



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

May 13, 2011

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

**SUBJECT: TURKEY POINT – NRC TEMPORARY INSTRUCTION 2515/183 INSPECTION
REPORT 05000250/2011010, 05000251/2011010**

Dear Mr. Nazar:

On April 29, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point facility, using Temporary Instruction 2515/183, "Followup to the Fukushima Daiichi Nuclear Station Fuel Damage Event." The enclosed inspection report documents the inspection results which were discussed on May 4, 2011, with Mr. Kiley and other members of your staff.

The objective of this inspection was to promptly assess the capabilities of Turkey Point to respond to extraordinary consequences similar to those that have recently occurred at the Japanese Fukushima Daiichi Nuclear Station. The results from this inspection, along with the results from this inspection performed at other operating commercial nuclear plants in the United States, will be used to evaluate the U.S. nuclear industry's readiness to safely respond to similar events. These results will also help the NRC to determine if additional regulatory actions are warranted.

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report. You are not required to respond to this letter.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of

FPL

2

NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Daniel W. Rich, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos.: 50-250, 20-251
License Nos. DPR-31, DPR-41

Enclosure: Inspection Report 050250/2011010, 05000251/2011010
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

FPL

2

NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Daniel W. Rich, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos.: 50-250, 20-251
License Nos. DPR-31, DPR-41

Enclosure: Inspection Report 050250/2011010, 05000251/2011010
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
ADAMS: X Yes ACCESSION NUMBER: ML111330163 X SUNSI REVIEW COMPLETE X FORM 665 ATTACHED

OFFICE	RII:DRP	RII:DRP	RII:DRP	RII:DRP	RII:DRP		
SIGNATURE	GJW /RA	SLM /RA/	Via email	Via email	GJW /RA for/		
NAME	GWilson	SMendez	SStewart	MBarillas	DRich		
DATE	05/11/2011	05/11/2011	05/11/2011	05/11/2011	05/11/2011		
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRP\RPB3\TURKEY POINT\REPORTS\2011\TURKEY POINT TI-183
INSPECTION REPORT 2011-010 REV 1.DOCX

cc w/encl:
Alison Brown
Nuclear Licensing
Florida Power & Light Company
Electronic Mail Distribution

Larry Nicholson
Director
Licensing
Florida Power & Light Company
Electronic Mail Distribution

Michael Kiley
Site Vice President
Turkey Point Nuclear Plant
Florida Power and Light Company
Electronic Mail Distribution

Niel Batista
Emergency Management Coordinator
Department of Emergency Management
and Homeland Security
Electronic Mail Distribution

Robert J. Tomonto
Licensing Manager
Turkey Point Nuclear Plant
Florida Power & Light Company
Electronic Mail Distribution

Paul Rubin
Plant General Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
Electronic Mail Distribution

Mitch S. Ross
Vice President and Associate General
Counsel
Florida Power & Light Company
Electronic Mail Distribution

Marjan Mashhadi
Senior Attorney
Florida Power & Light Company
Electronic Mail Distribution

William A. Passetti, Chief
Florida Bureau of Radiation Control
Department of Health
Electronic Mail Distribution

Ruben D. Almaguer, Director
Division of Emergency Preparedness
Department of Community Affairs
Electronic Mail Distribution

Mano Nazar
Executive Vice President and Chief Nuclear
Officer
Nuclear Division
Florida Power & Light Company
P.O. Box 14000
Juno Beach, FL 33408

Senior Resident Inspector
Turkey Point Nuclear Generating Station
U.S. Nuclear Regulatory Commission
9762 SW 344th St.
Florida City, FL 33035

Attorney General
Department of Legal Affairs
The Capitol PL-01
Tallahassee, FL 32399-1050

Mike A. Shehadeh, P.E.
City Manager
City of Homestead
Electronic Mail Distribution

County Manager of Miami-Dade County
111 NW 1st Street, 29th Floor
Miami, FL 33128

Gene St. Pierre
Vice President, Fleet Support
Florida Power & Light Company
Electronic Mail Distribution

