UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

January 25, 2002

Florida Power & Light Company
ATTN: Mr. J. A. Stall
Senior Vice President of Nuclear Operations
PO Box 14000
Juno Beach, FL 33408-0420

SUBJECT: TURKEY POINT NUCLEAR PLANT - NRC INTEGRATED INSPECTION REPORT 50-250/01-06, 50-251/01-06

Dear Mr. Stall:

On December 29, 2001, the NRC completed an inspection at your Turkey Point Units 3 and 4. The enclosed report documents the inspection findings which were discussed on January 7, 2002, with Mr. J. McElwain and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the inspectors identified one issue of very low safety significance (Green). This issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a Non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this Non-cited violation, you should provide a response with the basis for you denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Turkey Point facility.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories, and although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more

limited access of personnel and vehicles to the sites. The NRC has conducted various audits of the Florida Power and Light's response to these advisories and Turkey Point's ability to respond to terrorist attacks with the capabilities of the current design basis threat (DBT). From these audits, the NRC has concluded that the Turkey Point security program is adequate at this time.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Son Q. Ninh, Acting Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos. 50-250, 50-251
License Nos. DPR-31, DPR-41

Enclosure: Inspection Report 50-250/01-06,
50-251/01-06

cc w/encl: (See page 3)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-250, 50-251
License Nos:	DPR-31, DPR-41
Report No:	50-250/01-06, 50-251/01-06
Licensee:	Florida Power & Light Company (FPL)
Facility:	Turkey Point Nuclear Plant, Units 3 & 4
Location:	9760 S. W. 344th Street Florida City, FL 33035
Dates:	September 30 - December 29, 2001
Inspectors:	C. Patterson, Senior Resident Inspector R. Reyes, Resident Inspector G. Kuzo, Senior Radiation Specialist (Sections 2OS1-2OS2) W. Bearden, Reactor Inspector (Sections 1R08.3, 4OA5) R. Gibbs, Reactor Inspector (Section 1R02) S. Rudisail, Project Engineer (Section 4OA1) M. Scott, Reactor Inspector (Section 1R07B) K. Green-Bates, Reactor Inspector (Sections 1R08.1, 1R08.2)
Approved by:	S. Ninh, Acting Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000250-01-06, IR 05000251-01-06 on 09/30/01-12/29/01, Florida Power & Light, Turkey Point Nuclear Power Plant, Unit 3 & 4. Refueling outage.

The inspection was conducted by resident inspectors, a regional senior radiation specialist, four reactor inspectors, and a project engineer. The inspectors identified one green finding which was a non-cited violation. The significance of most findings is indicated by their color (green, white, yellow, red) using IMC 0609 “Significance Determination Process.” The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process web site.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

Green. The licensee’s initial corrective action review of a boration flow path provided a technical justification that a flow path was available but did not adequately address compliance with the plant‘s Technical Specification (TS). A non-cited violation was identified for failure to have an operable boration injection path because the charging pump was not capable of being powered from an operable emergency power supply as required by TS 3.1.2.1.

The finding was of very low safety significance because a boric acid flow path was available and other equipment was available for realignment. (Section 1R20)

A. Licensee Identified Violations

None

Report Details

Summary of Plant Status:

Unit 3 was taken off-line on September 29, 2001, to begin a refueling outage. The unit was returned to service on October 27, 2001, following completion of a 28 day refueling outage. The unit operated at or near full power during the remainder of the inspection period.

Unit 4 operated at or near full power during this inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity (Reactor-R)

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed the licensee's preparations for the approach of Hurricane Michelle to assess that actions were taken to protect mitigating systems in accordance with plant procedure, 0-ONOP-103.3, Severe Weather Preparations. The inspectors responded to the site on November 4, 2001, and inspected selected plant areas and attended an emergency response facility staffing contingency meeting to determine the readiness of the preparations. The site was under a Tropical Storm Warning and the hurricane turned away from the site requiring no further plant actions.

b. Findings

No findings of significance were identified.

1R02 Evaluations of Changes, Tests, or Experiments

a. Inspection Scope

This inspection was conducted to review implementation of the licensee's program for 10 CFR 50.59, Evaluations of Changes, Tests, or Experiments. The inspection was conducted by review of a sample of completed 10 CFR 50.59 safety evaluations performed by the licensee. The sample selected included evaluations from all three Reactor Safety cornerstones, and included the most risk significant evaluations recently performed by the licensee. The sample also included evaluations from all site groups performing evaluations, and consisted of evaluations of plant modifications, procedure revisions, changes to the Updated Final Safety Analysis Report (UFSAR), tests, and non-routine operating configurations. The evaluations were reviewed to verify that the changes could be conducted by the licensee under the provisions of 10 CFR 50.59, without prior NRC approval. The sample included a total of twenty one evaluations, twelve of which were screen outs. The sample reviewed are included in the attached list.

