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

January 29, 2009

Florida Power and Light Company
ATTN: Mr. Mano Nazar, Senior Vice President
Nuclear and Chief Nuclear Officer
P.O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: TURKEY POINT NUCLEAR PLANT – INTEGRATED INSPECTION REPORT 05000250/2008005 AND 05000251/2008005

Dear Mr. Nazar:

On December 31, 2008, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Units 3 and 4. The enclosed integrated inspection report documents the inspection findings which were discussed on January 22, 2009, with Mr. M. Kiley and other members of your staff.

The inspection examined activities conducted under your license as they related 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, no findings of significance were identified. One licensee identified violation which was determined to be of very low safety significance is listed in this report. Because the item is entered into your corrective action program, the NRC is treating the issue as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you wish to contest the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-001; 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 Turkey Point.

In accordance with 10 CFR 2.390 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 the 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/

Marvin D. Sykes, Chief
Rector Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 05000250/2008005 and 05000251/2008005
w/Attachment: Supplemental Information

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ADAMS: ☐ Yes ACCESSION NUMBER:ML090300003 X☐ SUNSI REVIEW COMPLETE MDS

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Enclosure

Letter to Mano Nazar from Marvin D. Sykes dated January XX, 2009

SUBJECT: TURKEY POINT NUCLEAR PLANT – INTEGRATED INSPECTION REPORT 05000250/2008005 AND 05000251/2008005

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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:	05000250/2008005, 05000251/2008005
Licensee:	Florida Power & Light Company (FP&L)
Facility:	Turkey Point Nuclear Plant, Units 3 & 4
Location:	9760 S. W. 344th Street Florida City, FL 33035
Dates:	October 1, 2008 to December 31, 2008
Inspectors:	J. Stewart, Senior Resident Inspector M. Barillas, Resident Inspector R. Aiello, Senior Operations Engineer (Section 4OA2) P. Capehart, Operations Engineer (Section 4OA2)
Approved by:	M. Sykes, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000250/2008-005, 05000251/2008-005; 10/1/2008 – 12/31/2008; Turkey Point Nuclear Power Plant, Units 3 and 4; Routine Integrated Inspection Report.

The report covered a three month period of inspection by resident inspectors and one specialist inspection of licensed operator working hours. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process", and Revision 4, dated December 2006.

A. NRC Identified & Self-Revealing Findings

None.

B. Licensee Identified Violations

A violation of very low safety significance, identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status:

Unit 3 operated at full power throughout the inspection.

Unit 4 operated at full power throughout the inspection with the following exception. On October 11, Unit 4 was taken offline and placed in Mode 3 for repair of a main turbine control valve. The unit was restarted on October 13, and returned to full power on October 14.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors verified the licensee maintained off-normal procedure 0-ONOP-103.2, Cold/Hot Weather Conditions. The inspectors checked Technical Specifications and the Updated Final Safety Analysis Report (UFSAR) for cold weather design features and monitored the periodic testing of the diesel driven instrument air compressors. There were no actual cold weather conditions at the site. This was the annual review of cold weather preparations.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted three partial alignment verifications of the safety systems listed below. These inspections included valve position checks using plant operating procedures and piping and instrumentation drawings to verify that the critical portions of the systems were correctly aligned to support operability. The inspectors also verified that the licensee had identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers by entering them into the corrective action program.

- Train A of intake cooling water when the B intake cooling water pump was out of service for check valve replacement on October 23. The walkdown was done using 4-NOP-019, Intake Cooling Water System.
- Unit 4 component cooling water A and C pumps and flowpath verification when the B pump was declared out of service for breaker 4AB13 charging spring motor failure on November 4, 2008, (CR 2008-34113). Procedure 4-OSP-030.3, Component Cooling Water System Flowpath Verification, was used to complete the partial equipment walkdown.