Letter to Mano Nazar from Daniel W. Rich dated May 13, 2011

SUBJECT: TURKEY POINT – NRC TEMPORARY INSTRUCTION 2515/183 INSPECTION
REPORT 05000250/2011010, 05000251/2011010

Distribution w/encl:

C. Evans, RII EICS

L. Douglas, RII EICS

OE Mail

RIDSNRRDIRS

PUBLIC

RidsNrrPMTurkeyPoint Resource

**U. S. NUCLEAR REGULATORY COMMISSION
REGION II**

Docket Nos.: 50-250, 50-251

License Nos.: DPR-31, DPR-41

Report Nos.: 05000250/2011010, 05000251/2011010

Licensee: Florida Power & Light Company (FP&L)

Facility: Turkey Point Nuclear Plant, Units 3 & 4

Location: 9760 S.W. 344th Street
Homestead, FL 33035

Dates: March 23 to April 29, 1011

Inspectors: J. Stewart, Senior Resident Inspector
M. Barillas, Resident Inspector

Approved by: Daniel W. Rich, Branch Chief
Reactor Projects Branch 3
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000250/2011010,050002512011010 03/23/2011 – 04/29/2011; Turkey Point Unit 3 and 4
Temporary Instruction 2515/183 – Follow-up to the Fukushima Daiichi Nuclear Station Fuel
Damage Event

This report covers an announced Temporary Instruction inspection. The inspection was conducted by Resident 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."

INSPECTION SCOPE

The intent of the TI is to provide a broad overview of the industry's preparedness for events that may exceed the current design basis for a plant. The focus of the TI was on (1) assessing the licensee's capability to mitigate consequences from large fires or explosions on site, (2) assessing the licensee's capability to mitigate station blackout (SBO) conditions, (3) assessing the licensee's capability to mitigate internal and external flooding events accounted for by the station's design, and (4) assessing the thoroughness of the licensee's walk downs and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. If necessary, a more specific follow-up inspection will be performed at a later date.

INSPECTION RESULTS

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report.

Enclosure

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events, typically bounded by security threats, committed to as part of NRC Security Order Section B.5.b issued February 25, 2002, and severe accident management guidelines and as required by Title 10 of the Code of Federal Regulations (10 CFR) 50.54(hh). Use Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)," Section 02.03 and 03.03 as a guideline. If IP 71111.05T was recently performed at the facility the inspector should review the inspection results and findings to identify any other potential areas of inspection. Particular emphasis should be placed on strategies related to the spent fuel pool. The inspection should include, but not be limited to, an assessment of any licensee actions to:

Licensee Action	Describe what the licensee did to test or inspect equipment.
<p>a. Verify through test or inspection that equipment is available and functional. Active equipment shall be tested and passive equipment shall be walked down and inspected. It is not expected that permanently installed equipment that is tested under an existing regulatory testing program be retested.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee verified that the B.5.b equipment was available, functional, tested, and inspected using their surveillance procedures. Included in the verification were operation of the transport truck and diesel powered fire pump using staged equipment and off-normal procedures.</p>
	<p>Describe inspector actions taken to confirm equipment readiness (e.g., observed a test, reviewed test results, discussed actions, reviewed records, etc.).</p>
	<p>A walk down was done of the normal staging for the transport truck, fire pump, and equipment trailer. A walk down of the staging areas for spent fuel pool fill including the hose pathways for both units fuel pools was done. Extra equipment, including hoses, connectors, nozzles and a trailer were walked down in the owner controlled area fire storage building. The strategy for mitigating loss of cooling to the spent fuel pool was discussed with an operator and a fire protection specialist. Sources of water for the pumper such as the raw water tank connection and intake canal staging area were walked down. The inspector observed delivery of water from the diesel powered fire pump using pre-staged equipment during equipment testing.</p> <p>Design documentation showing capability to deliver water from the canal using the portable pumper was reviewed. Procedures for delivery targets for various strategies such as spent fuel pool, steam generators, condensate storage tank, and containment flooding were verified available.</p>