In addition, the inspectors reviewed a sample of condition reports to confirm that the licensee was identifying issues and initiating actions to resolve concerns.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors conducted partial walk down inspections to determine the alignment of redundant trains/systems when the other train/system was out-of-service. The inspectors reviewed the licensee's operating procedure, UFSAR system description, and system drawings to determine that the systems were correctly aligned. Additionally, for the detailed walk down on the 4B Emergency Diesel Generator (EDG), the inspectors reviewed the status of existing deficiency tags on the EDG to verify any degraded equipment did not cause the EDG to be inoperable. The inspector reviewed the Out Of Service (OOS) log in the control room and discussed the OOS equipment with the responsible Unit 4 reactor operator to verify that there were no additional risk significant equipment OOS during the time the 4A diesel was being tested. The inspectors reviewed whether the Unit 3 EDG radiator fan alignment problems were applicable to Unit 4 due to a different design. A review of a sample of the recent condition reports was made to evaluate any safety significant equipment alignment issues. The below two systems were inspected by partial walkdown:

- 125 volt direct current system while 3B battery was out of service
- Unit 4 Component Cooling Water (CCW) System while 4C CCW Heat Exchanger was out of service

The below system was inspected by a detailed walkdown:

- Unit 4B EDG While the 4A was out of service

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

On November 13, 2001, the inspectors observed a fire drill at the Unit 4 "C" bus transformer to verify the readiness of the plant fire brigade to respond to a fire. The inspectors observed the five fire brigade members response to the fire to evaluate timeliness and proper donning of appropriate clothing and self-contained breathing apparatus. Fire hose capability was demonstrated by actually spraying water and simulated foam near the fire area. The inspectors attended the drill critique to insure the

drill objectives were met and past performance deficiencies from a previous drill in the same area were corrected.

The inspectors toured selected plant areas to evaluate conditions related to control of transient combustibles and ignitions sources, the material condition and operational status of fire protection systems, and selected fire barriers used to prevent fire damage or fire propagation. The inspectors inspected portable fire extinguishers and fire doors to assess the functionality of equipment. The inspectors ensured these activities were consistent with the licensee's Fire Protection Plan and 10 CFR Part 50, Appendix R. The following areas were inspected:

- Unit 3 CCW Pump and Heat Exchanger Area
- Unit 4 CCW Pump and Heat Exchanger Area
- Unit 3 and 4 Boric Acid Tanks and Pump Room
- Unit 3 Containment Spray Pump Room
- Unit 4 Containment Spray Pump Room
- Unit 3 Safety Injection Pump Room
- Unit 4 Safety Injection Pump Room

b. Findings

No findings of significance were identified.

1R07B Heat Sink Performance

a. Inspection Scope

The inspectors selected 2 risk important heat exchangers (HX) and critical systems' components to inspect. Items evaluated were: Intake Cooling Water/Component Cooling Water (ICW/CCW) and CCW/Residual Heat Removal (RHR) system condition; HX and pump performance; selected risk significant valves, pump seal coolers, and pumps' work history; ICW piping problems; and the ICW intake physical condition.

During this period, the inspector reviewed to determine that: selected heat exchanger test methodology was consistent with accepted industry standards (Electric Power Research Institute Service Water Heat Exchanger Testing Guidelines, TR-107397) or equivalent (NRC Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment); test conditions were appropriately considered; test criteria were appropriate and met; test frequency was appropriate; heat sink calculations took into account limiting conditions for worst-case scenarios; as-found results were appropriately dispositioned such that the final condition was acceptable; and, test results considered test instrument inaccuracies and differences. The inspectors walked down: the ICW intake structure, pumps, and piping; CCW heat exchanger rooms; and turbine plant cooling water (TPCW) skids supplied by ICW. The inspectors observed a ICW/CCW HX performance test and inspected recent ICW and screen wash piping installations and/or repairs with a system engineer.

The inspector reviewed: ICW discharge check valve maintenance histories, risk significant valve repairs, and valve condition reports; HX surveillance test procedures; and preventive and corrective maintenance program work activities on selected components. These reviews were evaluated against Inservice Test Inspections information, licensing commitments, Technical Specifications, probabilistic risk assessments, Updated Final Safety Analysis Report, and design documents.

The inspectors reviewed potential common cause problems associated with ICW/CCW components and repair activities. Further, the inspectors reviewed ICW/CCW corrective action documentation. The inspectors also reviewed the operational occurrences, and periodic (health) reports available on the above HX and systems. The work orders were reviewed to corroborate the component problems listed in the condition report data base for the ICW and CCW systems over the last three years. Documents reviewed during the inspection are listed in this report.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI)

.1 Unit 3 Steam Generator (SG) Inspection

a. Inspection Scope

The inspector reviewed the implementation of the licensee's inservice inspection program for monitoring degradation of the U3 steam generators (SG), a reactor coolant system boundary component. The inspectors reviewed selected inspection records for:

- Eddy current examination (ET) and data acquisition for six inservice SG tubes
- 2001 ET data analysis and history for two inservice tubes in SG-3A, three in SG-3B and one in SG 3C
- 14 SG tube repairs (plugging) required as a result of the Unit 3 SG ET inspection

The records were compared to the Technical Specifications (TS), License Amendments and applicable industry established performance criteria to verify compliance. The inspectors also verified that the ET equipment setup parameters, methodology and equipment used were in accordance with "FPL Turkey Point Unit 3 Component Specific Technique Sheets" and that site procedures had been reviewed and accepted by the Authorized Nuclear Inservice Inspector. The inspectors reviewed activities to determine that the ET consistently detected previously identified tube imperfections such as dents, tube wear, and manufactured burnish marks at the expected locations, and verified that SG plugging limits had not been exceeded.

The inspectors also reviewed the licensee corrective actions to date for the recently identified U3 SG degradation mechanism of wear at broached support plates.

b. Findings

No findings of significance were identified.

.2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed 15 condition reports to determine if the identification of Unit 3 and Unit 4 SG problems was at an appropriate threshold in accordance with licensee program requirements. The inspectors also reviewed the corrective actions to verify if they were appropriately implemented.

b. Findings

No findings of significance were identified.

