



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

April 8, 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 UNIT 3 AND 4 NUCLEAR PLANT - ISFSI CRANE
INSPECTION REPORT 05000250/2011009, 05000251/2011009,
07200062/2011001

Dear Mr. Nazar:

On March 17, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed a portion of the Independent Spent Fuel Storage Installation (ISFSI) Dry Run inspection at your Turkey Point Unit 3 and Unit 4 facility. The enclosed inspection report documents the inspection findings between March 14-17, 2010, for the Unit 3 and Unit 4 Spent Fuel Cask Crane and Heavy Loads Program, which was performed in accordance with Inspection Procedure 60854, Pre-operational Testing of Independent Spent Fuel Storage Installations at Operating Plants. The inspection covered aspects associated with the preparation of the crane to move spent fuel into the ISFSI facility and consisted of field observations, extensive examination of procedures and documents, and interviews with personnel. The enclosed report presents the results of that inspection. Based on results of this inspection, no violations or findings were identified.

In accordance with 10 CFR 2.390 of the NRC's Rules of Practice, a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Timothy L. Hoeg, Acting Chief
Engineering Branch 3
Division of Reactor Safety

Docket Nos.: 50-250, 50-251, 72-062
License Nos.: DPR-31, DPR-41

Enclosure: Turkey Point Unit 3 Nuclear Plant – ISFSI Crane Inspection Report
05000250/2011009, 05000251/2011009, 07200062/2011001 w/Attachment:
Supplemental Information

cc w/encl.: (See page 2)

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Division of Reactor Safety

Docket Nos.: 50-250, 50-251, 72-062
License Nos.: DPR-31, DPR-41

Enclosure: Turkey Point Unit 3 Nuclear Plant – ISFSI Crane Inspection Report
05000250/2011009, 05000251/2011009, 07200062/2011001 w/Attachment:
Supplemental Information

cc w/encl.: (See page 2) (*) – See previous page for concurrence

Distribution w/encl:

RIDSNNRRDIRS

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PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
ADAMS: Yes ACCESSION NUMBER: ML111020645 SUNSI REVIEW COMPLETE

OFFICE	RII:DRS	RII:DRP	RII:DRS				
SIGNATURE	*RA	RA	RA				
NAME	CFLETCHER	DRICH	THOEG				
DATE	3/30/2011	3/31/2011	4/8/2011				
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-250, 50-251, 72-062
License Nos.: DPR-31, DPR-41
Report Nos.: 05000250/2011009, 05000251/2011009, 07200062/2011001
Facility: Turkey Point Nuclear Plant, Unit 3 & 4
Location: 9762 SW 344th St
Florida City, FL 33035
Dates: March 14, 2011 through March 17, 2011
Inspectors: C. Fletcher, Senior Reactor Inspector
Approved by: Tim Hoeg, Acting Chief
Engineering Branch 3
Division of Reactor Safety

Enclosure

Heavy Loads Program

Executive Summary

Florida Power and Light selected the Transnuclear NUHOMS-HD-32-PTH Horizontal Modular dry cask storage system for spent fuel storage at the Turkey Point nuclear station. The Transnuclear NUHOMS-HD-32-PTH Dry Cask Storage System (DCSS) is licensed by the Nuclear Regulatory Commission as Certificate of Compliance (CoC) No. 1030, Amendment 0. However, Amendment 1 of CoC No. 1030, will be active March 29, 2011, as documented in the Federal Register, Vol 76, No 46. The Turkey Point Independent Spent Fuel Storage Installation (ISFSI) consists of a series of reinforced concrete horizontal storage modules (HSMs). The NUHOMS DCSS consists of a dry shielded canister (DSC) which holds 32 fuel assemblies. The DSC is placed into a transfer cask (TC) to provide shielding for protection of workers during transfer operations and during the drying, helium backfilling and welding of the DSC. The DSC is loaded with spent fuel, drained of water, vacuum dried, filled with helium gas, and sealed by welding. The TC (loaded with the DSC) is then moved from the cask handling facility (CHF) and is placed onto a transfer trailer (TT) located outside the cask handling facility. The TT with the loaded TC is transported from the plant to the ISFSI. The DSC is inserted into a shielded HSM for storage. Each HSM holds a single, loaded DSC.

The licensee has developed a cask loading plan in accordance with approved procedures. Procedures governing the lifting of heavy loads contained the appropriate requirements specified in national standards. Controls governing the lifting, handling, and movement of heavy loads are adequately addressed in approved procedures. Maintenance and testing activities for the Unit 3 and 4 cask crane to ensure the ability of equipment to safely handle anticipated loads were properly performed and documented in accordance with approved procedures.

Report Details

1. **Inspection of Unit 3 and 4 Spent Fuel Cask Crane**

a. Inspection Scope (Inspection Procedure (IP) 60854)

The objective of this inspection was to determine if the licensee has developed, implemented, and evaluated preoperational testing activities with regard to the Turkey Point (TP) Unit 3 and 4 Spent Fuel Cask Crane, to safely load spent fuel from the spent fuel pool (SFP) into a DCSS and to transfer the loaded dry cask storage system to the ISFSI.

Specifically, the NRC inspector reviewed the licensee's programs associated with the handling of heavy loads, maintenance, inspection, and periodic testing of the crane. The inspection consisted of field observations, interviews with cognizant personnel, and a review of documentation associated with the Heavy Loads Program.

b. Observations and Findings

The TP Unit 3 and 4 Cask Handling Crane is a single trolley, single-failure proof overhead crane with a 130-ton capacity main hoist and 25-ton capacity auxiliary hoist. The crane was previously reviewed by the NRC and found to meet the single-failure proof criteria specified in NUREG-0612 and NUREG-0554. The licensee upgraded its crane support structure and replaced the crane in 2011. New wire rope was also installed with a rope of sufficient load capacity to handle the fully-loaded 125-ton transfer cask to be utilized for dry cask storage activities.