	<p>Discuss general results including corrective actions by licensee.</p> <p>No loss of mitigating function issues were identified. A number of enhancements or procedural clarifications were recommended in corrective action documents.</p> <p>The licensee identified two issues; one being potential over-pressurization of the water delivery nozzle in certain unlikely situations and blockage to a staging area by temporary equipment. Redundant nozzles and staging areas were unaffected. Both issues were documented in the corrective action program and were corrected by the licensee.</p>
<p>Licensee Action</p>	<p>Describe the licensee's actions to verify that procedures are in place and can be executed (e.g. walkdowns, demonstrations, tests, etc.)</p>
<p>b. Verify through walkdowns or demonstration that procedures to implement the strategies associated with B.5.b and 10 CFR 50.54(hh) are in place and are executable. Licensees may choose not to connect or operate permanently installed equipment during this verification.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee completed an inventory and walkdown of the B.5.b capability to provide water to the spent fuel pools. Capabilities evaluated included emergency makeup to the SFP using both internal and external sources.</p> <p>Validation via Walk downs were done for the following strategies: EDMG-1, Response to Large Area Fire EDMG-2, Major Loss of Plant Control Systems SAG-1, Inject into the Steam Generators SAG-2, Depressurize the RCS SAG-4, Inject into the Containment SAG-5, Reduce Fission Product Releases SAG-8, Flood Containment ³/₄-ONOP-033.1 Spent Fuel Pit Malfunction ³/₄-ONOP-075, Auxiliary Feedwater System Malfunction</p> <p>Describe inspector actions and the sample strategies reviewed. Assess whether procedures were in place and could be used as intended.</p>

	<p>The inspector performed a partial walk down of SAG-1, Inject into the Steam Generators, Attachment 6, Manually Depressurize SGs and Use Portable Pump. Staging of temporary equipment including nitrogen bottles, flex hoses, and wrenches to open the atmospheric steam dump valves to atmosphere was verified for both units. A walk down of the condensate transfer check valves for both units was done to assure accessibility for hook-up of a temporary water supply. Flanges and fire nozzle hookups were verified maintained in the equipment locker. Steam generator feed water bypass valves for Unit 3 were walked down to verify accessibility for manual operation. Design calculations showing margin for delivery of water to the steam generators were noted.</p> <p>Sections of ¾-ONOP-033.1 Spent Fuel Pit Malfunction associated with alternate makeup to the spent fuel pool using external sources were walked down to verify feasibility.</p> <p>Discuss general results including corrective actions by licensee.</p> <p>No loss of mitigating function issues were identified. A number of enhancements or procedural clarifications were recommended in corrective action documents.</p> <p>Two of six nitrogen cylinders for steam dump to atmosphere operation had lower than minimum pressure, however the strategy remained functional. The issue was documented in the corrective action program and corrected.</p>
--	---

<p>Licensee Action</p>	<p>Describe the licensee's actions and conclusions regarding training and qualifications of operators and support staff.</p>
<p>c. Verify the training and qualifications of operators and the support staff needed to implement the procedures and work instructions are current for activities related to Security Order Section B.5.b and severe accident management guidelines as required by 10 CFR 50.54 (hh).</p>	<p>FPL verified a sufficient number of currently qualified individuals for the following: B.5.b and Severe Accident Mitigation: qualification of auxiliary operators, ROs and SROs; Fire fighters; Security Officers; Emergency response personnel for SAMG and B.5.b events; Engineers trained in SAMGs</p>

	<p>Describe inspector actions and the sample strategies reviewed to assess training and qualifications of operators and support staff</p>
	<p>The inspector verified by review of records that station Senior Reactor Operators (SRO), were trained on both PTN B5b 001 (B5b decision maker) and PTN EPR SAMG 001 (Severe Accident Management Guidelines (SAMG) Control Room Implementer) in accordance with the licensee's program.</p> <p>Non-licensed Emergency Coordinators, who would work from the technical support center were similarly trained on PTN B5b 003 (B5b decision maker), and PTN EPR SAMG 004 (Severe Accident Management Guidelines (SAMG) Decision Maker).</p> <p>All qualifications were verified current.</p> <p>The inspector had previously observed training of non-licensed operators on use of the B.5.b pumper and was aware that this training was recurring.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>No loss of mitigating function issues were identified. A number of enhancements or procedural clarifications were recommended in corrective action documents.</p>