.3 Inservice Inspection Activities

a. Inspection Scope

The inspectors observed in-process ISI work activities and reviewed selected ISI records. The observations and records were reviewed for compliance to the Technical Specifications (TS) and the applicable Code (ASME Boiler and Pressure Vessel Code, Sections V and XI, 1989 Edition, with no Addenda).

Portions of the following Unit 3 ISI examinations were observed:

• Ultrasonic (UT)	Piping welds SI-2301-1, SI-2301-4, SI-2301-13
• Liquid Penetrant (PT)	Piping welds SI-2301-1, SI-2301-4, SI-2301-13, SI-2302-1, SI-2302-2, SI-2302-10, SI-2302-13, SI-2301-14
• Visual Examination (VT-3)	Accumulator A restraint, 427-A and spring hanger, SR-41

Qualification and certification records for examiners, equipment and consumables, and nondestructive examination (NDE) procedures for the above ISI examination activities were reviewed. In addition, a sample of ISI issues in the licensee's corrective action program were reviewed for adequacy.

In addition to the above observations and reviews for the current Unit 3 outage, the inspectors observed activities relative to inspection of the Unit 3 reactor vessel head penetrations (VHPs) in response to NRC Bulletin 2001-01. The inspection included review of remote visual inspection procedures, assessment of contractor NDE personnel training and qualification, and observation and assessment of in-process visual (VT) examinations. The activities were examined to verify licensee compliance with regulatory requirements and gather information to help the NRC staff identify possible further regulatory positions and generic communications. The results of this review are further discussed in Section 4OA5.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On December 11, 2001, the inspector observed operator requalification training to assess licensed operator performance. The inspector observed operator actions taken during a simulated steam generator tube leak to determine if the actions were consistent with the plant emergency operating procedures requirements. The inspector reviewed the emergency action level classifications to assess the classifications were made in accordance with the emergency plan. The inspector discussed with the simulator instructor and training manager to determine that appropriate attention was placed on making emergency action level announcements and notifications.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors assessed the effectiveness of maintenance on selected structures, systems, and components scoped into the maintenance rule, and verified procedural requirements specified in procedure 0-ADM 728, Maintenance Rule Implementation. The inspector reviewed the characterization of failures, safety significance classifications, and the appropriateness of performance criteria and corrective actions. The inspector verified by a detailed review of the EDG radiator fan idler pulley misalignment that all corrective actions were adequately addressed by the maintenance rule or other licensee corrective action program requirements. The following list of Condition Reports (CRs) was reviewed:

- CR 01-1913 Emergency Containment Filter System
- CR 01-1785 EDG Start Switches
- CR 01-2255 Inoperable CCW Heat Exchanger Due Unexpected Fouling
- CR 01-2134 Reactor Head O-Ring Leak
- CR 01-2414 3B Motor Control Center Air Conditioning Failure
- CR 01-2418 3B EDG Radiator Fan Idler Pulley Misalignment

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the following emergent items, as described in the referenced CRs or work orders (WOs). The inspectors reviewed the emergent work activities to determine if they were adequately planned and controlled, as described in 0-ADM-210, On-Line Maintenance/Work Coordination and O-ADM-225, On Line Risk Assessment and Management. The inspectors inspected the acceptability that, as appropriate, contingencies were in place to reduce risk, minimize time spent in increased risk configurations, and to avoid initiating events. The inspectors discussed the online risk assessment for a scheduled 4A EDG run while the CCW Heat Exchanger was out of service to check the risk acceptability. The inspector reviewed the corrective actions of the reactor head O-ring seal leak issue with Operations and Engineering supervisors and attended the Plant Nuclear Safety Committee meeting to verify corrective actions were adequately documented. The following items were reviewed:

- WO 31015997 Clean 4C CCW Heat Exchanger
- CR 01-2264 Reactor Coolant System Tailpipe Temperature Alarm
- CR 01-1960 Spent Fuel Pool Cooling During Core Offload
- CR 01-2091 Breakers Not Stripping During Test
- CR 01-2134 Reactor Head O-ring Seal Leak
- CR 01-2128 Release of Gas Decay Tank to The Containment Atmosphere
- CR 01-1813 Generator Exciter Ground

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the selected operability evaluations affecting mitigating systems and barrier integrity to determine that operability was justified and no unrecognized increase in risk had occurred. The inspectors reviewed procedural requirements as described in 0-ADM-518, Condition Reports. A thorough review of the boric acid flow path assessment was conducted and the finding discussed in Section 1R20. The following list of condition reports and documents were reviewed:

- CR 01-2081 Boric Acid Flow Path
- CR 01-2211 3B EDG Radiator Fan Idler Pulley Bearing Failure
- CR 01-2264 RCS Tailpipe Temperature Alarm
- CR 01-2070 3B EDG Room Vent Fan
- CR 01-2323 AFW Overspeed Trip
- CR 01-2062 Alternate Low Head SI MOV-3-872

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the post maintenance tests listed below, the inspectors reviewed the test procedures and either witnessed the testing and/or reviewed test records to determine whether the scope of testing adequately verified that the work performed was correctly completed and demonstrated that the affected equipment was functional and operable. The inspectors verified that the requirements of procedure 0-ADM-737, Post Maintenance Testing, were incorporated into test requirements. The inspectors reviewed the following list of PMTs:

- WO 31020733 RPS Relay RT - 8 - B
- 3-OP-023.1 Diesel Generator Test For Governor Adjustment or Replacement
- WO 31017613 'A' AFW Pump PMT
- WO 31022275 3A SI Accumulator Fill Valve CV-3-851A
- 3-OSP-023.1 3A EDG radiator fan idler pulley alignment
- CR 01-2323 AFW Overspeed Trip

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities during this report period for the Unit 3 refueling outage. The inspectors assessed the adequacy of risk reduction methodologies developed and implemented to control plant configuration.

