PWO 2150, that the valve could bind. The valve was declared out of service and repairs were performed during a 24 hour LCO. Significant degradation to the keys, keyways and shaft were noted. The shaft was replaced and square keys were installed. Safety evaluation JPE-M-86-017 should have been updated and reanalyzed to reflect the existence of the keys and keyways as well as the damage they could cause when they failed. This was not done. No written determination was made as to whether valve 3-321 was found in an operable condition. It appears that the valve was initially found not to be acceptable for continued use, since the valve received extensive repairs prior to being returned to service. The weekly surveillance program continued.

In October 1986 the surveillance program identified that valve 4-311 was rotating freely about its shaft. PWO 2188 was written and, contrary to PWO 2150 of August 1986, it did not mention a concern for binding. The Technical Department staff relied on safety evaluation JPE-M-86-017 to justify operability. The Technical Department staff interpreted the evaluation to imply that all relative motion of the disk about the shaft was acceptable. However, the evaluation made no reference to any relative motion other than that which would result from the absence of key and keyways. The valve was not evaluated in light of the August failures associated with valve 3-321. No written assessment of any kind was generated other than letter JPE-PTP-86-1632 stating that the original safety evaluation applied to the Unit 4 as well as Unit 3. Since no NCR was issued, the Engineering Department was not aware that valve 4-311 had begun to display the same symptoms as valve 3-321 had previously displayed. The Engineering Department was not aware that the Technical Department was using letter JPE-PTP-86-1632 to certify that valve 4-311 was suitable for continued service without additional evaluation. The consequence of operating the valve with loose and broken parts was not evaluated. No visual inspection of the valve was performed, even though ample time existed in the form of a LCO to both inspect and repair the valve as was done with valve 3-321.

Between January 14 and 16, 1987, the Technical Department maintained that the valve had no keys or keyways to complicate the relative motion between the disk and the shaft. Additionally, the Technical Department staff maintained that, contrary to a statement contained in FPL letter JPE-PTPM-85-1149, the loosening of the disk due to bolt degradation could not be the cause of the relative motion. A written evaluation in support of that position had not been performed and neither had the staff pursued the issue with the vendor as to whether the valves should have had keys. The belief that the valves did not have keys originated during a telephone conversation with the vendor in October 1985. This call does not appear to have been followed up by a letter of confirmation nor did the issue of missing keys receive followup attention from the Quality Assurance Department.

On January 16, 1987, NRC Region II management requested that the licensee determine the root cause for the free rotation of the disk for valve 4-311. The licensee complied with this request. The plant staff maintained that the source of the rotation was unimportant because rotation has been determined to be acceptable (in safety evaluation JPE-M-86-017) without mention of various potential originating mechanisms. The NRC staff maintained that safety evaluation JPE-M-86-017 may have been deficient in that it assumed that the sole initiating mechanism for rotation resulted from a minimal weakening of the friction grip between a keyless disk and the shaft. It did not address the possibility of bolt, key, keyway or shaft degradation or assess the potential for these complications to affect valve operability.

The licensee plans to evaluate the as-found condition of the Unit 3 and Unit 4 ICW check valves to determine whether their degraded condition could have posed an operability problem. Of particular concern is a determination as to whether the broken keys and distorted keyways indicated that the potential existed for check valve binding or contributed to shaft cracking. This evaluation is scheduled for completion by the end of April 1987. An additional concern relates to safety evaluation assertion that the air closing cylinders are not required to maintain check valve operability. The air cylinders do not effectively mitigate check valve slam on valves with disks which rotate freely about their shafts. The recently identified broken bolts on valves 4-311 and 4-321 and the cracked shafts on valves 4-321 and 3-311 may invalidate this theory. The issue of check valve operability is an unresolved item (URI 250,-251/87-06-03) pending completion of the licensee's evaluation and NRC review of relevant findings.

10 CFR 50, Appendix B, Criterion XVI, as implemented by Florida Power and Light Topical Quality Assurance Report FPLTQAR 1-76A, Revision 9, and TQR 16.0, Revision 5, entitled Corrective Action, requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

FPL Quality Assurance Manual, Quality Procedure 16.1, Revision 8, delineates requirements for assuring that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, the licensee did not take prompt and adequate actions to identify and correct a deficient condition in that, after it was determined in August 1986 that broken keys, damaged keyways and a damaged shaft contributed to the degraded condition of Intake Cooling Water (ICW) check valve 3-321, necessitating both key and shaft replacement, insufficient action was taken to evaluate the safety significance of operating ICW check valve 4-311 while it exhibited symptoms of internal key and keyway damage. Consequently, between October 29, 1986, and January 16, 1987, when NRC Region II management questioned valve operability, no written analysis or empirical inspection was performed to determine the root cause of the observed deficiency, no action was taken to repair the deficiency and no determiration was initiated as to whether the discrepancy increased the potential for valve failure.