- Unit 3 Train B high head safety injection with 3A HHSI pump out of service for motor replacement on November 13, 2008. Procedure 3-OSP-202.1, Safety Injection/Residual Heat Removal Flowpath Verification, was used to complete the partial equipment walkdown.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors conducted a detailed walkdown/review of the alignment and condition of the common units 3 and 4 Standby Feedwater system to verify the capability of the system to meet its design basis function to provide cooling to the steam generators as a backup to the Auxiliary Feedwater System. The inspectors used licensee procedure 0-OSP-074.3, Standby Steam Generator Feedwater Pumps Availability Test, and drawing 5610-M-3074 (Feedwater System Standby Steam Generator Feedwater Pumps), as well as other licensing and design documents, when verifying the system alignment was correct. During the walkdown, the inspectors verified that: (1) electrical power was available as required; (2) major portions of the system and components were correctly labeled; (3) hangers and supports were correctly installed and functional; (4) essential support systems were operational; (5) and ancillary equipment or debris did not interfere with system performance. Equipment issues were reviewed to determine if the identified deficiencies significantly impacted system functions. Items included in this review were the operator workaround list, the temporary modifications list, system health reports, system description, and outstanding maintenance work requests/work orders. In addition, the inspectors reviewed the licensee's corrective action program to ensure that the licensee was identifying and resolving equipment alignment problems.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

.1 Fire Area Walkdowns

The inspectors toured the following six plant areas during this inspection period to evaluate conditions related to control of transient combustibles and ignition sources, the material condition and operational status of fire protection systems including fire barriers used to prevent fire damage or fire propagation. The following areas were inspected:

- Unit 4, emergency diesel fuel oil transfer pump rooms
- Plant computer room
- Unit 4A Battery Room
- Unit 3B Battery Room

- U3 Piping and Valve Room
- Control Room

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

.1 Resident Inspector Quarterly Review

a. Inspection Scope

On October 10, 2008, the inspectors observed and assessed licensed operator continuing training requalification in the plant specific simulator. The simulated events were done using Nuclear Training Department Lesson Plan 750203600, RCS leakage/ATWS. The inspectors observed the operator's use of procedures 3-EOP-E-0, Reactor Trip and Safety Injection; 3-EOP-FR-S.1, Response to Nuclear Plant Generation/ATWS; ONOP-041.3, Excessive Reactor Coolant System Leakage, and ONOP-041.6, Pressurizer Level Control Malfunction. The operator's actions were checked to be in accordance with licensee procedures. Event classifications were checked for proper classification and simulated notification in accordance with licensee procedures 0-EPIP-20101, Duties of the Emergency Coordinator; and 0-EPIP-20134, Offsite Notifications and Protective Action Recommendations. The licensee simulated emergency plan notifications. The simulator board configurations were compared with actual plant control board configurations concerning recent plant modifications. The inspectors specifically evaluated the following attributes related to operating crew performance and the licensee evaluation:

- Clarity and formality of communication
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms
- Correct use and implementation of off-normal and emergency operating procedures; and emergency plan implementing procedures
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by supervision, including ability to identify and implement appropriate technical specification actions and emergency plan classification and notification
- Crew overall performance and interactions
- Evaluator's critique and findings

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following two equipment problems and associated condition reports to verify that the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants) and Administrative Procedure 0-ADM-728, Maintenance Rule Implementation. The inspectors' efforts focused on maintenance rule scoping, characterization of maintenance problems and failed components, risk significance, determination of (a) (1) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also discussed system performance issues with responsible engineers and observed some of the corrective maintenance activities. The inspectors checked that when operator actions were credited to prevent failures, the operator was dedicated at the location needed to accomplish the action in a timely manner, and that the action was governed by applicable procedures. Furthermore, the inspectors verified that equipment problems were being identified and entered into the corrective action program. The inspectors used licensee engineering procedure EDI-ENG-025, Management and Administration of Maintenance Rule Processes, and the applicable system health reports in the reviews. During the inspection, the licensee's maintenance rule (a)(1) status report dated October 3, 2008, and various plant health committee packages were reviewed.