Electrical Power

The inspectors inspected the electrical power system configuration during the startup transformer replacement to determine if activities were controlled as planned in accordance with Temporary Procedure 01-019 Unit 3 Startup Transformer Replacement.

Clearance Activities

The inspectors walked down clearances on risk significant systems which included the Intake Cooling Water, Containment Spray, and High Head Safety Injection systems, to verify the valves, switches and breakers were in the correct alignment or position in

preparation for the safeguards testing. Verifications were completed by direct inspection of valve and breaker positions in the field and switch positions in the control room, and by reviewing the licensee's clearance and safeguards testing procedures.

Safeguards Testing

The inspector observed control room activities in preparations for the Train B Engineered Safeguards Integrated Test. The completed procedures for Loss of Off-site Power and Safety Injection With Off-site Power Available were reviewed.

Reactivity Control

The inspectors determined whether the licensee was controlling reactivity in accordance with TS. The inspectors reviewed the completed CR 01-2081 concerning a question regarding TS 3.1.2.1 during the Unit 3 refueling outage to assess that the corrective actions were adequate. The inspectors reviewed plant procedure 3-OSP-201.1, RCO Daily Logs, Attachment 2, Minimum Instrument and Equipment List Boric Acid Flowpaths, to verify that the procedure was followed.

Containment Closure

The inspectors reviewed the licensee's ability to close the containment equipment hatch at all times during refueling operations. During reloading of the reactor core, the inspector performed a containment walk down to verify that personnel and tools were staged in the area to provide equipment hatch closure as required by containment closure procedures. Additionally, the inspectors reviewed the procedures with the responsible personnel in containment to verify they understood the requirements and to verify the process could be completed within the required period of time if a notification to close the equipment hatch was given.

Refueling Activities

The inspector reviewed the control room logs and the completed refueling procedures to verify that the Unit 3 reactor had been sub-critical for at least 100 hours prior to removal from the core of irradiated fuel assemblies as required by TS.

The inspectors observed reloading refueling activities in the containment and in the control room to verify the fuel handling process was being performed in accordance with TS and approved refueling procedures including performance of adequate independent verifications of fuel assembly positioning into the reactor.

The inspector reviewed with reactor engineering the core loading plan and identified the 5 most risk significant fuel assemblies (based on power and core position) to verify via inspection of the completed refueling reload procedures that the assemblies had been placed in the correct positions.

Monitoring of Heat-up and Start-up Activities

The inspector reviewed the licensee's procedures for control of equipment entering containment during mode 4 operations to verify controls and accountability of equipment and tools entering the containment were adequate. The inspectors performed a containment walk down prior to reactor startup to verify that debris had not been left which could affect performance of the containment sumps.

b. Findings

Reactivity Control

The inspectors identified that the licensee did not correctly assess the plant equipment requirements providing the boric acid flow path for TS 3.1.2.1 during the disposition of a CR and a violation of TS did occur due to not having an operable emergency power supply for the charging pump. The finding was determined to be of very low safety significance (Green) because a boric acid flow path was available and other equipment was available for realignment.

On October 16, 2001, fuel was being loaded into the reactor vessel. The 3A EDG was considered inoperable during a 24 hour loaded run. The licensee wrote CR 01-2081 following questions by the quality assurance organization about the TS requirements. Operations concluded that the TS requirements were being met because an operable flow path existed through the charging pump without the charging pump having to be operable. The licensee's completed CR concluded that for Mode 6 the charging pump did not have to operate to be able to provide a flow path through the pump. For Mode 5, plant pressure could be above the discharge head of the boric acid transfer pump and the charging pump would be needed.

The inspectors concluded that the licensee's review provided a technical justification that sufficient boric acid flow would be provided during Mode 6 but did not adequately address the TS compliance question. The TS condition is stated as applicable for Modes 5 and 6. There is no difference in required equipment for Mode 5 and Mode 6. The inspectors reviewed 3-OSP-201.1, RCO Daily Logs, Attachment 2, Minimum Instrument and Equipment List Boric Acid Flowpaths, which is applicable for Modes 5 & 6 and page 31 clearly indicated by double asterisk beside the charging pump that a charging pump must be operable. The TS action statement requires that without an operable flow path or capable of being powered from an operable emergency power source, suspend all operations involving core alterations or positive reactivity changes. Since the equipment requirements were not recognized at the time, the action statement was not completed. This issue is more than minor because it involves TS. Reactivity Control is one of the key safe shutdown systems reviewed as part of the outage risk assessment. This event was not significant as during this time the emergency power supply and other charging pumps were available for realignment to provide the system requirements. Also, a boric acid flow path was available and capable of supplying flow. Following discussions with licensee management, the licensee concluded that a violation of TS occurred. Supplement one to CR was completed and a LER was submitted.

