



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

January 29, 2008

Florida Power and Light Company
ATTN: Mr. J. A. Stall, 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
05000250/2007005 AND 05000251/2007005

Dear Mr. Stall:

On December 31, 2007, 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 11, 2008, with Mr. W. Jefferson 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, three findings of significance were identified. Also, licensee identified violations which were determined to be of very low safety significance are listed in this report. The NRC is treating these violations as a Non-cited Violations consistent with Section VI.A.1 of the NRC Enforcement Policy because of the very low safety significance of the issues and because they are entered into your corrective action program. If you wish to contest any of the non-cited violations, 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, and your response (if any) will be available electronically for public inspection in the

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Sincerely,

/RA By M. Sykes For/

Steven J. Vias, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 05000250/2007005 and 05000251/2007005
w/Attachment: Supplemental Information

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Letter to Mr. J. A. Stall from Steven J. Vias dated January 29, 2008.

SUBJECT: TURKEY POINT NUCLEAR PLANT - INTEGRATED INSPECTION REPORT
05000250/2007005 AND 05000251/2007005

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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: 05000250/2007005, 05000251/2007005

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 - December 31, 2007

Inspectors: S. Stewart, Senior Resident Inspector
M. Barillas, Resident Inspector
R. Aiello, Senior Operations Engineer (1R11)
E. Michel, Reactor Inspector (4OA5)
H. Gray, Senior Reactor Inspector (4OA5)

Accompanied by: R. Torres, NRC Nuclear Safety Professional Development
Program

Approved by: Steven J. Vias, Chief
Reactor Projects Branch 3

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SUMMARY OF FINDINGS

IR 05000250/2007-005, 05000251/2007-005; 10/01/2007 - 12/31/2007; Turkey Point Nuclear Power Plant, Units 3 and 4; fire protection, operability evaluations, permanent plant modifications.

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

A. Inspector Identified & Self-Revealing Findings

Initiating Events

(Green) The inspectors identified a Non-Cited violation for failure to implement the fire protection program when unapproved transient combustibles (including an ignition source) were found in the cable spreading room without the required evaluation. When identified to the licensee either the materials were removed or an appropriate evaluation was done and a permit issued.

The finding was more than minor because it involved the degradation of a fire protection program component to control combustibles and initiation sources introduced into the cable spreading room. The issue was of very low safety significance because the overall fire loading increase in the affected area was small and would not affect the cable spreading room barrier three-hour fire rating. The cause was related to the cross-cutting area of Human Performance, Work Practices (IMC 0305, H.4.b) because the work groups, operators doing rounds, and fire protection personnel did not communicate expectations regarding procedural compliance and personnel did not follow procedures. (1R05)

(Green) The inspectors identified a Non-Cited violation for failure to update the final safety analysis report (FSAR) regarding fire loading of permanently installed equipment in the cable spreading room to assure that the information included in the FSAR is the latest information developed. When identified to the licensee, actions were initiated to identify and document changes to the cable spreading room fire loading.

The failure to update the FSAR with information that could affect fire loading of the cable spreading room was a failure to provide accurate information that could impact the NRC ability to perform its regulatory function and was subject to traditional enforcement. (1R17)

Mitigating Systems

(Green) The inspectors identified a finding when the licensee failed to evaluate excessive moisture and condensation in the Unit 3 alternate shutdown panel. During subsequent testing, all channels of steam generator pressure indication at the panel

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were inoperable causing a degraded ability to achieve cold shutdown in some fire scenarios. When identified to the licensee, the issue was entered into the corrective action program and moisture intrusion in the panel was stopped by sealing the water source.

The licensee's failure to identify and correct moisture intrusion problems with the remote shutdown equipment was a noncompliance with the licensee's corrective actions procedure. The finding was more than minor because it affected the availability and reliability of the alternate shutdown system designated for use in licensee procedure 0-ONOP-105, Control Room Evacuation. The finding was of very low safety significance because only the ability to achieve cold shutdown was affected by the moisture. The cause of the finding is related to the cross-cutting area of problem identification and resolution because the moisture intrusion in the alternate shutdown system had not been thoroughly evaluated such that the resolutions addressed the causes (IMC 305, P.1.c). (1R15)

B. Licensee Identified Violations

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

REPORT DETAILS

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Summary of Plant Status:

Unit 3 began the period shutdown for a refueling outage. Unit 3 was critical on October 12 (1938 hrs), entered Mode 1 on October 15, and reached full power on October 19. On November 6, power was reduced to 98 percent when operation above the license limit of 2300 megawatts-thermal was suspected. After implementing corrective actions, power was returned to 100 percent on November 16.

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

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection

a. Inspection Scope

During the week of October 29, 2007, the inspectors verified the status of licensee actions in accordance with licensee off-normal procedure 0-ONOP-103.3, Severe Weather Preparations. This was a check of severe weather planning due to the potential of Tropical Storm Noel affecting the Turkey Point site and included walkdowns of the following two plant areas to check for any specific severe weather vulnerabilities. The inspectors monitored the licensee's preparations that included site walkdowns, removal of missile hazards, topping of essential inventories such as fuel and water tanks, and staffing plans.

- Intake area, including intake structures, intake cooling water pumps, and traveling screens
- Unit 3 emergency diesel generator rooms

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

1. Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted partial alignment verifications of the three systems listed below. These inspections included reviews using plant lineup procedures, operating procedures, and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions of the operable systems were correctly aligned.