- CR 2008-6948, 3P9C intake cooling water pump abnormal indications and fluctuating amps
- CR 2008-7337, (CR 2006-34852) Containment purge valves for Units 3 and 4 placed in a(1) due to failure to isolate during leak rate testing per ¾-OSP-051.5, Local Leak Rate Tests

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors completed in-office reviews and control room inspections of the licensee's risk assessment of five emergent or planned maintenance activities. The inspectors evaluated the following risk assessments during the inspection:

- October 16, Unit 3 risk when 3A charging pump was removed from service for overhaul and the 3A intake cooling pump was removed for check valve replacement
- November 3, Unit 4 risk when 4C intake cooling pump was removed from service to be replaced
- November 4, Unit 4 risk when 4B CCW pump was out of service for breaker charging spring motor failure (CR 2008-34113)
- November 10, Unit 3 risk when 3A high head safety injection pump was removed from service for motor replacement and the 3C normal containment cooler had failed during normal operation (CR 2008-34693)

- December 3, Unit 4 risk after the 4B2 vital DC battery charger was declared out of service when output amperage drifted to 0 amps (CR 2008-37132)

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

For the five operability evaluations described in the condition reports (CR) listed below, the inspectors evaluated the technical adequacy of licensee evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred.

- CR 2008-30336, 3A emergency diesel generator oil soakback pump wall thickness altered without design controls.
- CR 2008-31338, Westinghouse identified error in containment integrity analysis of record for Turkey Point Units 3 and 4. Compensatory measures of intake cooling temperature of 95 degrees F or less and a limit on intake cooling – component cooling heat exchanger fouling were implemented.
- CR 2008-31510, Residual heat removal heat exchanger relief valves are not set properly due to backpressure. A number of valves were assessed in the licensee's extent of condition review but no inoperability was found. Associated condition reports 2008-31941 and 2008-12016 were reviewed. Long term corrective actions had not been determined at the time of inspection.
- CR2008-32338, unit 3 POV-3-4882, intake cooling water/turbine plant cooling water header A isolation valve, leaking by the seat.
- CR 2008-34113, 4B CCW pump breaker 4AB13, charging spring motor failed during testing. Past operability of the breaker was reviewed.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary system alteration (TSA) and the plant change/modification (PC/M) listed below to ensure that they did not adversely affect the operation of the affected systems. The inspectors screened plant modifications for systems that were ranked high in risk for departures from design basis and for inadvertent changes that could challenge the systems to fulfill their safety function. The inspectors conducted plant tours and discussed system status with engineering and operations personnel to check for the existence of temporary modifications that had not been appropriately identified and evaluated.

- TSA 08-16A, Defeat a Unit 4 reactor protection system relay. Station drawings 5613-M-430-146, Sheets 5A and 8A were reviewed during discussions with the cognizant engineering supervisor for the modification.

- PC/M 04-112, Revision 1, Emergency Response Data Acquisition and Display System Replacement. The inspection focused on an upgrade to the A auxiliary feedwater pump display parameters that were fed into the Distributed Control System (DCS). The associated 50.59 screening evaluation and a failure modes and effects associated with the modification were reviewed, and the modification was walked down and observed when the system was operating.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the six 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 reviewed the following work orders (WO) and/or surveillance procedures (OSP):

- Unit3, B emergency diesel generator tested using surveillance procedure 3-OSP-023.1, Diesel Generator Operability Test, following replacement of a failed timing relay per work order 38023065
- Unit 3, 3-OSP-204, Accident Monitoring Instrumentation Channel Check, Section 7.1.9, following failure of reactor coolant system hot leg pressure signal failed low for the subcooling margin monitor. The repair, replacement of an input module (P-4-404), was done under work order 38024367-01.
- Unit 4, 4B ICW check valve replacement post-maintenance test using procedure 4-OSP-019.1, section 7.2 Intake Cooling Water Inservice Test
- Unit 4, 4C ICW pump and check valve replacement post maintenance test using procedure 4-OSP-019.1, section 7.3, Intake Cooling Water Inservice Test
- Unit 4, 4-OSP-075.2, Auxiliary Feedwater Train 2 Operability Verification, following repair on Train 2 4B Steam Generator AFW Flow Control Valve Hand/Auto Station HIC-4-1457B per work order 38024530-01
- Unit 3 and 4, 0-OSP-074.3, Standby Steam Generator Feedwater Pumps Availability Test, following preventive maintenance on the B pump (P82B) battery in accordance with 0-PME-074.7.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following five surveillance tests to verify that the tests met the Technical Specifications, the UFSAR, the licensee's procedural requirements and demonstrated the systems were capable of performing their intended safety functions and their operational readiness. The inspectors verified that surveillance issues were documented in the corrective action program.