The inspectors determined that the TS equipment requirements for the boron injection flow path were not completely followed constituting a violation. TS 3.1.2.1 requires a boron injection flow path be operable and cable of being powered from an operable emergency power source. However, because of the very low safety significance of the item and because the licensee has included this item in their corrective action program (CR 01-2081, Supplement 1), this violation is being treated as a Non-Cited Violation (NCV 250/01-06-01), Failure to Meet TS Requirements for Boration Injection Flow Path.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors verified by witnessing surveillance tests and/or reviewing test data, that the selected testing meet the TS, the UFSAR, and licensee procedure requirements and demonstrated the systems capable of performing their intended safety functions and their operational readiness. For the containment spray nozzle test the inspectors attended meetings discussing the test, reviewed test results, and inspected test equipment connections in the plant to verify proper performance of the test. The following surveillances were reviewed:

- 3-OSP-068.4 Containment Spray System Nozzle Function Test
- 3-OSP-201.1 RCO Daily Logs
- 3-OSP-203.1 Engineered/Safeguards Integrated Test
- 4-OSP-030.4 Component Cooling Water Heat Exchanger Performance Test
- 4-OSP-019.4 Component Cooling Water Heat Exchanger Performance Monitoring
- 0-OSP-202.3 Safety Injection Pump and Piping Venting

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

During the week of October 15, 2001, administrative and engineering controls were evaluated for high radiation and locked-high radiation area Unit 3 (U3) Refueling Outage (RFO) activities conducted in accordance with the following Radiation Work Permits (RWPs):

- RWP Number (No.) 01-3007, U3 Containment: Housekeeping, Decon, and Install / Remove Shielding
- RWP No. 01-3136; U3 Containment: Detension / Remove/ Clean / Install / Tension Reactor Head Studs / Guide Studs/ Stud Hole Plugs

- RWP No. 01-3139, U3 Containment: Remove / Replace Reactor Head and Upper Internals
- RWP No. 01-3147: U3 Containment: Clean and Decon Reactor Cavity and Insta-Coat Application, Operate and Maintain Tri-Nuc Vacuum
- RWP No. 01-3075, U3 Containment; Steam Generator Eddy Current / Remote Tube, Plugging / HP Surveys / and Install / Remove Nozzle Covers / QC Close-Out Inspection
- RWP No.01-3077, U3 Containment / Steam Generator Sludge Lance and Bundle Flush (Secondary Side) Including Support Work

Evaluations were conducted through attendance at pre-job briefings, review of administrative and radiological controls for ongoing tasks, assessment of personnel exposures, and observations of work-in-progress and Health Physics (HP) technician job coverage. Conduct of selected radiation and contamination surveys was observed and results discussed. Electronic alarming dosimetry (EAD) setpoints were assessed for selected tasks. Personnel EAD exposure results, exposure investigative report assessments, and internal exposure evaluations were reviewed and discussed with licensee representatives. Supplemental controls and exposure evaluations for unanticipated "discrete radioactive particle" (DRP) concerns associated with steam generator maintenance activities were assessed in detail. During observation of U3 containment RFO work activities, the inspectors evaluated the effectiveness of administrative and engineering controls for access to high radiation and locked-high radiation areas, and for work conducted in DRP areas. .

Licensee activities were reviewed against UFSAR, TS, 10 CFR Part 20 requirements, and the following procedures:

- 0-Health Physics Surveillance Procedures (HPS)-026.1, Decontamination of Personnel
- 0-HPS-027.1, Work Controls in Hot Particle Areas
- 0-HPS-027.2, Hot Particle Monitoring
- 0 -HPS-055, Steam Generator Health Physics Work Controls
- 0-HPS-096.2, Decontamination of Reactor Cavity Using Primary Water or Borated Water

b. Findings

No findings of significance were identified.

2OS2 "As Low As Reasonably Achievable" Program Planning and Controls

a. Inspection Scope

During the week of October 15, 2001, "As Low As Reasonably Achievable" (ALARA) program implementation for ongoing U3 RFO outage activities was evaluated. The inspectors discussed dose rate and cumulative dose expenditure data trends associated with selected systems, equipment, and tasks relative to data from previous U3 refueling outages. For selected tasks, initial ALARA Job Evaluations and subsequent Job-In-Progress reviews were discussed. Implementation and effectiveness of dose

reduction initiatives were evaluated. The Inspectors reviewed general dose reduction initiatives including shutdown chemistry and cleanup, worker dose tracking and reporting, temporary shielding, and remote worker monitoring capabilities. Knowledge of ALARA program guidance and staff proficiency in program implementation were appraised from observation of selected work activities, comparison of estimated and current dose expenditure data for selected tasks, and discussions of selected outage tasks with responsible supervisors and managers. Implementation and effectiveness of detailed ALARA initiatives and planning were evaluated for the following U3 RFO activities:

- Steam Generator - Primary Side Maintenance
- Steam Generator - Secondary Side Maintenance
- Reactor Head and Upper Internals Movement and Maintenance
- Reactor Head Inspection
- Reactor Coolant Pump Maintenance Activities

Program implementation and effectiveness were reviewed against the facility's ALARA work plans, UFSAR, 10 CFR Part 20 requirements, TS, and the following procedures:

b. Findings

No findings of significance were identified.

4 OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed the performance indicators and verified the accuracy for the residual heat removal system, auxiliary feedwater, high head safety injection, and emergency diesel generators which were reported to the NRC. The inspectors reviewed data applicable to three quarters of operation beginning with the first quarter of 2001 and ending the third quarter of 2001. The inspectors reviewed Operations logs, Condition Reports, Work Orders, and Maintenance Rule records to ensure the data reported was complete and accurate.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

The licensee did not correctly assess the plant equipment requirements providing the boric acid flow path for TS 3.1.2.1 during the disposition of a CR and a violation of TS did occur due to not having an operable emergency power supply for the charging pump. (Section 1R20)

4OA3 Event Follow-up

.1 (Closed) LER 50-250/2001-003-00, Manual Reactor Trip Due to Low Condenser Vacuum

On August 15, 2001, a manual reactor trip at 16% power was initiated due to a decrease in condenser vacuum. Power was being reduced due to a chemistry condition caused by a condenser tube leak. The licensee attributed the root cause of this event was due to inadequately designed sensing lines for control room condenser vacuum instrumentation and the turbine low vacuum alarm. Plant operators took action to trip the unit following indications of low condenser vacuum. Other contributing causes of the condenser air in-leakage were addressed by the licensee's corrective action. The inspectors reviewed the LER and no findings of significance were identified. This LER is closed.