- Cross-connect of Unit 4 instrument air header with Unit 3 following failure of the Unit 4 air dryer on October 4, 2007. The walkdown was done using licensee procedure 4-OP-013, Instrument Air System.
- Unit 3, Train 1 auxiliary feedwater following excessive oscillations on the hand control indications for Train 1. The walkdown was done using 3-OP-075, Auxiliary Feedwater System.
- Unit 4, Train 1 auxiliary feedwater when B auxiliary feedwater pump was removed from service for governor replacement. The walkdown was done using 4-OP-075, Auxiliary Feedwater System.

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 Unit 4B Emergency Diesel Generator System to verify the system meets the requirements of having AC emergency electrical power available to assure the capability for a safe shutdown and maintain the unit in a safe condition under all credible circumstances. The inspectors used licensee procedure 4-OP-023, Emergency Diesel Generator, drawing 5614-M-3022 (Emergency Diesel Generator), technical specifications, the final safety analysis report, and other licensing and design documents, when verifying that the system alignment was correct. During the walkdown, the inspectors verified that: (1) valves were correctly positioned and did not exhibit leakage that would impact the function of any valve; (2) electrical power was available as required; (3) major portions of the system and components were correctly labeled, cooled, and ventilated; (4) selected hangers and supports were correctly installed and functional; (5) essential support systems were operational; (6) ancillary equipment or debris did not interfere with system performance; (7) tagging clearances were appropriate; and (8) valves were locked as required by the Turkey Point locked valve program. Pending design and equipment issues were reviewed to determine if the identified deficiencies significantly impacted the system's functions. The system health report for system 23, Emergency Diesel Generator; was used in the review. In addition, the inspectors reviewed issues entered into 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

The inspectors toured the following nine plant areas to evaluate conditions related to control of transient combustibles and ignition sources. Also, the material condition and operational status of fire protection systems including fire barriers used to prevent fire damage or fire propagation were assessed. The inspectors reviewed these activities using provisions in the licensee's Procedure 0-ADM-016, Fire Protection Plan, and 10 CFR Part 50, Appendix R. The licensee's fire impairment lists were routinely reviewed. In addition, the inspectors reviewed the condition report database to verify that fire protection problems were being identified and appropriately resolved.

- Unit 3 emergency diesel generator rooms
- Unit 4 emergency diesel generator rooms
- main control room
- Unit 4 feedwater platform
- Unit 3 main feedwater pump room
- cable spreading room
- Unit 3 B motor control center room
- Unit 3 and Unit 4 intake cooling water pump area
- Unit 4 4160 volt switchgear rooms

b. Findings

Introduction: (Green) The inspectors identified a Non-Cited Violation of Turkey Point procedures covering the approved Fire Protection Program when unapproved transient combustible materials were found in the cable spreading room. The fire protection program specifically controls combustibles and ignition sources introduced into the cable spreading room.

Description: On October 11, 2007, the inspectors found unapproved transient combustible materials stored in the cable spreading room. The inspectors observed a wooden box, a fiberboard table, a plastic chair, a small trash can containing paper trash, a large plastic bag containing air filters, plastic wrap around electrical gear, a computer including power supply cables, two plastic computer storage cases, a lamp, and assorted papers and documents. The materials were largely outage related and had been left after the outage activities were completed. The Turkey Point Final Safety Analysis Report (FSAR) stated that the fire protection program had a component to prevent fires that included specific policies regarding the control of combustible and ignition sources. This component was implemented by licensee procedure 0-ADM-016.1, Transient Combustible and Flammable Substances Program, which specified for the cable spreading room a limit of 10 pounds of Class A materials without a transient combustible permit. The inspectors estimated the weight of the identified material at 100 pounds and no permit had been issued. Further, for collections of Class A materials over 100 pounds, an extra fire extinguisher should be staged, but none had been provided. Non-compliance with the procedural requirements for this finding involved numerous personnel, including operators that routinely tour the area, the affected work groups that introduced and left the materials in the room, and roving firewatch personnel that toured the area hourly due to a degraded halon fire suppression system for the area. The inspector questioned roving fire watch personnel on the control of combustibles in the cable spreading room and found that combustibles entering and remaining in the room were not being monitored. When identified to the

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licensee, a blanket transient combustible permit was written which allowed unlimited “pieces of wood, plastic, foam, and computers etc.” On further questioning by the inspectors, specific limits for combustibles being stored in the room during recovery of Unit 3 from an outage were specified on the permit.

The inspectors also evaluated a laptop computer in the room as an ignition source and found no safety related equipment within three feet of the computer. The inspectors used this distance as one that would prevent fire-adjacent equipment damage if the computer were to ignite.

On November 13, 2007, the inspectors found unapproved transient combustible materials in the 4-A emergency diesel generator room. Specifically, the inspectors observed combustible rubber matting throughout the room to support ongoing maintenance. Licensee procedure 0-ADM-016.1, Transient Combustible and Flammable Substances Program, specified a limit of 100 pounds of Class A materials without a transient combustible permit for the 4-A emergency diesel generator room. The inspectors estimated the weight of the identified material found at 200 pounds and no permit had been issued. When identified to the licensee, an evaluation of the materials was done and a transient combustible permit was written which allowed 200 to 300 pounds of the rubber matting. The issue was documented in the corrective action program as CR 2007-38378. The inspectors considered this issue as supplemental to this finding.