- 3-OSP-049.1, Reactor Protection System Logic Train, Train 3B (October 9)
- Work Order 38006773-01, PI-3-945A Calibrate containment spray pump A discharge pressure gage
- 4-OSP-049.1, Reactor Protection System Logic Test, Train 4A
- 0-OSP-075.11, Auxiliary Feedwater Inservice Test, section 7.2 AFW Pump C Group B Inservice Test and section 7.3 AFW Pump B Group B Inservice Test performed under 3/4-OSP-075.2, Auxiliary Feedwater Train 2 Operability Verification
- 3-OSP-051.2, Containment Personnel Air Lock Seal Vacuum Test

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

Initiating Events and Mitigating Systems Cornerstones

a. Inspection Scope

The inspectors checked licensee submittals for the performance indicators (PIs) for Units 3 and 4 listed below for the period July 1, 2007, through June 30, 2008, to verify the accuracy of the PI data reported during that period. Performance indicator definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Rev. 5, "Mitigating Systems Performance Index Basis Document for Turkey Point Units 3 and 4, Revision "2, PTN-ENG-SEYS-06-028, and licensee procedure 0-ADM-032, "NRC Performance Indicators Turkey Point," were used to check the reporting for each data element. The inspectors checked licensee event reports (LERs), operator logs, plant status reports, condition reports (CRs), system health reports, and performance indicator data sheets to verify that the licensee had identified the cumulative safety system unavailability and required hours, as applicable. The inspectors interviewed licensee personnel associated with performance indicator data collection, evaluation, and distribution.

- Unit 3, Mitigating Systems Performance Indicator (MSPI) Emergency AC Power
- Unit 3, MSPI High Head Safety Injection
- Unit 3, MSPI Residual Heat Removal System
- Unit 3, MSPI Auxiliary Feedwater System
- Unit 3, MSPI Cooling Water Support Systems

- Unit 4, MSPI Emergency AC Power
- Unit 4, MSPI High Head Safety Injection
- Unit 4, MSPI Residual Heat Removal System
- Unit 4, MSPI Auxiliary Feedwater System
- Unit 4, MSPI Cooling Water Support Systems

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

.1 Daily Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a screening of items entered daily into the licensee's corrective action program. This review was accomplished by reviewing daily printed summaries of condition reports from the licensee's electronic condition report database. Additionally, reactor coolant system unidentified leakage was checked on a daily basis to verify no substantive or unexplained changes.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Review to Identify Trends

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The review was focused on repetitive equipment issues, but also considered trends in human performance errors, the results of daily inspector corrective action item screening discussed in Section 4OA2.1 above, licensee trending efforts, and licensee human performance results. The review nominally considered the six-month period of July 2008 through December 2008. Documents reviewed included licensee monthly performance improvement trend reports, plant health committee reports, maintenance rule documents, self-assessment activities, and quality assurance audit reports. The Turkey Point Improvement Status Report, dated December 5, 2008, was specifically reviewed.

b. Assessment and Observations

The inspectors observed one adverse trend involving an increasing need for licensed operator overtime to maintain adequate staffing levels. The issue had been documented in the licensee's corrective actions program with numerous condition reports and three license classes were being run simultaneously to resolve the issue.

.3 Annual Sample Review

a. Inspection Scope

The inspectors selected the following condition report for detailed review and discussion with the licensee. The condition report was reviewed to ensure that an appropriate evaluation was performed and appropriate corrective actions were specified and prioritized. Other attributes checked included disposition of operability, resolution of the problem including cause determination and corrective actions. The inspectors evaluated condition reports in accordance with the requirements of the licensee's corrective actions process as specified in NAP-204, Condition Reporting. The inspectors reviewed the cumulative effects of the operator workarounds that were in place to verify that those effects could not increase an initiating event frequency, affect multiple mitigating systems, or affect the ability of operators to properly respond to plant transients and accidents. The inspectors also reviewed operator workarounds to verify that the licensee was identifying operator workaround problems at an appropriate threshold and entering them in the corrective action program.

