

NUCLEAR REGULATORY COMMISSION

[NRC-2010-0147]

[Dockets 72-1030, 50-335 and 50-389]

Florida Power and Light, St. Lucie Units 1 and 2; Independent Spent Fuel Storage Installation; Environmental Assessment and Finding of No Significant Impact

AGENCY: Nuclear Regulatory Commission

ACTION: Issuance of an Environmental Assessment and Finding of No Significant Impact

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SUPPLEMENTARY INFORMATION: The U.S. Nuclear Regulatory Commission (NRC or Commission) is considering issuance of an exemption to Florida Power and Light (FPL or licensee) pursuant to 10 CFR 72.7 from specific provisions of 10 CFR 72.48(c)(1)(ii)(B), 72.212(a)(2), 72.212(b)(2)(i)(A), 72.212(b)(7), and 72.214. FPL submitted its exemption request by letter dated January 12, 2010. FPL wants to load spent nuclear fuel into Transnuclear, Inc. (TN) NUHOMS[®] HD Storage System (HD-32PTH) dry storage casks, under the proposed Certificate of Compliance No. 1030 (CoC or Certificate) Amendment No. 1. The spent fuel, once loaded into the casks, would be stored under FPL's general license in an Independent

Spent Fuel Storage Installation (ISFSI) associated with the operation of FPL's nuclear power reactors, St. Lucie Units 1 and 2, located in St. Lucie County, Florida. FPL is requesting an exemption to use Amendment 1 to the NUHOMS® HD Storage System before Amendment 1 is final.

Environmental Assessment (EA)

Identification of Proposed Action: The CoC is the NRC approved design for each dry storage cask system. The proposed action would exempt FPL from the requirements of 10 CFR 72.48(c)(1)(ii)(B), 72.212(a)(2), 72.212(b)(2)(i)(A), 72.212(b)(7), and, 72.214, and enable FPL to use the TN NUHOMS® HD CoC 1030 Amendment 1 at St. Lucie Unit 1 and Unit 2. These regulations specifically require storage of spent nuclear fuel under a general license in dry storage casks approved under the provisions of 10 CFR Part 72, and compliance with the terms and conditions set forth in the CoC for each dry spent fuel storage cask used by an ISFSI general licensee.

The TN NUHOMS® HD CoC provides requirements, conditions and operating limits in Attachment A, Technical Specifications. Amendment 1 proposes a change to the NUHOMS® HD system to include the addition of Combustion Engineering (CE) 16 x 16 fuel assemblies as approved contents, the addition of non-fuel assembly hardware as approved contents, and the addition of requirements to qualify metal matrix composite (MMC) neutron absorbers with integral aluminum cladding, along with some other minor changes. Technical staff in the Division of Spent Fuel Storage and Transportation (SFST) have completed their review of Amendment 1, and the preliminary Safety Evaluation Report (SER), draft CoC and associated draft Technical Specifications (TS) have been submitted to the NRC's rulemaking group. The preliminary SER, draft CoC and draft TS are expected to be published in the *Federal Register*

as a direct final rule in May 2010, and the rule would be effective (and the Amendment would be approved), in August 2010, if the NRC does not receive any significant adverse comments during the public comment period.

The proposed action would exempt FPL from the requirements of 10 CFR 72.48(c)(1)(ii)(B), 72.212(a)(2), 72.212(b)(2)(i)(A), 72.212(b)(7), and 72.214, and would allow them to load spent fuel into the TN NUHOMS® HD 32PTH dry shielded canister under the terms of the proposed Amendment 1 to CoC 1030, prior to Amendment 1 being approved under the NRC rulemaking process described above.

The NRC has determined that the exemption, if granted, will contain the following conditions:

- 1) The exemption pertains only to the cask loading campaigns (where spent fuel is transferred from the spent fuel pools to the casks) at the St. Lucie Unit 1 and Unit 2 ISFSI scheduled for the summer 2010, as identified in the FPL January 12, 2010 letter.
- 2) If the NRC receives significant adverse comments (as determined by the NRC) during the public comment period for the direct final rule, and as a result of such comments, changes to the preliminary SER, draft CoC, or draft TS are required, FPL will then be required to address those changes in a manner deemed satisfactory to NRC staff.

Need for the Proposed Action: FPL requested this exemption in order to be able to use the proposed Amendment 1 in its entirety for the St. Lucie Unit 1 and Unit 2 ISFSI fuel loading campaigns, scheduled to begin in July 2010. St. Lucie Unit 2 is currently scheduled to begin a refueling outage (RFO) in January 2011. During the Unit 2 RFO approximately 76 fuel assemblies will be removed from the core for storage in the Unit 2 spent fuel pool. Due to the addition of these 76 assemblies, when Unit 2 is scheduled to restart in March 2011, FPL will no longer have full core offload capability. Similarly, for St. Lucie Unit 1, an RFO is scheduled to

begin in August 2011. During the Unit 1 RFO, approximately 88 irradiated fuel assemblies will be removed from the core for storage in the Unit 1 spent fuel pool. When Unit 1 is scheduled to restart in November 2011, FPL will no longer have full core offload capability for Unit 1. In addition, if fuel from the Unit 1 spent fuel pool is not transferred to the ISFSI prior to the Unit 1 RFO, there will not be sufficient room in the pool to pre-stage the 88 new fuel assemblies, complicating the fuel handling evolutions required for core reload during the Unit 1 RFO.