Analysis: Failing to implement the controls established by the licensee to limit fire hazards in the cable spreading room was a performance deficiency. The finding was greater than minor because it involved degradation of a fire protection feature, that limits and controls combustible materials in areas of the plant where safety equipment is located. The cable spreading room contains safety equipment for both units. The Initiating Events cornerstone was affected because a fire in the safety related room would be a significant event that could degrade safety equipment. The inspectors evaluated the finding using NRC Manual Chapter 0609, Appendix F and assigned a Low degradation rating based on the total increase of combustible materials introduced into the room. The finding screened to be of very low safety significance, Green. The finding was related to the cross-cutting aspect of Human Performance, Work Practices (IMC 035, H.4.b) because both the work groups and fire protection personnel did not communicate expectations regarding procedural compliance and personnel did not follow procedures.

Enforcement: Turkey Point Technical Specification 6.8.1.f, requires that FPL implement the procedures covering the approved Fire Protection Program. The fire protection program includes provisions for fire prevention, specifically control of combustibles and ignition sources as specified in licensee procedure 0-ADM-016.1, Transient Combustible and Flammable Substances Program. Due to the recognized importance of the cable spreading room, the procedure (0-ADM-16.1) limits transient combustibles in the room without an evaluation and permit to 10 pounds or less. Contrary to this requirement, on October 11, 2007, the NRC inspectors found an estimated 100 pounds of materials in the cable spreading room with no permit issued. The violation had existed for a number of days and when identified to the licensee, most of the materials were removed and an evaluation done (permit issued) for materials remaining. The issue was entered into the

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corrective actions program as CR 2007-33016. Because this violation is of very low safety significance and has been entered into the licensee's corrective action program, the violation is being treated as a Non-cited Violation consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000250,251/2007-05-01, Failure to implement the fire protection program: unapproved transient combustibles in the cable spreading room.

1R06 Flood Protection Measures

.1 Internal Flooding

a. Inspection Scope

The inspectors conducted a walkdown of the Unit 4A Residual Heat Removal Pump room which included checks of the sumps to ensure that internal flood protection measures were in accordance with design specifications. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), Appendix 5F, Internal Plant Flooding, that discussed protection of areas containing safety-related equipment that may be affected by internal flooding. Specific plant attributes that were checked included structural integrity, sealing of penetrations, control of debris, and operability of sump systems. The inspectors also reviewed work order 37006999 related to the 4A RHR sump, alarm and pump test as part of its preventive maintenance, and CR 2007-23050, related to 4A RHR sump alarms to verify the licensee is adequately addressing issues associated with the RHR sump pumps.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

.1 Resident Inspector Quarterly Review

a. Inspection Scope

On October 22, 2007, the inspectors observed and assessed licensed operator training activities in the plant specific simulator to verify that operator performance was adequate and that evaluators were identifying and documenting crew performance problems. The simulated events were done per Scenario 750204900 which involved a reactor coolant pump seal failure and a steam generator tube rupture. The inspectors observed the operator's use of procedures 3-ONOP-71.2, Steam Generator Tube leakage, 3-EOP-E-0, Reactor Trip and Safety Injection, and 3-EOP-3, Steam Generator Tube Rupture. The event classification (Site Area Emergency) was checked for proper classification using licensee procedure 0-EPIP-20101, Duties of the Emergency Coordinator. The simulator board configurations were compared with actual plant control board configurations including recent modifications. The inspectors specifically evaluated the following attributes related to operating crew performance:

- Clarity and formality of communication
- Ability to take timely action to safely control the unit

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- Prioritization, interpretation, and verification of alarms
- Correct use and implementation of off-normal and emergency operation 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, regulatory reporting requirements, and emergency plan classification and notification
- Crew overall performance and interactions

b. Findings

No findings of significance were identified.

.2 Annual review of Licensee Requalification Examination Results

a. Inspection Scope

On December 7, 2007, the licensee completed the requalification biennial written exam and annual operating tests, required to be given to all licensed operators by 10 CFR 55.59(a)(2). The inspectors performed an in-office review of the overall pass/fail results of the individual written examination and operating tests and the crew simulator operating tests. These results were compared to the thresholds established in Manual Chapter 609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

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 O-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 interviewed responsible engineers and observed corrective maintenance activities. The inspectors verified that equipment problems were being identified and entered into the corrective action program.

- CR 2006-28556, Unit 3 and Unit 4 instrument air equipment issues with maintenance rule implications on the 3CM, 4CM and 4CD compressors. The inspectors reviewed the system health report for the first quarter of 2007, in addition to related condition reports and work documents.

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- CR 2007-38075, Unit 4 process radiation monitors system R-4-15 steam jet air ejectors radiation monitor exceeding maintenance rule unavailability performance criteria. The inspectors reviewed the system health report for the second quarter of 2007.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors completed checked the licensee's risk assessment of seven emergent or planned maintenance activities. The inspectors compared the licensee's risk assessment and risk management activities against the requirements of 10 CFR 50.65(a)(4) and the recommendations of Nuclear Management and Resource Council 93-01, Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 3. Implementation of licensee procedures O-ADM-068, Work Week Management; and O-ADM-225, On Line Risk Assessment and Management were also verified. The inspectors reviewed the effectiveness of the licensee's contingency actions to mitigate increased risk resulting from the degraded equipment. The inspectors evaluated the following risk assessments during the inspection:

- October 1, 2007, Unit 4 risk assessment after unexpected loss of startup transformer due to protective circuitry fault (CR 2007-31185)
- October 17, 2007, Unit 3 risk after failure of control rod F-2 rod position indication (CR 2007-33783)
- October 22, 2007, risk assessment for high oscillations on Unit 3, Train 2 auxiliary feedwater hand control indication in main control room. (CR 2007-34439)
- October 30, 2007, Unit 4 risk assessment when B auxiliary feedwater pump was removed from service for governor replacement
- November 13, 2007, risk assessment for removing the Unit 4A EDG from service for its 24 month planned maintenance
- December 4, 2007, risk assessment for repairs and retesting after Unit 3 B reactor trip breaker failed to close (CR 2007-39972)
- December 28, 2007 risk assessment after extended maintenance was identified for the electric driven fire pump per Work Order 37027494

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed six interim disposition and operability determinations associated with the following condition reports to ensure that Technical Specification operability was properly supported and the system, structure or component remained available to perform its safety function with no unrecognized increase in risk. The inspectors reviewed the FSAR, applicable supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim condition report disposition.

- CR 2007-31725, Unit 4 instrument air header components following loss of both air dryers on October 3.
- CR 2007-31395, Unit 3A emergency diesel generator skid tank solenoid valve failure to automatically fill the skid tank when the fill pushbutton was depressed.
- CR 2007-25033, Unit 3 alternate shutdown panel when high humidity caused panel internals to drip with condensation and water to puddle
- CR 2007-39521, Unit 3 containment penetration P-14 following failure of CV-3-200A to meet the stroke time requirements in 3-OSP-47.1. Satisfactory testing of CV-3-204 was verified in 3-OSP-206.3, Inservice Valve Testing. CR 2007-8442 was reviewed to check the licensee's conclusion that isolating the penetration flow path met technical specification requirements.
- CR 2007-39150, degraded pipe hanger for feedwater cross connect to Units 1 and 2 located above delay fencing and electrical conduit near Unit 3 emergency diesel generator building
- CR 2007-40751, degraded thread engagement on two Rosemount transmitters; 10 CFR Part 21 report and licensee operability assessment

b. Findings

Introduction: The inspectors identified a Green finding of very low safety significance involving FPL procedure NAP-404, Condition Reporting, in that FPL did not take adequate action to identify and resolve excessive moisture in the Unit 3 alternate shutdown panel. Although panel internals were wetted, the panel was considered operable until all steam generator pressure indicators failed a surveillance test resulting in a degraded capability to cooldown the reactor in certain fire scenarios.

Description: On August 20, 2007, operators noted heavy condensation and moisture in the Unit 3 alternate shutdown panel. The operators observed condensation in recorders, the entire interior of the cabinet dripping, and puddles of water. The issues were documented in condition report CR 2007-13973.

Subsequently, on October 14, 2007, during testing of the alternate shutdown instrumentation using licensee procedure 3-OSP-300.2, Alternate Shutdown Panel 3C264 Switch and Instrumentation Alignment Check, all three steam generator pressure channels were found out-of-specification when compared to control room indications. At the time of the test, a "large accumulation of water inside the panel on all surfaces" was noted. As a result, work orders were written for the three channels. On October 22, after sealing the water source and drying the cabinet, all channels were found in agreement with control room indications and no additional repairs were necessary.

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The inspectors found that “extreme humidity” had been reported inside the Unit 3 alternate shutdown panel in October 2004, and documented in condition report CR 2004-12389. At that time, it was noted that a space heater for the panel was not working. A work order was written for repair of the space heater and the inspectors found that Work Order 34019570 had been neither planned nor scheduled through the current inspection. The condition report associated with the work request had been closed.

In CR2007-13973, licensee operations made an “operable” determination based on a surveillance performed prior to the moisture intrusion and the lack of technical specification requirements. At the time of discovery, the licensee did not test nor troubleshoot any of the panel controls or instruments. The inspectors walked down the alternate shutdown panel instruments and controls with a reactor operator. Excessive moisture buildup and small puddles were noted in many of the panel instruments. Although the strip chart and pens used for monitoring reactor coolant system temperatures had been heavily wetted by moisture, stored dry paper and new pens were available to insert into the cabinet as needed. The inspectors considered the controls and instruments used for achieving Mode 3 degraded due to moisture intrusion, but available. However, because of the subsequent failed test in October, the steam pressure channels were considered inoperable by the inspectors because the ability to achieve Mode 5 would be challenged. The ability of the panel instruments to function with heavy moisture was not discussed in the licensee’s operability determination and there was no investigation.

The inspectors found that although the alternate shutdown panel components were safety related, they had not been scoped in the licensee’s maintenance rule program and related condition reports had not been evaluated for maintenance rule. The licensee documented the problem in the corrective action program as CR 2007-38461.

Analysis: FPL procedure NAP-204, Condition Reporting, specifies that the Station Issue Tracking and Information System (SITRIS) shall be used to document and resolve conditions adverse to quality, including issues within the purview of regulatory programs. The alternate shutdown system is specified by 10 CFR 50, Appendix R. The panel 3C264 is designated safety-related in the licensee’s equipment data base as noted in CR 2007-25033. The licensee’s failure to identify and correct moisture intrusion problems with the remote shutdown equipment was a noncompliance with the licensee’s corrective actions procedure and was a performance deficiency in the Mitigating Systems cornerstone. The finding was more than minor because it affected the availability and reliability of the alternate shutdown system required by NRC regulations and designated for use in licensee procedure 0-ONOP-105, Control Room Evacuation. The finding screened as Green and was of very low safety significance when evaluated using NRC Manual Chapter 0609, Appendix F, because only the ability to achieve cold shutdown was affected by the moisture. The cause of the finding is related to the cross-cutting area of problem identification and resolution because the moisture intrusion in the alternate shutdown system had not been thoroughly evaluated such that resolutions address causes (IMC 305, P.1.c).