- CR 2008-7337, (CR 2006-34852) Containment purge valves for Units 3 and 4 placed in a(1) due to failure to isolate during leak rate testing per ¾-OSP-051.5, Local Leak Rate Tests

b. Findings and Observations

No findings of significance were identified.

.4 Licensed Reactor Operator Overtime Review

a. Inspection Scope

The inspectors evaluated licensed reactor operator (RO) use of overtime (OT) against five inspection objectives:

- Review Operations Department use of OT, specifically, the use of OT for normal operation of the units at or near 100% power.
- Verify the licensee is complying with Technical Specifications (TS) and the regulations.
- Evaluate the impact of OT on operator response during recent events.
- Determine if the use of waivers to authorize OT was in accordance with TS and authorized in accordance with plant procedures.
- Evaluate the corrective actions for OT violations.

The inspectors evaluated whether OT related operator fatigue led to an increase in initiating event frequency or affected the ability of operators to properly respond to plant transients and accidents. Specifically, the inspectors reviewed and discussed the following condition reports and associated root cause analyses with cognizant plant personnel to assess the impact of OT use on the ability to respond to plant events:

- CR 2008-15431; Event Date May 5, 2008: High Head Safety Injection pump discharge to cold leg injection isolation valve 4-867 was discovered out of position while in a refueling outage. The valve was required to be locked

open when reactor coolant average temperature was greater than 380 degrees per TS 3.5.2. The valve was determined to be out of position for approximately five hours. The root cause identified that current component alignment processes, used to restore systems during outages, did not contain the rigor and control necessary to maintain the proper physical configuration of the plant.

- CR 2008-20374; Event Date June 19, 2008: When setting the primary water totalizer, a 45 gallon dilution was entered but the enter button was not pushed. Subsequently, a 100 gallon (from the previous setting) rather than a 45 gallon dilution was performed. The peer check failed to catch the error. The apparent cause of the event was that the RO did not understanding the reasons for or the potential consequences of performing "skill of the craft" tasks in a routine and consistent manner.

- CR 2008-3212; Event Date January 28, 2008: While transferring the temporary acid tank to the boric acid tank and transferring the boric acid batch tank to the boric acid storage tanks, the boric acid batch tank overflowed approximately 240 gallons. The root cause of this incident was identified as inadequate system design.

In addition to the scope above, the inspectors reviewed condition reports related to OT use and condition reports associated with two recent non-cited violations associated with OT (NCV 05000250/2007004-02, Inappropriate Blanket Overtime Authorization and NCV 05000250,251/2008002-01, Failure to Implement Procedures Regarding OT Hours for Plant Operations Personnel). The adequacy of the corrective actions, including revisions to plant procedure QI-1-PTN-1, "Organization," for controlling and documenting overtime, was assessed by evaluating the performance of the overtime program subsequent to their implementation. In addition, plant operator gate logs from all ROs over a one-month (June 2008) and a two month "non-outage" period (September – October 2008) were reviewed to determine if OT issues were being properly identified, characterized, and documented in accordance with plant standards. Specifically, the inspectors selected and reviewed 17 RO gate logs and requests to deviate from overtime guidelines (Form 471) that had been issued for the month of June 2008 and from September 1 to October 31, 2008. The results of these reviews were evaluated by comparing them to the findings of the two NRC OT Non-cited Violations.

The inspectors also reviewed reactor operator OT waivers to verify that the licensee complied with plant procedures, identified operator OT inconsistencies at an appropriate threshold, and entered issues in the corrective action program. A review of security gate logs and overtime authorizations (covering an eight month period for eight ROs) was conducted to determine if TS limits were exceeded for routine watch standing. To capture insights into the use of OT and fatigue issues, the inspectors interviewed plant personnel to identify quality of life issues associated with mandatory overtime.

b. Assessment and Observations

No findings of significance were identified. However, in accordance with the flexibility of the agency guideline for documentation, the inspectors made the following observations:

The inspectors determined that the licensee had not identified all OT issues. Procedural weaknesses and inconsistencies may have contributed to these failures. Examples of these are as follows:

1. Procedure QI-1-PTN-1 "Organization," 07/15/08, pg. 23, step 5.8.3.3, stated that an eight-hour break "should" be allowed between break periods which is inconsistent with Form 471 that stated that the eight-hour break as an OT guideline along with the other “mandatory” guidelines. Since the OT criteria (e.g. do not exceed 16 hours straight, do not work more than 16 hours in 24, do not work more than 24 hours in 48, do not take a break of less than 8 hours between shifts, etc.) listed on Form 471 are classified as “guidelines,” one could exceed (i.e. without violating procedures) one or more of these criteria. Treating the OT criteria as guidelines rather than mandatory requirements could result in errors being committed by operators that were either directly or indirectly caused by fatigue.

2. Procedure QI-1-PTN-1 did not provide definitions for the following terminology:

   - “Substantial OT”
   - “Work period” (i.e. safety related activities inside the gate, training, and other activities outside the gate are not defined)

   Failure to define terms such as “substantial” and “work period” could result in RO on-site hours actually exceeding 16 in 24 hours, 24 in 48 hours, 72 in 7 days, or rest periods of less than 8 hours. An example of a non-defined “work period” would be hours spent attending required training or other activities that take place outside the protected area.

3. Procedure QI-PTN-1 contained no guidance for documenting actual shift turnover time or what to use as an estimate if actual values were not available. However, the procedure allowed for up to two hours per day for shift turnover time. The actual shift turnover time was not documented on the existing Form 471. As a result, the OT hours documented may not have been representative of the true hours worked on site. The failure to document actual turnover time for the shift resulted in potentially failing to adequately address the intent of TS 6.8.5 or Generic Letter 82-12 to assure that the licensee maintains sufficient operating personnel to work a normal eight-hour day (40-hour week) while the plant is operating at or near 100%.

4. Procedure QI-PTN-1 contained no guidance for documenting why another operator could not be used to minimize "substantial" OT and thereby reduce unnecessary fatigue. No documentation on any of the 471 forms reviewed provided an explanation as to why another operator could not have been used.

5. The inspectors identified two cases where two separate individuals worked a large quantity of OT that could have been distributed among other qualified individuals. These individuals worked over 15 consecutive days in a non-outage period with both units at 100% power. Most of the work days consisted of eight hour shifts. However, several of the days included OT ranging from 2 to 8 hours, resulting in shifts of 10 to 16 hours. While the hours did not violate TS requirements, the inspectors questioned why the licensee did not distribute OT hours among all the ROs which would have avoided unnecessary fatigue for the individuals in question.

Operator response to recent events was not adversely impacted by the use of OT. The inspectors reviewed and discussed the root cause evaluations for three recent plant events with cognizant licensee staff. For each of the three events, the evaluation addressed fatigue as a contributing factor. However, none of the root cause evaluations identified fatigue as the root cause for the event. During the course of the inspection, information contrary to the licensee's conclusions was not identified by the inspectors.

The inspectors selected the months of June, September, and October 2008 to calculate the amount of OT being used for normal operations. For these months, both units were operating at 100% power. These were the only months in 2008 for which a representative sample of non-outage conditions could be obtained. A sample of four ROs was selected for the record review. Based on this review, the average number of OT hours worked was 34.74 hours for the month (8.685 hours/wk). The licensee stated that the average OT for all of the operators was approximately 12 hours/wk.

The licensee was not using heavy OT (i.e., over 72 hours total per week) to conduct normal operations of the units when both were on line at or near 100% power operation. Although there were only 15 ROs to cover five shifts, heavy OT was not routinely used unless the facility was in an outage or in an off normal condition that required extra staffing (i.e. plant startup/shutdown or hurricane). During periods when the unit was not at or near 100% power operation, heavy use of OT occurred.

The revision of Procedure Q1-PTN-1 in effect at the time of the onsite inspection required only the licensee to ascertain the ability and condition of an operator to work OT. Subsequent to the onsite inspection, the licensee revised Form 471 to also require the signature of each individual that will be working more than 72 hours per week to indicate that they are fit for duty and that fatigue will not affect their work performance.