.2 (Closed) LER 50-250/2001-004-00, Condition Prohibited by Technical Specifications : Boron Injection Flow Path Inoperable During Fuel Movement

This issue occurred on October 16, 2001, while unit 3 was in refueling outage. The issue is discussed in Section 1R20 and 4OA2 of this report. The licensee initiated several corrective actions including procedure changes and training of personal. This LER is closed.

4OA5 Other

(Closed) NRC temporary inspection (TI) procedure TI 2515/145, "Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles (NRC Bulletin 2001-01)

a. Inspection Scope

The inspectors reviewed implementation of the licensee's visual inspection program associated with the Turkey Point Unit 3 reactor VHP in response to NRC Bulletin 2001-01. The guidelines for the inspection were provided in TI 2515/145. The review included observation of portions of the remotely monitored VHP examinations, review of qualifications for examination personnel, and review of licensee and contractor procedures. Discussions were also held with contractor representatives and other licensee personnel.

b. Findings

1) Verification that visual examination was performed by qualified and knowledgeable personnel.

The inspectors reviewed qualification documentation for the licensee and contractor personnel responsible for performance of the VT2 examinations. In addition to the ASME Section XI required training, the inspectors noted that the examination personnel had conducted additional training including site specific procedures for the examinations and formal training depicting the boric acid deposits discovered on the VHPs at the

Oconee Nuclear Station. The inspectors interviewed the examination personnel and noted that they were knowledgeable of specialized qualification criteria. All examination personnel were qualified as Level III VT-2.

2) Verification that visual examination was performed in accordance with approved and adequate procedures.

The inspectors reviewed Framatome Procedure, 54-ISI-357-02, and the Unit 3 VHP inspection plan which were approved by Turkey Point management for use for the VHP visual inspection. The inspectors noted that the approved acceptance criteria and/or critical parameters for VHP leakage were applied in accordance with the procedure.

3) Verification that the licensee was able to identify, disposition, and resolve deficiencies

The inspectors noted that the approved Unit 3 inspection plan specifically described nozzle indexing and provided adequate guidance to ensure that visual examinations included 100% circumferential coverage of each VHP. Although, the examination procedure provided specific follow-up actions for indications or deficiencies no indications of leakage were identified during the visual examinations.

4) Verification that the licensee was capable of identifying the PWSCC phenomenon described in the bulletin.

Based on the adequate resolution of the remote video examination equipment, the 100% circumferential coverage of each VHP, and the qualification of the examination personnel, the inspectors concluded that the licensee conducted an effective visual inspection for potential leakage resulting from PWSCC cracking of VHP nozzles.

5) Evaluate condition of the reactor vessel head (debris, insulation, dirt, boron from other sources, physical layout, viewing obstructions).

The inspectors noted that no significant examples of insulation, leakage sources, debris, dirt, impeded the examination. The licensee was able to adequately view each of the 65 CRDM nozzles and the reactor head vent nozzle during the visual examinations.

6) Evaluate ability for small boron deposits, as described in the bulletin, to be identified and characterized.

The inspectors noted that the reactor head was clean and free of any significant deposits. Several small loose flakes of paint or insulation were found and moved to allow complete viewing during the examinations. However, whenever the licensee was in doubt the small items were removed to allow chemical analysis. No significant examples of boron were identified during the inspection.

7) Determine extent of material deficiencies (associated with the concerns identified in the bulletin) which were identified that required repair.

No examples of VHP leakage or material deficiencies were identified during he visual examinations.

8) Determine any significant items that could impede effective examinations and/or ALARA issues encountered

No ALARA issues or examples of significant items that could impede the visual examination process were noted during observation of the visual examinations.

4OA6 Meetings

Exit Meeting Summary

The inspectors presented the inspection results to J. McElwain and other members of licensee management at the conclusion of the inspection on January 7, 2002. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

E. Avella, Maintenance Manager
O. Hanek, Acting Licensing Manager
G. Hollinger, Protection Services Manager
T. Jones, Plant General Manager
M. Jurmain, Work Control Manager
J. Kirkpatrick, Training Manager
M. Lacal, Operations Manager
D. Lowens, Quality Assurance Manager
J. McElwain, Site Vice-President
E. Thompson, License Renewal Project Manager
S. Wilsa, Health Physics Supervisor
A. Zielonka, Acting Site Engineering Manager

Other licensee employees contacted included office, operations, engineering, maintenance, chemistry/radiation, and corporate personnel.