Licensee Action	Describe the licensee's actions and conclusions regarding applicable agreements and contracts are in place.
<p>d. Verify that any applicable agreements and contracts are in place and are capable of meeting the conditions needed to mitigate the consequences of these events.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>FPL verified that the agreement with Miami-Dade Fire Rescue was current and that required offsite equipment was available. The equipment included six suppression vehicles, two rescue vehicles, two supervisory units, an appropriate compliment of personnel, and a hazardous materials unit. Additional support equipment for various scenarios was also noted.</p>
	<p>For a sample of mitigating strategies involving contracts or agreements with offsite entities, describe inspector actions to confirm agreements and contracts are in place and current (e.g., confirm that offsite fire assistance agreement is in place and current).</p>
	<p>The inspector reviewed a November 17, 2010 letter from Miami Dade Fire Rescue (Lorenzo) to the Turkey Point emergency preparedness manager (Carberry) confirming resources and continued support should an emergency situation occur at the site.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>No gaps were noted.</p>

Licensee Action	Document the corrective action report number and briefly summarize problems noted by the licensee that have significant potential to prevent the success of any existing mitigating strategy.
e. Review any open corrective action documents to assess problems with mitigating strategy implementation identified by the licensee. Assess the impact of the problem on the mitigating capability and the remaining capability that is not impacted.	No loss of mitigating function issues were identified. A number of enhancements or procedural clarifications were recommended in corrective action documents.

03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions, as required by 10 CFR 50.63, "Loss of All Alternating Current Power," and station design, is functional and valid. Refer to TI 2515/120, "Inspection of Implementation of Station Blackout Rule Multi-Plant Action Item A-22" as a guideline. It is not intended that TI 2515/120 be completely reinspected. The inspection should include, but not be limited to, an assessment of any licensee actions to:

Licensee Action	Describe the licensee's actions to verify the adequacy of equipment needed to mitigate an SBO event.
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee walked down $\frac{3}{4}$-EOP-ECA-0.0, Loss of All AC Power, including many of the kick-out provisions: such as: 0-ONOP-025.3, DC Equipment and Inverter Rooms Supplemental Cooling; $\frac{3}{4}$-EOP-ECA-0.1, Loss of all AC recovery without SI required; $\frac{3}{4}$-EOP-ECA-0.2, Loss of all AC with SI required; 3-NOP-030, Section 5.4, align Unit 3 CCW to Unit 3 HHSI Pumps; $\frac{3}{4}$-ONOP-004.2, Loss of 3A 4 KV Bus; $\frac{3}{4}$-ONOP-004.3, Loss of 3B 4 KV Bus; 3-ONOP-023.2, Emergency Diesel Generator Failure; $\frac{3}{4}$-ONOP-092.3, Startup Transformer Malfunction (except breakers inside the startup transformer control panel and switchyard control house components) 4-NOP-030, Section 5.4, align Unit 4 CCW to Unit 4 HHSI Pumps; $\frac{3}{4}$-ONOP-092.4, Unit 3 and Unit 4 C Bus Transformer Failure</p> <p>Five SROs and two ROs were timed in the plant specific simulator responding to a station loss of AC event with one EDG on Unit 4 available.</p>
	<p>Describe inspector actions to verify equipment is available and useable.</p> <p>The inspector reviewed the licensee's walkdown documents and checked that discrepancies were documented in the corrective action program.</p> <p>The inspectors verified the availability of the station blackout cross tie and the operability of the station emergency diesel generators by walkdown and control room verification. Completion of $\frac{3}{4}$-OSP-005.1, Station Blackout Breaker Operability Test was verified completed, satisfactorily in June 2010. Routine inspection also verifies the availability of this equipment. The inspectors also assess switchyard availability at least weekly. Annually the inspectors conduct a walkdown of the switchyard with switchyard personnel to assess maintenance and physical condition. No recent issues had been identified.</p>