4OA3 Event Follow-up

.1 (Closed) Licensee Event Report (LER) 50-250&251/2008-001-00 Human Error Causes Grid Disturbance Resulting in a Dual Unit Trip

The Licensee Event Report described a dual unit trip that occurred due to a grid disturbance that occurred in south Florida beyond the plant switchyard. At the time of the trip, the resident inspectors responded to the control room and observed the plant and operator response. All plant systems responded as designed and there were no complications. Afterwards, while aligning plant systems, an automatic actuation of auxiliary feedwater occurred due to procedural weakness that allowed a misalignment of breaker red flag semiphores which feed into the auxiliary feedwater starting logic. The inspectors reviewed the actuation and its causes and found the procedure problems to be of minor safety significance. Corrective actions to prevent recurrence of the auxiliary feedwater actuation included procedure enhancements that were reviewed by the inspectors. The LER was reviewed by the inspectors and no performance deficiencies were identified. There were no findings of significance. The LER is closed.

.2 (Closed) Licensee Event Report (LER) 50-251/2008-001-00, Manual Reactor Trip due to High Level in 4A Steam Generator

The Licensee Event Report described a manual reactor trip that was inserted when 4A steam generator exceeded a high level limit specified in plant operating procedures. At the time, the unit was low (10%) power, increasing power after placing the turbine online. The licensee found the root cause as insufficient guidance for the power escalation prior to placing feedwater in automatic control. The inspectors reviewed the post-trip review and the licensee's evaluation of the event. Corrective actions to inform all operating staff of the event and a revision to operating procedure ¾-GOP-301, Hot Standby to Power Operation providing guidance to ensure proper control of plant parameters during turbine loading were verified by the inspectors. The licensee also enhanced their simulator training prior to attempting recovery and the restart was done with no additional problems. No findings of significance were identified. The LER is closed.

.3 (Closed) Licensee Event Report (LER) 50-250/2008-002-00, Containment Purge Valve and Associated Penetration Fail Leak Rate Test Due to Inadequate Preventive Maintenance

The Licensee Event Report described a failed local leak rate test on Unit 3 containment purge supply valves (Penetration 35, POV-3-2600 and POV-3-2601), that occurred on March 1, 2008, when Unit 3 was in hot shutdown (Mode 3). Leakage during the test was about 45,000 standard cubic feet per minute (scfm) and above the acceptance criterion of 16,500 sccm. The penetration had been opened for about 61 hours to allow containment purge to support a short notice outage. Following the surveillance failure, the penetration was pressurized for troubleshooting and leakage was identified from the seat of the valve. During troubleshooting, isolation valve POV-3-2600 was fully closed and the test was repeated with the leakage within acceptance limits. The licensee documented the failure in condition report 2008-7337 and initiated an operability review. Corrective actions included placing the penetration on the out-of-service list, tagging the valves to prevent inadvertent operation while the plant was operating, and scheduling each of the containment purge valves for overhaul in the next Mode 5 availability. Periodic testing by the licensee (3-OSP-051.5, Local Leak Rate Tests) confirmed that the leakage remained within limits during reactor operation.

Technical Specification 3.6.1.7 requires that with a containment purge supply valve inoperable due to leakage higher than allowed, restore the valve to operable status within 24 hours or be in cold shutdown within the following 30 hours. After opening penetration 35 for containment purge for about 60 hours, the licensee selected to conduct a local leak rate test on the penetration and found leakage greater than the limits. During troubleshooting, some movement of the valve seat allowed leakage to be restored to within limits within about one hour making the total out of service time about 61 hours. After the satisfactory test, the licensee declared the penetration out of service and the valves were tagged to prevent opening prior to Mode 5. Subsequent periodic testing in August verified the continued leak tightness to be within allowable limits. Enforcement aspects of this issue are provided in Section 4OA7 of this report. The LER is closed.

4. OTHER ACTIVITIES

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

.2 Inspector Review of INPO Report

a. Inspection Scope

The inspectors reviewed the interim report for the Institute of Nuclear Power Operations (INPO) evaluation of Turkey Point Nuclear Power Plant dated September 24, 2008. The onsite evaluation was completed in July 2008. The inspectors reviewed the report to ensure that issues identified were consistent with NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC follow-up.

b. Findings

No findings of significance were identified.