NRC

Len Wert, Branch Chief

ITEMS OPENED AND CLOSED

Opened and Closed During this Inspection:

50-250/01-06-01	NCV	Failure to Meet TS Requirements for Boration Injection Flow Path (Section 1R20)

Closed:

50-250/01-03-00	LER	Manual Reactor Trip Due to Low Condenser Vacuum (Section 4OA3.1)
50-250/01-04-00	LER	Condition Prohibited by Technical Specifications : Boron Injection Flow Path Inoperable During Fuel Movement (Section 4OA3.2)
TI 2515/145		Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles (NRC Bulletin 2001-01) (Section 4OA5)

List of Documents Reviewed for Section IR02

10 CFR 50.59s:

JPN-PTN-SEEJ-89-085	De-energization of Unit 3 4160V Safety Related Busses
JPN-PTN-SENP-95-023	Operability of RHR During Integrated Safeguards Testing
JPN-PTN-SEMS-96-003	Unit 4 Steam Generator Secondary Side Foreign Objects
PTN-ENG-SECS-98-058	Evaluation for Storage of Tools and Equipment in Containment During all Modes of Operation
PTN-ENG-SEYS-99-106	Evaluation for Non-Vital Battery Performance Test
PTN-ENG-SENS-00-088	Safety Evaluation for Throttling CCW Manual Valves 3/4 737A
PC/M 99-045	Atmospheric Dump Valve Enhancements
PC/M 00-023	MOV-4-843 A/B & MOV-4-869 Equalizing Lines and SIS Mods
PC/M 00-009	Steam Generator Flexible Tube Stakes

10 CFR 50.59 screens:

0-PMI-024.4	Emergency Load Sequencer Relay Inspection and Replacement
0-PME-006.7	4KV/480V Load Center Transformer Grounding Without Manufacturers Ground and Test Device
0-PME-006.4	480V Load Center Breaker Electro-Mechanical Trip Device Testing
0-PME-006.8	Load Center Breaker Solid State Trip Device Testing
3-PMI-062.35	RWST Level Instrumentation Channel L-3-6583A
3-OSP-030.7	CCW Manual Valve Operability Test
0-GME-102.8	MOV Operator, Inspection and Overhaul (SMB 0 through 3)
3-OSP-075.6	Auxiliary Feedwater Train 1 Backup Nitrogen Test
4-OSP-064.1	SI Check Valve Full Flow Test
0-OSP-202.3	SI Pump and Pipe Venting
0-CMI-102.2	Rosemount Differential Pressure Transmitter Repair and Calibration
0-OP-024	Emergency Bus Load Sequencers

Condition Reports:

CR 00-0240	The safety evaluation for removal of POV-3-4883 was not properly implemented.
CR 00-0977	There appears to be a discrepancy in the screening process and the 50.59's actually needed to implement them.
CR 01-1181	CR 00-0911, S1 issued a use-as-is nonconformance without a 50.59 screening as required by ENG QI 7.5.
CR 01-1294	Request process improvement to tie FSAR change package to 10 CFR 50.54(a) compliance review.

List of Documents Reviewed for Section 1R07B

Procedures and Completed Procedure (Trend and Testing Data)

- ADM-737, dated 9/19/00, Post Maintenance Testing
- 3-OSP-019.4, dated 6/10/00, Component Cooling Water Heat Exchanger Performance Monitoring
- 3-OSP-030.4, dated 2-9-99, CCW Heat Exchanger Performance Test
- 3-OSP-030.4 data for a three year period
- 3-OSP-019.1, dated 8/29/01, Intake Cooling Water Inservice Test
- 3-OSP-50.2, dated 6/13/01, Residual Heat Removal System Inservice Test
- 0-NCSP-004, dated 5/1/01, Schedule for Periodic Tests
- 0-ADM-651, dated 7/31/01, Nuclear Chemistry Parameters Manual [trend data for one year]
- 0-OP-11, dated 5/10/01, Screen Wash System
- 0-PMM-019.7, date 4/18/01, Intake Cooling Water Basket Strainer Cleaning and Inspection
- 3-OP-19, dated 7/30/01, Intake Cooling Water System
- TP 99-040, dated 9-9-99, Diagnostic Testing of TPCW isolation Valves [testing performed 10/27/99, 12/29/99, and 3/29/00]
- 3-ONOP-019, dated 1/9/01, Intake Cooling Water Malfunction

Condition Reports Reviewed

00-1507 (and supplement 1), 00-1225, 00-2313 (and supplement 1), 01-625, 01-0023 (and supplement 1), 99-1370 (and supplement 1), 99-0588 (and supplement 1), 99-2141, 00-1457, 01-1729, 98-1131, 00-1022, 00-1109, 99-1707, 00-1507 (and supplement 1), 01-2068, 99-056, and 01-2255 (TYPICAL)

Calculations and Evaluations

- PTN-BFJM-95-011, Revision 4, CCW System Flow Balance Revisions to Support Thermal Uprate
- PTN3-BM-89-0070, Revision 0, ICW Flow Model - Unit 3
- PTN-ENG-SEMS-00-048, Revision 0, CCW Basket Strainer Out-of-Service Time
- PTN-BFSM-00-007, Revision 1, ICW Flow Credit for Three CCW Heat Exchangers
- Request for Engineering Assistance dated 11/29/89, RHR HX Performance Data Acquisition Evaluation
- PTN-3FSM-90-046, dated 12/4/90, RHR Heat Exchanger Performance Test, RHR HX 4B
- PTN-3FSM-90-060, dated 12/17/90, RHR Heat Exchanger 3A Performance Test
- M08-463-02, Revision 0, Evaluation of Leakage Through ICW Intertie Valve 4-30-307
- M08-463-12, Revision 0, Intake Cooling Water System Lube Water Line Break Downstream of R.O.
- M13-198-05, Revision 1, ICW System Waterhammer by TPCW Isolation Valve Closure

Component Attribute Worksheet

- 5610-062-DB-002, Section 4.3.3, Revision 8
- 5610-019-DB-002, Section 2.3.13, Revision 6

Special Reports

- Unit 3A ICW Inspection Report, October 7-8, 2001
- System Health Reports for ICW, RHR, and CCW, 3rd Quarter 2001