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, requires that measures be established to assure that conditions adverse to quality such as deficiencies are

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promptly identified and corrected. The licensee implements this requirement, in part, using NAP-204, Condition Reporting. Contrary to this requirement, excessive moisture and condensation in the Unit 3 alternate shutdown panel, identified in 2004, was not promptly corrected. As a result, excessive moisture in August 2007 caused failure of all three channels of steam generator pressure indication and a degraded ability to achieve cold shutdown in some fire scenarios. Because the failure to correct the moisture buildup problem for the Unit 3 alternate shutdown panel is of very low safety significance and has been entered in the licensee's corrective action program as CR 2007-33454, this violation is being treated as a Non-cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000250,251/2007-05-02, Failure to correct moisture buildup in alternate shutdown panel results in degraded cooldown capability.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the documentation for the following two plant changes and modifications (PC/M). As part of the inspection for the governor shutdown assembly installation the inspectors reviewed the 10CFR 50.59 screening and evaluation, the maintenance support package (MSP No. 06-087) and Woodward vendor manual (Manual 36651) to verify that the design basis, licensing basis, and performance capability of risk significant systems had not been degraded by the modifications. For the pressurizer relief tank insulation removal inspection the inspectors reviewed the licensee's evaluation on insulation removal impact as part of the engineering package for Containment Recirculation Sump Debris GSI-191 Resolution (PC/M 06-030). The inspectors reviewed applicable procedure changes and discussed the modification with plant personnel. In addition, the inspectors reviewed the associated system basis documents and updated Final Safety Analysis to verify that the modifications would not affect system operability/availability. The inspectors performed a walk-down of the areas where the modifications were located to verify the modification assumptions. The inspectors reviewed associated plant drawings and discussed the modifications with plant personnel. The inspectors also reviewed selected CRs associated with modifications to confirm that problems were identified at an appropriate threshold, were entered into the corrective action process, and appropriate corrective actions had been initiated. The pressurizer relief tank drawings had not yet been updated at the time of the inspection.

- PC/M 06-087 , Installation of Vendor Provided Auxiliary Feedwater (AFW) Governor Shutdown Assembly. This modification eliminate the need to manipulate governor speed control knobs after AFW operation. The pressure activated shutdown assembly installed and tested in the vendor (ESI) facility and re-tested in-house by plant personnel.
- PC/M 06-030, Pressurizer Relief Tank (PRT) Insulation Removal. This PC/M permanently removed the PRT insulation in order to reduce the postulated LOCA containment debris loading in Unit 3. The PRT was also coated from corrosion protection.

b. Findings

No findings of significance were identified in the two packages reviewed, however a finding was identified during review of fire protection activities associated with the cable spreading room.

Introduction: (Green) A Non-Cited Violation (NCV) of 10 CFR 50.71.c was identified by the inspectors for failure to update the final safety analysis report to assure that the information included contains the latest information developed.

Description: On October 11, 2007, during a plant status walkdown of the cable spreading room (Fire Zone 98), the inspector found an approximate four foot square, structure made of painted plywood that contained a large number of phone cables labeled with paper labels. The inspector questioned the licensee on the fire loading for the structure and was later informed that no fire evaluation had been done when the structure was installed some years in the past. It was estimated that the structure had been installed for about 10 years. The licensee did a walkdown of the cable spreading room to identify other items that may have been installed without fire loading evaluation, and the following items were identified: coils of cables outside of raceways, foam taped head protectors, nylon barrier ropes, lubricated valves, and a monitoring computer. The licensee could not identify any modification documents associated with the identified items. Turkey Point Final Safety Analysis Report (FSAR), Section 9.6.a.4.HH.1.2, Fire Zone 98 - Combustible Loadings, provides the FSAR loading for Zone 98. The loading did not include wood, nylon, lubrication for valves, nor foam/tape. When evaluated by the licensee for impact of the installed items on the fire barrier ability to contain fires, the added loading was found to be acceptable with no challenge to the 3 hour fire barrier that contains the room.

Analysis: 10 CFR 50.71 requires licensees to periodically update the final safety analysis report to assure that the information included contains the latest information developed. The failure to update the report with modification information that could affect the fire loading of the cable spreading room was a failure to provide accurate information that could impact the NRC ability to perform its regulatory function and was subject to traditional enforcement. When identified to the licensee by the inspectors, the licensee documented the issue in the corrective action program as CR 2007-33857.

Enforcement: 10 CFR Part 50. 71(e) requires that the final safety analysis report be periodically updated to assure that the information included in the report contains the latest information developed. Contrary to the above, as of October 11, 2007, section Chapter 9.6A of the Turkey Point FSAR, section 4.HH.1.2, Fire Zone 98 - Combustible Loadings had not been updated to reflect modifications made in the room in years past, including installation of a painted plywood phone panel, and other various combustible materials added to the room. When identified to the licensee by the inspectors, the licensee did a walkdown of the room to identify all materials that had been added, documented the issue in the corrective actions program as CR 2007-33857, and established an action to update the FSAR. Because this violation was of very low

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safety significance and had been entered into the licensee's corrective action program, the issue is being treated as a non-cited violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000250,251/2007-05-03, Failure to periodically update the FSAR with changes made to the cable spreading room fire loading.