The failure to meet the requirements of 10 CFR 50, Appendix B, Criterion XVI is a violation (VIO 251/87-06-02). This violation applies only to Unit 4.

c. Additional ICW System Problems and Related LCO Excess

On February 5, 1987, at 6:57 p.m., Unit 4 entered the 24 hour LCO of TS 3.4.5.b.2, when the 4C ICW pump was declared out of service (OOS) as a result of the east actuator (piston rod) separating from the fork assembly shaft of the 4C ICW pump check valve. The 4C pump was secured and the 4B pump was placed in service. At 8:16 p.m., on February 5, with the 4C pump OOS, the 4B pump was declared OOS as a result of a failed pump shaft coupling. This put Unit 4 into TS 3.0.1 (2 ICW pumps OOS). At 8:32 p.m., on February 5, the 4C pump tested satisfactorily and was declared operable, removing Unit 4 from TS 3.0.1. The original 24 hour LCO of TS 3.4.5.b.2 continued. During the post maintenance IST testing of the 4B pump shaft replacement, the motor was discovered to be frozen or seized and was replaced. On February 6, 1987, the repairs to the 4B pump motor exceeded the 24 hour LCO and at 8:16 p.m., Unit 4 re-entered TS 3.0.1 and an Unusual Event was declared. On February 7, 1987, Unit 4 entered Mode 2 at 1:56 a.m., and Mode 3 at 2:10 a.m. On February 7, 1987, at 5:35 p.m., the 4B pump tested satisfactorily and was declared operable and the Unusual Event was terminated. On February 8, 1987, at 7:55 a.m., Unit 4 returned to 100% power.

In reviewing this event the inspectors determined that the licensee had exceeded the LCO requirements of TS 3.4.5.b.2, by 79 minutes, and subsequently exceeded the requirements of TS 3.0.1, by 13 minutes. Due to licensee oversight, the 24 hour LCO of TS 3.4.5.b.2 was inadvertently restarted, rather than continued, at 8:16 p.m., on February 5, when the 4B pump was declared OOS. The 24 hour LCO of TS 3.4.5.b.2 was actually exceeded and TS 3.0.1 entered at 6:57 p.m., on February 6, since for the entire previous 24 hour period a maximum of only two ICW pumps were available to the ICW system. Based on entering TS 3.0.1 at 6:57 p.m., on February 6, Unit 4 should have entered Mode 3 by 1:57 a.m., on February 7. Unit 4 actually entered Mode 3 at 2:10 a.m., on February 7. The licensee was immediately made aware of this discrepancy and committed to addressing actions to preclude recurrence in the LER to follow.

8. Engineered Safety Features Walkdown (71710)

The inspectors verified operability of the Unit 3 and Unit 4 ICW Systems by performing a complete walkdown of all accessible equipment. The following criteria were used, as appropriate, during the walkdown:

a. System lineup procedures matched plant drawings and the as-built configuration.

b. Equipment conditions were satisfactory and items that might degrade performance were identified and evaluated (hangers and supports were operable, housekeeping was adequate, etc.).

c. Instrumentation was properly valved in and functioning and calibration dates were not exceeded.

d. Valves were in proper position, breaker alignment was correct, power was available, and valves were locked/lockwired as required.

e. Local and remote position indication was compared and remote instrumentation was functional.

f. Breakers and instrumentation cabinets were inspected to verify that they were free of damage and interference.

The inspectors noted the following Unit 3 concerns to licensee management:

a. ICW pumps 3A and 3B discharge pressure gauges had longstanding PWO tags.

b. ICW pump 3A northeast anchor bolt was missing a temporary system alteration tag.

The inspectors noted the following Unit 4 concerns to licensee management:

a. ICW pumps 4A, 4B, and 4C discharge pressure gauges had longstanding PWO tags.

b. ICW pump 4A motor upper bearing temperature wiring conduit was broken.

c. ICW pump 4A grout was slightly degraded due to cracking.

d. ICW pump 4B shaft bearing lubricating water system piping was leaking.

e. ICW pump 4B power supply junction box for bearing temperature was missing 6 of 8 screws.

f. ICW pump 4B motor ground wire was not properly secured.

g. ICW pump 4B grout was slightly degraded due to cracking.

h. ICW pump 4C lubricating water piping supports were loose.

i. ICW pump 4C power supply junction box support was loose and could bump the motor box.

j. ICW pump 4C motor ground wire was not properly secured.

k. Isolation of a portion of the lubricating water system for the ICW system was inadequate as discussed in paragraph 6.

l. ICW pump bearing cooling water system pressure requirements could not be determined.