Vendor Correspondence

- FPL Letter JTPO-88-74, dated February 12, 1988, File No. PTP 287-14, Turkey Point Units 3 & 4 ICW Pump Flow Limitations
- Bechtel Letter REA PTN-88-359, dated November 10, 1988, Isolation of TPCW on SI Signal Failure Modes and Effect Analysis
- Johnston Pump Company Letter, dated 5/1/01, Subject: As-Found Report/Repair Plan [ICW pump]

Corrective Action Program Documents (other than CRs)

- Corrective Action Work Orders for the last two years on the following components: 4-50-350, 3-50-310, CV-3-2903 through 7, 3P-201[210 214, and 215 seal coolers], 3-50-406, MOV-3-716 A and B, and 3-50-717
- PTN Nuclear Assurance Quality Report 00-0005, dated 1/6/00, Calibration of the CCW Standby Pump Start Pressure Switch
- PTN Nuclear Assurance Quality Report 01-0005, dated 1/30/01, Residual Heat Removal System Review

List of Documents Reviewed for Sections 1R08.3 and 4OA5

Procedures

- Framatome Nondestructive Examination Procedure, 54-ISI-357-02, Visual Examination for Leakage or Reactor Head Penetrations
- NDE Manual Examination Procedure, NDE - 3.3, Liquid Penetrant Examination - Solvent Removable Visible Dye Technique
- NDE Manual Examination Procedure, NDE - 4.3, Component Support, and Inspection, Visual Examination VT-3
- NDE Manual Examination Procedure, NDE - 5.4, Ultrasonic Examination of Austenitic Stainless Steel Piping Welds

Condition Reports (CRs)

- 01-1680, Frozen spherical bearing and corrosion on baseplate for service water support 3-PRWH-5
- 01-1481, Corroded nut and support beam on baseplate for intake cooling water strainer, BS-3-1402

Other Documents

- Framatome Reactor Head Nozzle Penetration Remote Visual Inspection Plan for Turkey Point Unit 3

Partial List of Documents Reviewed for 1RO8.1 and .2

Turkey Point Unit 3 Letter No. L-2001-041; PTN-3 SG Tube Inservice Inspection Special Report; March 2001
PC/M 00-009; Steam Generator Tube Stabilizer and Plug;
FL&P Welding Procedure 021 Welding Procedure Specification; March 27, 1999
0-ADM-651; FL&P Turkey Point Nuclear Plant Nuclear Chemistry Manual; July 31, 2001
Turkey Point Unit 3 & 4 Secondary Chemistry Optimization Plan; January 8, 2000
Turkey Point Steam Generator Eddy Current Analysis Guideline & Performance Demonstration, Revision 0
CSI-NED-00-040; Turkey Point Unit 3 Steam Generator Examination Plan, Revision 0
SG Secondary Side VT Data Sheet 4.4-01; PTN-4 VT SG-C; March 22, 1999
2001 ET Data Analysis & Tube History for PTN-3 SG 10 Row 33 Column 44; October 8, 2001
2001 ET Data Analysis & Tube History for PTN-3 SG 10 Row 32 Column 15; October 9, 2001
2001 ET Data Analysis & Tube History for PTN-3 SG 20 Row 34 Column 51; October 10, 2001
2001 ET Data Analysis & Tube History for PTN-3 SG 20 Row 28 Column 41; October 10, 2001
2001 ET Data Analysis & Tube History for PTN-3 SG 20 Row 27 Column 42; October 10, 2001
2001 ET Data Analysis & Tube History for PTN-3 SG 30 Row 32 Column 64; October 9, 2001
Tube History PTN-3 SG 20 Row 32 Column 66; March 1990 - October 2001
EPRI TR-107569-V1R5; PWR Steam Generator Examination Guidelines; Revision 5

Condition Reports

99-0250	Potential Part 21 Westinghouse WES-TB-02 251Concerns Performance of Replacement Mechanical Plugs in S/Gs; March 2, 1999
99-0410	Foreign Object Identified During PTN-4 S/G C Inspection; March 22, 1999
00-0558	ET Calibration Discrepancy ECT Examiner Failed to Properly Identify a Tube When Testing; March 10, 2000
00-1842	SG Tubes Mis-Encoded during ET Testing on PTN 4 SG A Hot Leg; October 7, 2000
00-1851	ET Testing on PTN 4 SG C has Identified Tubes Which Require Plugging; October 8, 2000
00-1852	ET Testing on PTN 4 SG A has Identified Tubes Which Require Plugging; October 8, 2000
00-1863	ET Testing on PTN 4 SG B has Identified Tubes Which Require Plugging; October 8, 2000
01-0520	SG Sludge Analysis Report PTN 4; March 1, 2001

01-1923	PTN 3-A has Visable Pitting Around Entire Gasket Seating Surfaces; October 7, 2001
01-1972	Numerous CRs have Been Generated Due to Mis-Encoded Errors During SG ETC Testing; October 9, 2001
01-2020	RFO Cycle 19 ET Testing on PTN 3 SG A has Identified Tubes Which Require Plugging; October 11, 2001
01-2021	RFO Cycle 19 ET Testing on PTN 3 SG B has Identified Tubes Which Require Plugging; October 11, 2001
01-2022	RFO Cycle 19 ET Testing on PTN 3 SG C has Identified Tubes Which Require Plugging; October 11, 2001
01-2023	CSI Inspection Video of Secondary Side SG Sludge Review; October 10, 2001
01-2174	ET Identified Mechanical Wear Indications in Lower Support Plates of PTN-3; October 11, 2001