1R19 Post Maintenance Testing

a. Inspection Scope

For the seven 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 work orders (WO) and/or surveillance procedures (OSP):

- WO 37020826-01, control room penetration repairs related to seals degradation while performing Unit 3 ERDADS upgrade.
- WO37020517-01, Unit 3 containment penetration number 31, RCDT to gas analyzer containment isolation valve CV-3-4659A seat leakage repair
- 3-OSP-300.2, Unit 3 Alternate Shutdown Panel 3C264 Switch and Instrumentation Alignment Check after calibration of the steam generators A, B, C pressure gauges due to water intrusion degradation
- 35020412-01, Unit 3 rod position indication inverter inspection and testing PMT as part of refueling outage planned maintenance
- 4-OSP-075.7, Auxiliary Feedwater Train 2 Backup Nitrogen Test, following B-auxiliary feedwater governor replacement per work order 36022138-01
- WO 37005739-01, Unit 3 Intake Cooling Water Pump-B check valve replacement and testing, 3-OSP-019.1; Intake Cooling Water Inservice Test
- 0-OSP-074.3, Standby Steam Generator Feedwater Pumps Availability Test for the B SSGFP post maintenance test.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities

.7 Unit 3: Monitoring of Heatup and Startup Activities

a. Inspection Scope

The inspectors reviewed activities during the Unit 3 reactor restart and power escalation to verify that reactor parameters were within safety limits and that the startup evolutions were done in accordance with pre-approved procedures and plans. The inspectors conducted a thorough walkdown of containment prior to reactor restart to verify no

evidence of leakage and verify that debris had been removed to maintain operability of the containment sump. Licensee foreign materials exclusion controls during restart activities were monitored. Sections of the reactor physics testing were observed or reviewed with reactor engineering personnel.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following six 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. In addition, the inspectors evaluated the effect of the testing activities on the plant to ensure that conditions were adequately addressed by the licensee staff and that after completion of the testing activities, equipment was returned to the positions/status required for the system to perform its safety function. The tests reviewed included one inservice test (IST), a containment isolation valve test (CIV), and one reactor coolant system leak rate (LR) determination.

- 3-OSP-203.1; Unit 3 Train A Engineered Safeguards Integrated Test, section 7.3-Loss of Offsite Power coincident with Safety Injection
- 3-OSP-051.5; Unit 3 containment penetration 6 nitrogen supply line to PRT test connection isolation valve CK-3-518 Local Leak Rate Test, (CIV)
- 3-OSP-019.1; Unit 3 Intake Cooling Water Pump-B In-Service Testing (IST)
- 4-OSP-041.1; Reactor Coolant System Leak Rate Calculation (LR)
- 4-OSP-075.1; Auxiliary Feedwater Train 1 Operability Evaluation
- 0-OSP-062.2, Safety Injection System Inservice Test (Section 7.5), stroke test of MOV-3-843A (IST)

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

.1 Emergency Preparedness Drill

Simulator Based Emergency Drill

Inspection Scope

On October 19, 2007, the inspectors observed the unannounced licensee off-hours emergency drill that included an event classification. Results of the drill were used by

the licensee as inputs into the Drill/Exercise Performance and Emergency Response Organization Drill Participation Performance Indicators. The simulation began with an Alert following a simulated fuel handling accident, with early hours call-out of emergency response personnel. After activation of the Technical Support Center and Emergency Offsite Facility, escalation to Site Area Emergency was made when radiation dose rates exceeded pre-established limits in licensee procedure 0-EPIP-20101, Duties of the Emergency Coordinator. The inspectors observed the site area emergency classification and notifications. At the conclusion of the drill, the inspectors discussed the drill with plant staff and noted that licensee identified problems were documented in the corrective actions program.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator (PI) Verification

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 and by reviewing the licensee's electronic condition report database. Additionally, reactor coolant system unidentified leakage was routinely checked to verify no substantive or unexplained changes.

b. Findings

No findings of significance were identified

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected the following two condition reports (CR) for detailed review and discussion with the licensee. The condition reports were 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 the issues in accordance with the requirements of the licensee's corrective actions process as specified in NAP-204, Condition Reporting.

- CR 2007-33454 and CR 2007-19758, Failure of alternate shutdown panel steam pressure instruments due to moisture in the alternate shutdown panel. Related condition report 2004-12389 and work order 35001516 were reviewed.
- CR 2006-28218, Refueling preshuffle restarted without verifying requirements.
- Inspector review of operator workarounds and operator burdens, including cumulative affect in accordance with Inspection Procedure 71152.

b. Findings

One finding of significance is documented under Section 1R15 of this report. Otherwise, no findings of significance were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors reviewed the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector corrective actions item screening discussed in section 4OA2.1 above, plant status reviews, plant tours, document reviews, and licensee trending efforts. The inspectors' review nominally considered the six-month period of July through December 2007. The review also included issues documented outside the normal CAP such as in the periodic Chief Nuclear Officer's Indicator Report. Corrective actions associated with a sample of the issues identified in the licensee's corrective action program were reviewed for adequacy.

b. Assessment and Observations

No findings of significance were identified. The inspectors identified one trend that involved three occurrences of safety related equipment being removed from service for planned maintenance, however no work was done and the equipment returned to service. Condition report (CR) 2007-20622 details removal of the left side air starting flasks for the 3B emergency diesel generator, removed then returned to service without work. Condition report 2007-25235 and CR 2007-26975 detail removal and return to service of the 3A intake cooling water basket strainer and 4D 4KV bus ventilation fan respectively. The inspector noted that none of the condition reports included more than a minimal evaluation and no formal corrective actions were specified.