	<p>Discuss general results including corrective actions by licensee.</p> <p>No loss of mitigating function issues were identified. A number of enhancements or procedural clarifications were recommended in corrective action documents:</p> <p>3-EOP-ECA-0.0, Loss of ALL AC Power, Attachment 4, Step 3c; the walk down identified that actions to close LCV-3/4-115C could result in air binding of a charging pump if the field operator is not prompt in opening the breaker to keep the valve shut. (AR 1633207)</p> <p>During walk down of 3-ONOP-004.2, Loss of 3A 4KV Bus, the operators noted three steps that could delay performance; Step 7 did not contain sufficient information to complete as written; Att 2, Step 11 directs the operator to verify the "blue" light on the front of breaker 3AA09, the breaker does not have a blue light; and Step 5c directs the operator to check the sequencer operable, the response not obtained specifies reset of SI although SI is reset in Step 3. (AR 1632836) Procedure 3-ONOP-004.3, Loss of 3B 4 KV Bus had similar issues and AR 1632841 was written.</p> <p>3-ONOP-023.2, Emergency Diesel Generator Failure; a number of minor procedural deficiencies were identified and documented in AR 1634047.</p> <p>3-ONOP-092.3, Startup Transformer Malfunction; some minor procedural discrepancies were documented in AR 1634127 and AR 1634128.</p> <p>3/4-ONOP-092.4, Unit 3 and Unit 4 C Bus Transformer Failure a non-consequential error was identified in the procedure wording (AR 1634052), also a number of procedure enhancements were identified (AR 1634052)</p>
--	---

Licensee Action	Describe the licensee's actions to verify the capability to mitigate an SBO event.
<p>b. Demonstrate through walkdowns that procedures for response to an SBO are executable.</p>	<p>See above</p>
	<p>Describe inspector actions to assess whether procedures were in place and could be used as intended.</p>
	<p>0-ONOP-025.3, DC Equipment and Inverter Rooms Supplemental Cooling, Enclosure 3, Placement of Portable Fans/LOOP Operations was walked down to verify staging of portable fans, power cords, and lead blankets which provide temporary cooling to vital equipment during a blackout event. Selected load lists and drawings were verified to account for cooling fans.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>No loss of mitigating function issues were identified. A number of enhancements or procedural clarifications were recommended in corrective action documents.</p>

<p>03.03 Assess the licensee’s capability to mitigate internal and external flooding events required by station design. Refer to IP 71111.01, “Adverse Weather Protection,” Section 02.04, “Evaluate Readiness to Cope with External Flooding” as a guideline. The inspection should include, but not be limited to, an assessment of any licensee actions to verify through walkdowns and inspections that all required materials and equipment are adequate and properly staged. These walkdowns and inspections shall include verification that accessible doors, barriers, and penetration seals are functional.</p>	
<p>Licensee Action</p>	<p>Describe the licensee’s actions to verify the capability to mitigate existing design basis flooding events.</p>
<p>a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>Dewatering pumps stored in the central receiving facility were verified tested on March 5, 2010 and the next test was planned for May 2011.</p>
	<p>Residual heat removal room, condensate pit, and 4160 volt switchgear room sump pumps were verified operable by completion of a normal preventive maintenance test. The 4160 volt switchgear water level alarm was tested satisfactorily using the licensee’s preventive maintenance procedure.</p>
	<p>The licensee verified that preventive maintenance on floor drains for the turbine building and auxiliary building had been completed.</p>
	<p>The licensee verified that annual inspections of flood protection barriers had been completed satisfactorily in May 2010 per 0-SMM-102.1. A walkdown was completed on March 24, 2011 to verify that stoplogs remained available and could be installed, if needed.</p>
	<p>Penetration seals were validated to be in the preventive maintenance program with last inspection performed in May 2010. The inspection of the Unit 3 component cooling area boot seal revealed the seal was degraded and repair could not be verified, so this inspection was re-performed satisfactorily.</p>
	<p>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</p>