9. Plant Events (93702)

The following plant events were reviewed to determine facility status and the need for further followup action. Plant parameters were evaluated during transient response. The significance of the event was evaluated along with the performance of the appropriate safety systems and the actions taken by the licensee. The inspectors verified that required notifications were made to the NRC. Evaluations were performed relative to the need for additional NRC response to the event. Additionally, the following issues were examined, as appropriate: details regarding the cause of the event; event chronology; safety system performance; licensee compliance with approved procedures; radiological consequences, if any; and proposed corrective actions. The licensee plans to issue LERs on each event within 30 days following the date of occurrence.

On January 12, 1987, Unit 3 tripped on low pressurizer pressure from 25% power. The trip occurred during a load reduction that was being performed due to a turbine plant cooling water leak in the main generator exciter. This event is discussed further in paragraph 6.b.

On January 12, 1987, while Unit 4 was at 100% reactor power (Mode 1) the 4B Component Cooling Water (CCW) pump automatically started on low CCW system pressure. The 4A CCW pump which was operating during the event was subsequently declared out of service and an investigation to determine root cause commenced. The following action was taken: all three Unit 4 CCW pumps were performance tested; the CCW header low pressure sensing switch was tested; the 4A CCW pump breaker and the 4B start delay relay were inspected; and system performance was observed under low header pressure conditions. The CCW system functioned as designed with no apparent equipment faults. No indication of actual low CCW header pressure was found and the event was deemed spurious.

On January 15, 1987, the emergency notification system (ENS) telephone was found to be inoperable during the execution of an emergency preparedness drill. Normal commercial telephone communication was available and was used to make the required significant event notification. A repairman was dispatched and the ENS was subsequently returned to service.

On January 19, 1987, while Unit 3 was in hot standby (Mode 3), partial containment ventilation isolation and control room ventilation isolation occurred. Process Radiation Monitor System (PRMS) Channel R-11 (containment air particulate monitor) actuated as a result of maintenance personnel troubleshooting PRMS Channel R-20. The ESF actuation was verified to be spurious and R-11 was reset.

On January 22, 1987, strong winds, gusting to 60 mph, downed several poles and power lines blocking the main access route to the plant and knocking out power to certain plant auxiliary facilities. The nuclear units were unaffected by this event. The alternate evacuation route was used to allow plant access. The operability of the emergency sirens via the 72

hour back up batteries was verified, and security personnel instituted compensatory measures to evacuate the affected buildings in the event it became necessary. The main access route and and power were restored the same evening.

On January 27, 1987, while Unit 4 was in Mode 1 (100% reactor power) partial containment ventilation isolation and control room ventilation isolation occurred. PRMS Channel R-12 (containment gaseous monitor) actuated while performing a source check of PRMS Channel R-19 (steam generator blowdown monitor). The ESF actuation was verified to be spurious and R-12 was reset.

On January 28, 1987, while Unit 4 was in Mode 1 (100% reactor power) partial containment ventilation isolation and control room ventilation isolation occurred. PRMS Channels R-11 and R-12 actuated as a result of maintenance personnel troubleshooting PRMS Channel R-19. The ESF actuation was verified to be spurious and R-11 and R-12 were reset.

On January 28, 1987, with Unit 3 in Mode 3 performing a normal heatup, AFW automatically initiated while attempting to place the 3B steam generator feedwater pump (SGFP) in service. The 3A SGFP was previously secured. The 3B SGFP failed to start and when the switch was returned to the auto position the logic for automatic start of AFW was completed and it initiated. The AFW pumps were secured and the standby SGFPs were placed in service until trouble shooting and repair of the 3B SGFP were completed. The contacts on the 3B SGFP switch were found to be dirty, they were cleaned, the pump was returned to service, the standby SGFPs were secured, and the heatup continued.

On January 28, 1987, the Emergency Diesel Generator (EDG) fuel oil storage tank was declared out of service. Fuel oil sample analysis revealed that water and sediment acceptance criteria had been exceeded and both units entered TS 3.0.1. Backup samples were taken and analysis revealed that water and sediment were within specification. The fuel oil storage tank was declared back in service and both units were no longer in TS 3.0.1. The licensee's justification for acceptance of the backup sample was based primarily on the belief that the initial sample was not representative of actual storage tank conditions. This belief was supported by satisfactory sample results of the EDG day and skid tanks. In addition, the fuel oil storage tank sampling technique is currently under licensee review to provide more specific guidance on obtaining a fuel oil sample that is more representative of storage tank contents.