4OA3 Event Followup

.1 (Closed) Licensee Event Report 50-251/2006-002-00, Intermediate Range High Flux Trip Setpoint Exceeded Technical Specification Allowable Value

During review of intermediate range detector setpoints, the licensee found that the setpoint of one detector, N-35, for the previous cycle startup had exceeded the technical specification limit. The non-conservative limit had existed for about 15 days of operation before calibration of the detector with the reactor at full power in July 2005. The licensee documented the condition in the corrective action program (Condition Report 2007-35513) and initiated an apparent cause investigation. The cause was determined to be inadequate change management that included inaccurate vendor supplied information when the detector housing material was changed. The licensee further identified missed opportunities due to procedure weaknesses at Turkey Point. The licensee informed the vendor of the problem and initiated a number of procedure changes, including revisions to 3/4-OSP-059.7, Nuclear Instrument System Setpoint Calibration predictions for a New Cycle Startup, and 0-OSP-059.15, Nuclear Instrumentation Channel Check and Calibration. The inspectors verified that the

procedure changes had been implemented. Enforcement associated with this issue is discussed in Section 4OA7 of this report. The LER is closed.

4OA5 Other Activities

.1 Independent Spent Fuel Storage Installation

a. Inspection Scope (60854.1)

During the week of December 17-21, 2007, an inspection of portions of the ISFSI dry run work was conducted at TriVis, Inc for welding, non-destructive testing (NDE), dewatering, drying, vacuum, helium gas input, and mechanical cutting of a mockup of the Transnuclear NUHOMS-HD 32PTH Type 1 System (CoC 72-1030). The inspection was to confirm the adequacy of procedures including the Work Order, personnel training /qualification and the equipment. While the ISFSI demonstration at TriVis is intended for the Seabrook and St Lucie sites, it is also applicable to the Turkey Point plant site provided the same ISFSI system and equipment is used there.

For the dry shielded canister (DSC) Welding Operations, the inspectors observed welding and nondestructive testing (NDE) of the inner top cover, vent & siphon port covers, and the outer top cover including the threaded access opening. A majority of the welding was done with the Automatic Welding System (AWS) using the gas shielded tungsten electrode (GTAW) process. The use of manual GTAW welding was also demonstrated. The application of visual examination (VT), dye penetrant testing (PT) and helium leak testing nondestructive examination (NDE) methods on the welds was inspected. A comparison of the welding procedures and NDE procedures to their respective work practices was made. Additionally, the welding procedure documentation, welder performance qualification, and NDE procedures and NDE personnel qualifications were verified against their respective Code and procedural requirements.

For the DSC Drying and Backfilling Operations, the inspectors reviewed the work control package, MMP-116-12 and observed the system valve position changes including communication and verification practices to execute the work control procedural steps. The mockup was drained and vacuum-dried to demonstrate capabilities to satisfy NUHOMS CoC 72-1030, TS, and FSAR Chapter 8 procedural steps.

Inspection was performed on the DSC unloading / lid cutting operations of a welded 32PTH DSC mockup. This included cutting into the outer top cover to access the vent & siphon ports, taking a gas sample, and the reflood process simulation. Tri-Tool cutter and the keyway cutter was rigged and installed on the DSC, and the appropriate lid cuts were made and removed in sequence.

The inspectors observed the health physics (HP) practices and controls were employed during the above dry run demonstrations to simulate expected radiation conditions. Additionally, the inspectors observed the daily, special pre-job and post job briefings that were held as part of the work control and team building process.

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As the ISFSI staff worked thru the process steps of the work packages and applied the related procedures, opportunities for enhancement were identified and entered into the procedure revision process.

b. Findings

No findings of significance were identified.

4OA6 Exit

Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. W. Jefferson, Site Vice President and other members of licensee management on January 11, 2008. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. The licensee did not identify any proprietary information.

4OA7 Licensee Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

Turkey Point License Condition 3.A. Maximum Power Level, requires Unit 3 to operate at a core reactor power level not in excess of 2300 megawatts (thermal). Contrary to this requirement, during the period beginning on October 18, to November 6, 2007, the licensee identified that Unit 3 operated at power levels in excess of 2300 megawatts. When identified by the licensee during evaluation of inconsistent plant parameters, power was reduced to 98 percent and a formal evaluation was initiated. The occurrence was of very low safety significance because the reactor power levels assumed in the plant safety analysis were not challenged.

Turkey Point Technical Specification 3.3-1.3 requires 2 channels of Intermediate Range, Neutron Flux instrumentation to be operable prior to increasing thermal power above either the P-6 setpoint or 10 percent rated thermal power. Contrary to the above, on June 13, 2005, power was increased above the P-6 setpoint and 10 percent thermal power with one channel of intermediate range neutron flux instrumentation inoperable. After approximately 15 days above these power limits, the channel was returned to operable status by calibration. The occurrence was identified during a licensee review of operations in December 2006 and entered into the corrective action program as CR 2006-35513. The occurrence was of very low safety significance because the redundant channel of intermediate range power protection remained functional during the time when the one channel was inoperable.