	<p>The inspectors walked down sections of the flood protection barrier; stoplogs 1,2,9,10,11,12 - 22, and 24 were checked staged and able to be installed. A portion of the flood barrier removed to support a maintenance activity was verified compensated with staged sandbags. A full walk down and inspection of flood protection measures is done annually in the baseline program and no recent findings had been identified.</p> <p>The inspector walked down the licensee's storage of portable generators and pumps and other supplies such as sandbags listed in the licensee's storm season inventory, 0-ADM-116, Hurricane Season Readiness.</p> <p>The inspector used station drawing 5610-M-3061, sheets 1 and 3 to verify that floor drains flow to the Waste Holdup Tank 1 and were not an internal flooding concern.</p> <p>The inspector reviewed the licensee's documentation of 0-SMM-102.1, Flood Protection Stoplog and Penetration Seal Inspection, Section 6.3, inspection of boot seal in component cooling water area, completed on March 24, 2011.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>No loss of mitigating function issues were identified. A number of enhancements or procedural clarifications were recommended in corrective action documents.</p>

<p>03.04 Assess the thoroughness of the licensee’s walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment’s function could be lost during seismic events possible for the site. Assess the licensee’s development of any new mitigating strategies for identified vulnerabilities (e.g., entered it in to the corrective action program and any immediate actions taken). As a minimum, the licensee should have performed walkdowns and inspections of important equipment (permanent and temporary) such as storage tanks, plant water intake structures, and fire and flood response equipment; and developed mitigating strategies to cope with the loss of that important function. Use IP 71111.21, “Component Design Basis Inspection,” Appendix 3, “Component Walkdown Considerations,” as a guideline to assess the thoroughness of the licensee’s walkdowns and inspections.</p>	
<p>Licensee Action</p>	<p>Describe the licensee’s actions to assess the potential impact of seismic events on the availability of equipment used in fire and flooding mitigation strategies.</p>
<p>a. Verify through walkdowns that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The licensee walked down the fire water supply and distribution system focusing on seismic impacts and potential for internal flooding. It was noted that several headers are not provided with lateral restraints and can freely sway on rod hangers. However, the system was constructed using robust requirements of NFPA standards and no significant material shortcomings were identified that would prevent seismic qualification. The licensee noted that the fire pumps and most associated facilities were at or above the postulated storm surge flood level.</p>
	<p>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</p>
	<p>The inspector discussed the seismic capability of the fire suppression system with the system engineer involved in the licensee walk down. Walk down of fire pumps, storage tanks, and auxiliary building supply portions of the fire suppression system were done with the system engineer to verify no obvious vulnerabilities.</p>
	<p>The seismic design of the Unit 1 and 2 stacks were verified by review of UFSAR paragraph 5A-1.4.2.</p>
	<p>Walk down of the flood barrier system was done for Item 3. The inspector observed during maintenance affecting the flood barrier that the wall was reinforced with steel pins which would support seismic sustainability.</p>
	<p>Discuss general results including corrective actions by licensee. Briefly summarize any new mitigating strategies identified by the licensee as a result of their reviews.</p>

	<p>The fire suppression system in total was not designed to seismic criteria. The licensee concluded that mitigative strategy existed for loss or disabling of any part of the system, including tanks, piping, pumps, or storage locations.</p> <p>No missing or undermined supports, no exposure to adverse seismic interaction with temporary or permanent facilities, and no severe corrosion that could compromise the structural integrity of fire system components were identified.</p> <p>The licensee documented the results of their evaluation in Engineering Change (EC) 271653.</p>
--	---

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

W. Burrows, Operations
A. Dunstan, Engineering
J. Garcia, Engineering Manager
B. Carberry, Emergency Preparedness Manager
O. Hanek, Licensing Manager (Acting)
D. Lettsome, Engineering
M. Kiley, Site Vice-President
G. Mendoza, Chemistry Manager
R. Wright, Operations Manager

LIST OF DOCUMENTS REVIEWED

03.01

Miami-Dade Fire Rescue Department-Office of the Fire Chief letter dated November 17, 2010

3-ONOP-033.1 Spent Fuel Pit (SFP) Cooling System Malfunction (Safety Related Procedure)