.3 Results of OI Investigation: NRC issued a Severity Level (SL) IV violation to FPL on December 23, 2008, for failure to accomplish an activity affecting quality in accordance with procedures. Specifically, a supervisor failed to follow licensee procedure 0-OSP - 040.8, Reactivity Deviation from Design Calculation, when he reviewed and approved an incorrect (i.e., not current) boron sample that was collected several hours before the reactivity calculation was performed. This violation is being tracked in this inspection report as SL IV VIO 05000250, 251/2008-005-01: Failure To Accomplish An Activity Affecting Quality In Accordance With Procedures.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Kiley and other members of licensee management on January 22, 2009. The inspectors asked the licensee

whether any of the material examined during the inspection should be considered proprietary information. The licensee did not identify any proprietary information.

4OA7 Licensee Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as NCV:

- Technical Specification 3.6.1.7, Action b. requires that with a containment purge supply valve having a measured leakage exceeding limits, restore the inoperable valve to operable status or be in hot standby within 6 hours and cold shutdown within the next 30 hours. Contrary to the above, on March 1, 2008, during a local leak rate test, the licensee found that purge valve POV-3-2600 exceeded allowed leakage limits and the reactor had not been placed in cold shutdown as required. The violation existed for about 61 hours while the reactor was in hot standby (Mode 3). When identified during the surveillance test, the valve was exercised, lubricated and satisfactorily returned to operable status within about one hour. The violation was of very low safety significance because the redundant isolation valve, POV-3-2601, remained closed during the testing and was available to satisfy the safety function.

ATTACHMENT: SUPPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:
J. Antignano, Fire Protection Supervisor
R. Coffey, Maintenance Manager
J. Hamm, Engineering Manager
S. Shafer, Assistant Operations Manager
W. Jefferson, Site Vice-President
K. O'Hare, Performance Improvement Manager
L. Hardin, Emergency Preparedness Manager
R. Wright, Operations Manager
M. Kiley, Plant General Manager
M. Crosby, Quality Manager
P. Skinner, Acting Chemistry Manager
C. Cashwell, Radiation Protection Manager
R. Tomonto, Licensing Manager

NRC personnel:
M. Sykes, Branch Chief, DRP
L. Wert, Director, DRP

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

OPENED

05000250, 251/2008-005-01	SL IV VIO	Failure to Accomplish An Activity Affecting Quality in Accordance with Procedures (Section OA5.3)

Closed

05000250, 251/2008-001-00	LER	Human Error Causes Grid Disturbance Resulting in a Dual Unit Trip
05000251/2008-001-00	LER	Manual Reactor Trip due to High Level in 4A Steam Generator
050000250/2008-002-00	LER	Containment Purge Valve and Penetration Fail Leak Rate Test Due to Inadequate Preventive Maintenance

LIST OF DOCUMENTS REVIEWED

CR 2008-15431; event date May 5, 2008: High Head Safety Injection pump discharge to cold leg injection isolation valve 4-867 was discovered out of position while in a refueling outage.

CR 2008-20374; event date June 19, 2008: When setting the primary water totalizer, a 45 gallon dilution was entered but the enter button was not pushed.

CR 2008-3212; event date January 28, 2008: While transferring the temporary acid tank to the boric acid tank and transferring the boric acid batch tank to the boric acid storage tanks, the boric acid batch tank overflowed approximately 240 gallons.

CR 2008-101007; various condition reports associated with OT deviations

QI-1-PTN-1, "Organization," 07/15/08

NAP-402, Rev. 6, “Conduct of Operations” (Fleet Procedure)

0-ADM-200, 9/4/08, “Conduct of Operations” (Site Procedure)

0-ADM-201, 9/1/06, “Shift Relief and Turnover”

PTN-08-03, QA Programs Functional Area Audit February 11, 2008 to April 23, 2008

0-ADM-59, 7/23/08, “Root Cause Analysis”

QI-1-PTN-1, Completed Form 471 “Request to deviate from overtime guidelines,” from January 1, 2008, to September 30, 2008

Licensed Operator Gate Logs