10 CFR 50.73, in Section (a)(2)(i)(B), requires that the holder of an operating license submit a Licensee Event Report within 60 days after discovery of "Any operation or condition which was prohibited by the plant's Technical Specification". Contrary to the above, FPL identified a condition prohibited by Technical Specifications on December 5, 2006 but failed to submit the LER within 60 days, as required. This was a repeat occurrence. The violation was of very low safety significance because it was administrative only.

Turkey Point Technical Specification 6.8.1.f requires that written procedures for the facility fire protection program be implemented. FPL procedure 0-ADM-016.4, Fire Watch Program, requires in Step 3.4.1.d, that the fire watch shift supervisor notify the Shift Manager of any condition that may prevent compliance with the fire protection program, including conditions which would not allow required fire watch duties to be performed. Contrary to the above, on December 8, 2007, on three separate occurrences during the midnight shift, the assigned fire watch was found asleep and the condition was not reported to the shift manager. Further, the licensee investigation identified that the assigned individual had worked in excess of station guidelines for overtime and no waivers had been processed for the individual. When identified by the licensee during review of records, condition report CR 2007-40653, was generated and an investigation was initiated. The occurrence was of very low safety significance because the duration of the missed fire watches was brief (all within an 8 hour period), and tours of the area by other workers would likely have identified any initiating fire.

ATTACHMENT: SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

J. Antignano, Fire Protection Supervisor
W. Burrows, Acting Maintenance Manager
P. Infanger, Licensing Manager
J. Hamm, Engineering Manager
D. Hoffman, Operations Superintendent
W. Jefferson, Site Vice-President
K. O'Hare, Corrective Actions Supervisor
G. Warriner, Emergency Preparedness Manager
R. Pell, Acting Operations Manager
G. Hettel, Acting Plant General Manager
M. Crosby, Quality Manager

NRC personnel:

S. Vias, Branch Chief, DRP

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

0500250,251/2007-005-01	NCV	Failure to implement the fire protection program: unapproved transient combustibles in the cable spreading room (1R05)
05000250,251/2007-05-02	NCV	Failure to correct moisture buildup in alternate shutdown panel results in degraded cooldown capability (1R17)
05000250,251/2007-05-03	NCV	Failure to periodically update the FSAR with changes made to the cable spreading room fire loading (1R15)

Closed

50-251/2006-002-00	LER	Intermediate range high flux trip setpoint exceeded technical specification allowable value (40A3.1)
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LIST OF DOCUMENTS REVIEWED

Work Control Procedures:

- MMP-116.12, Rev E-2 Effective 1/11/2008. ISFSI DSC Sealing Operations
- MP-116.13, Rev E-1 Effective 1/02/2008. ISFSI DSC Lid Removal

Welding Procedures:

- Welding Procedure Qualification Record No 1, TriVis Inc, 3/8/2006
- Welding Procedure Specification SS-8-M-TN, Rev 4
- Welding Procedure Specification SS-8-A-TN, Rev 1
- QP-9.0, TriVis Welding Program, Rev 7
- GWS-3, TriVis General Welding Standard, Revision 2
- WAP-2, TriVis Welding Administrative Procedure, Control of Welder & Welding Operator Qualification, Rev 2

Non-Destructive Testing Procedures:

- TRANSNUCLEAR-HMSLD, Specific Procedure for HMSLD Leak Testing of Transnuclear NUHOMS HD Horizontal Modular Storage System for Irradiated Nuclear Fuel Inner Top Cover Plate and Vent and Siphon Port Cover Plates, RRL NDT Consulting, LLC, Rev 0
- QP-9.202, Color Contrast Liquid Penetrant (PT) Examination Using the Solvent-Removable Method, Rev 1
- QP-9.200, Written Practice for the Qualification and Certification of Nondestructive Examination (NDE) Personnel, Rev 3
- QP-9.201, Visual Weld Examination of Dry Cask Assembly, Rev 2

Design Change Notices (DCN):

- TIP 3.5, Form 3.5-1, 10CFR72.48 Applicability, Applicable System: 32PTH (32PTH Type1) DSC, 7/16/07

Drawing and Design Calculations:

- TNI-18Q-301, Flaw Evaluation for Transnuclear NUHOMS Top Cover Plate Closure Weld, Structural Integrity Associates, Rev 0

Other:

- NRC Inspection Procedure 60854.1 Preoperational Testing of an Independent Spent Fuel Storage Installation
- NRC Inspection Procedure IP 55050, Nuclear Welding
- NRC Spent Fuel Project Office Interim Staff Guidance-15
- NUHOMS® HD System Final Safety Analysis Report, Rev 0
- Material Certification for PT Remover KO-19, Batch 415-H56, Dec 19, 2007

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- Material Certification for PT Developer D-350, Batch 527-B71, June 10, 2005
- Material Certification for PT Penetrant KO-17, Batch 421-K54, Dec 20, 2004
- Sherwin Inc Hi-Temp Penetrant Inspection System Product Information Document
- Email from Robert Siegel, Sherwin Incorporated, to John Kelley, Operations Manager TriVis, Dated Dec 11, 2007
- Letter to File, Leak Test Specialists, Inc, May 4, 2006
- Letter to File, Leak Test Specialists, Inc, April 19, 2006
- FPL Radiation Work Permit 07-352, 11/23/2007
- FPL Radiation Work Permit 07-351, 11/23/2007
- HPP-85, St. Lucie Plant Health Physics Procedure, 11/14/2007
- Appendix A to Certificate of Compliance No. 1030, HUHOMS HD System Generic Technical Specifications
- ASME Boiler and Pressure Vessel Cod