On February 25, 2011, TP received a license amendment that removed the technical specification that prohibits loads in excess of 2000 lbs from travel over fuel in the SFP due to the installation of a single-failure proof crane. However, TP will retain the operational limits associated with crane travel over the spent fuel pool in the Updated Final Safety Analysis Report (UFSAR). The crane travel is currently restricted by a safe load path which is associated with electrical interlocks that (unless overridden) prevent crane travel over areas of the SFP where spent fuel is stored.

The TP Units 3 and 4 Fuel Cask Crane will be used to transfer the TC containing the DSC into the SFP and subsequently from the SFP to the CHF and to the transfer trailer (TT).

The NRC inspectors reviewed the preventative maintenance and inspection programs for the Unit 3 and 4 cask crane. The inspectors reviewed the licensee's procedures for adequacy with regards to test requirements, frequent and periodic inspections, pre-operational checks, and inspections prior to use. Because this is a new crane, there were no quarterly or annual inspection work packages.

The NRC inspectors were accompanied by licensee personnel as they performed an inspection of the Unit 3 and 4 cask crane. The inspectors observed the overall material condition of the crane components. The new rope on the main hoist was inspected for the presence of defects or indications of damage. At the request of the NRC inspectors, licensee personnel described the procedure to manually lower a load in the event of a loss of power incident. No findings were identified.

Enclosure

The NRC inspectors toured the ISFSI facility to observe ongoing construction activities. The ISFSI presently contains 14 HSM. Ongoing construction activities include the delivery of 6 more HSMs and activities to prepare the ISFSI pad and the heavy haul path for incorporation into the existing plant Protected Area. No findings were identified.

c. **Conclusions**

Procedures governing the lifting and movement of heavy loads contained appropriate requirements specified in national standards. Licensee programs and procedures established appropriate controls and measures to ensure that heavy loads were not allowed to be moved over areas of the spent fuel pool where spent fuel was stored. Maintenance, testing and inspection programs were properly performed and documented in accordance with approved procedures to maintain the reliability and operability of equipment to safely handle anticipated loads.

2. Exit Meeting

The preliminary inspection results were presented to Turkey Point personnel at the conclusion of the inspection on March 17, 2011. The licensee acknowledged the results presented.

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee Personnel

M. Kiley, Site Vice President
G. Hollinger, Projects ISFSI
W. Jenkins, Projects ISFSI
S. Cousino, Projects ISFSI
P. Czaya, Licensing
O. Hanek, Licensing
R. Coffey, Maintenance Manager
S. Schlafly, Quality Assurance
M. Crosby, Quality Assurance
R. Hess, Operations
C. Glenn, Projects ISFSI

NRC Personnel

S. Stewart, Senior Resident Inspector
M. Barillas, Resident Inspector

Documents Reviewed

1. Procedure 0-GMP-116.11, Rev. Draft, Turkey Point Plant ISFSI Contingency Plan
2. Procedure 0-OSP-038.6, Rev. Draft, Spent Fuel Cask Crane Operability
3. Procedure 0-ADM-717, Rev. Draft, Turkey Point Plant Heavy Load Handling
4. Procedure 0-OSP-038.6, Rev. 0, Florida Power and Light Spent Fuel Cask Crane Operability
5. Procedure 0-PMM-038.2, Rev. 0, Florida Power and Light Spent Fuel Cask Bridge Crane Inspection and Preventative Maintenance, 09/18/08
6. Procedure 3-NOP-116.01, Rev. Draft, Dry Shielded Canister Fuel Loading
7. Procedure 0-GMP-116.07, Rev. Draft, ISFSI DSC Transport from CHF to HSM
8. Figure FPL-080801-1, Rev. 0, Cask Crane Support Structure Modification Concept
9. REP-20872-005, Rev. 0, NUREG 0554/NUREG 0612/ASME NOG-1 Compliance Matrix for Florida Power & Light Company (FPL) Turkey Point Nuclear Plant (PTN) Units 3 & 4 Fuel Cask Crane Upgrade to Single Failure Proof P.O. #99932
10. REP-20872-011, R1, American Crane & Equipment Corporation, Factory Functional Test Procedure for 130/25T SFP Cask Crane, Turkey Point Nuclear Plant Units 3 and 4
11. REP-20872-013, R2, American Crane & Equipment Corporation, Site Functional Test Procedure for 130/25T SFP Cask Crane, Turkey Point Nuclear Plant Units 3 and 4
12. Calculation FPL012-CALC-015, TP ISFSI Heavy Haul Path Evaluation
13. Calculation FPL001-CALC-001, Rev. 1, TP Supporting Cask Crane Structure Seismic and Wind Load Analysis
14. REP-20872-006, Rev. 1, American Crane & Equipment Corp List of Critical Components and Their Safety Classification
15. Unirope Certificate No. 112343, Auxiliary Hoist Wire Rope Test Certificate
16. Unirope Certificate No. 107623, Main Hoist Wire Rope Test Certificate

17. MAN-20872-001, R1, American Crane & Equipment Corp Functional and Operational Description for 130/25T Capacity Cask Handling Crane
18. MAN-20872-002, Rev. 0, Annual Preventative Maintenance Plan for 130/25T Unit 3 & 4 Cask Handling Crane
19. Turkey Point Units 3 and 4 - Issuance of Amendments Regarding Technical Specification Changes Related to Movement of Heavy Loads Over Spent Fuel (TAC Nos ME3379 and ME 3380), February 25, 2011
20. FPL Letter dated December 2, 2010, Response to Request for Additional Information dated November 2, 2010