EDMG-2 Extensive Damage Mitigation Guideline - Major Loss of Plant Control Systems- Initial Response

SY-AA-102 Extensive Damage Management Program

AR Number 1630325

AR Number 1630430

AR Number 1630959

AR Number 1631378

AR Number 1631384

AR Number 1631829

AR Number 1631885

AR Number 1632012

AR Number 1632823

AR Number 1634400

AR Number 1637672

AR Number 1638432

AR Number 1635876

AR Number 1639976

AR Number 1633262

AR Number 1635200

AR Number 1636722

AR number 1640232

Lesson Package No. 6900937 B.5.b Security Plan: Response to Large Area Fires/Explosions

SAG-1 – Inject into the Steam Generators (Safety Related Procedure)

PTN-ENG-SENJ-07-001, Rev. 2

3-ONOP-033.1 Spent Fuel Pit (SFP) Cooling System Malfunction (Safety Related Procedure)

SAG-1, Inject into the Steam Generators

SAG-2, Depressurize the RCS

SAG-4, Inject into the Containment

SAG-5, Reduce Fission Product Releases

SAG-8, Flood Containment

3-ONOP-033.1 Spent Fuel Pit Malfunction

4-ONOP-033.1 Spent Fuel Pit Malfunction

3-ONOP-075, Auxiliary Feedwater System Malfunction

4-ONOP-075, Auxiliary Feedwater System Malfunction

03.02

0-ONOP-025.3 DC Equipment and Inverter Rooms Supplemental Cooling

3-EOP-ECA-0.0 Loss of all AC Power

0-OSP-205.1 Startup Transformers and Onsite A.C. Power Distribution Verification

3-ONOP-030 Component Cooling Water Malfunction
 3-OSP-005.1 SBO Breaker Operability Test
 4-OSP-005.1 SBO Breaker Operability Test
 3-EOP-ECA-0.0, Loss of All AC
 3-EOP-ECA-0.1, Loss of All AC Power Recovery Without SI Required
 3-EOP-ECA-0.2, Loss of All AC Power Recovery with SI Required
 3-ONOP-004.2, Loss of 3A 4KV Bus
 3-ONOP-004.3, Loss of 3B 4KV Bus
 3-ONOP-023.2 Emergency Diesel Generator Failure
 3-NOP-030 Component Cooling water System Section 5.4
 3-ONOP-033.1, Spent Fuel Pit (SFP) Cooling System Malfunction
 3-ONOP 075, Auxiliary Feedwater System Malfunction
 3-ONOP-092.3 Startup Transformer Malfunction
 3-ONOP-092.3, C Bus Transformer Malfunction
 0-ONOP-025.3 DC Equipment and Inverter Rooms Supplemental Cooling
 4-EOP-ECA-0.0, Loss of All AC
 4-EOP-ECA-0.1, Loss of All AC Power Recovery Without SI Required
 4-EOP-ECA-0.2, Loss of All AC Power Recovery With SI Required
 4-ONOP-004.2, Loss of 4A 4KV Bus
 4-ONOP-004.3, Loss of 4B 4KV Bus
 4-ONOP-023.2, Emergency Diesel Generator Failure
 4-NOP-030 Component Cooling Water System Section 5.4
 4-ONOP-033.1, Spent Fuel Pit (SFP) Cooling System Malfunction
 4-ONOP 075, Auxiliary Feedwater System Malfunction
 4-ONOP-092.3 Startup Transformer Malfunction
 4-ONOP-092.3, C Bus Transformer Malfunction
 Turkey Point Breaker List 5610-E-855, Sheet 29A
 Drawing 5614-E-10, Sheet 2 (4B52)
 5614-E-1605 Battery 4A and 4B Load List
 5613-E-1605 Battery 3A and 3B Load profile
 5613-E-1712 EDG 3A Station Blackout

03.03

0-SMM-102.1 Flood Protection Stoplog and Penetration Seal Inspection
 Drawing 5610-M-3061 #1-11, Waste Disposal System

03.04

Turkey Point UFSAR 5A-1.4.2 Turkey Point Fossil Units 1 and 2 Chimney Design Requirements