In order to ensure that Unit 1 can retain full core offload capability, FPL plans to transfer 256 spent fuel assemblies from the current spent fuel storage inventories at Unit 1 and Unit 2 to the ISFSI prior to the Unit 2 RFO. These spent fuel assemblies will be placed from the spent fuel pool into 8 dry storage casks of 32 assemblies each and then transferred to the ISFSI for interim, long-term dry storage (the CoC expiration date, which is listed in 10 CFR 72.214, is January 10, 2027; in accordance with the provisions of 10 CFR 72.240, the certificate holder, TN, may apply for a renewal of the CoC).

Rescheduling the spent fuel loading campaign for later in the year, after Amendment 1 to CoC 1030 is finalized would be difficult, and costly, given the existing planned sequence of events. FPL has scheduled personnel and training, and planned for equipment to support a practice dry run during the June/July 2010 time period, to be followed directly by the planned cask loading. The planned loading will then be followed closely by the Unit 2 RFO and restart, and then the Unit 1 RFO and restart.

The proposed action is necessary because the NRC has not yet completed the rulemaking process required for final approval of TN NUHOMS[®] HD Amendment 1 to CoC 1030 and the current CoC (Amendment 0) for the TN NUHOMS[®] HD Storage System (HD-32PTH) does not include the necessary provisions for the planned loading campaigns. The staff has completed

its technical review of the amendment application, has prepared a preliminary Safety Evaluation Report, and a proposed CoC with draft Technical Specifications. The documents have been forwarded to the NRC's rulemaking staff for publication in the *Federal Register*. The proposed rule is expected to be published for comment in the *Federal Register* in May 2010, and the rule would be effective (and the Amendment approved) in August 2010, following resolution of any public comments. Final approval of TN NUHOMS[®] HD Amendment 1 will not be completed in time for FPL to use Amendment 1 to CoC 1030 for their ISFSI loading campaign.

Environmental Impacts of the Proposed Action: The NRC has completed its evaluation of the proposed action, and concludes that there will be no significant environmental impact if the exemption is granted. The staff has determined that the proposed action would not endanger life or property. The potential impact of using the NUHOMS[®] HD system was initially presented in the Environmental Assessment (EA) for the rulemaking to add the TN NUHOMS[®] HD Horizontal Modular Storage System for Irradiated Nuclear Fuel to the list of approved spent fuel storage casks in 10 CFR 72.214 (71 FR 25740, dated May 2, 2006 (Direct Final Rule) and 71 FR 71463, dated December 11, 2006 (Final Rule)).

The staff performed a safety evaluation of the proposed exemption. The staff has determined that FPL's planned use of Amendment 1 to CoC 1030 for their planned ISFSI loading campaign does not differ in any way from the provisions of the proposed Amendment, which has been approved by technical staff and which is currently in the rulemaking process. In addition, the staff has determined that the generic analysis supporting Amendment 1 to CoC 1030 would apply to the proposed action at the St. Lucie ISFSI site. The loading of spent nuclear fuel assemblies at St. Lucie Unit 1 and Unit 2 in accordance with the proposed Amendment 1 to CoC 1030 does not increase the probability or consequences of accidents. There are no changes being made in the types or amounts of any effluents that may be released offsite, and

there is no significant increase in occupational or public radiation exposure as a result of the proposed activities. Therefore, there are no significant radiological environmental impacts associated with the proposed action. The proposed action only affects the requirements associated with the fuel assemblies that can be loaded in the casks and does not affect non-radiological plant effluents, or any other aspects of the environment. Therefore, there are no significant non-radiological impacts associated with the proposed action.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

Alternative to the Proposed Action: Because there is no significant environmental impact associated with the proposed action, alternatives with equal or greater environmental impact were not evaluated. As an alternative to the proposed action, the staff considered denial of the proposed action. Denial of the exemption would result in no change in the current environmental impact.

Agencies and Persons Consulted: This exemption request was discussed with Cindy Mulkey of the Florida Department of Environmental Protection, Siting Coordination Office, on March 12, 2010. She stated that the State had no comments on the technical aspects of the exemption. The NRC staff has determined that a consultation under Section 7 of the Endangered Species Act is not required because the proposed action will not affect listed species or a critical habitat. The NRC staff has also determined that the proposed action is not a type of activity having the potential to cause effects on historic properties. Therefore, no consultation is required under Section 106 of the National Historic Preservation Act.

Conclusion: The staff has reviewed the exemption request submitted by FPL. Allowing loading of fuel assemblies at St. Lucie Unit 1 and Unit 2 under the proposed Amendment 1 to CoC 1030 would have no significant impact on the environment.

Finding of No Significant Impact

The environmental impacts of the proposed action have been reviewed in accordance with the requirements set forth in 10 CFR Part 51. Based upon the foregoing Environmental Assessment, the Commission finds that the proposed action of granting the exemption from specific provisions of 10 CFR 72.48(c)(1)(ii)(B), 72.212(a)(2), 72.212(b)(2)(i)(A), 72.212(b)(7), and 72.214, to allow FPL to load spent nuclear fuel assemblies at St. Lucie Unit 1 and Unit 2 under the proposed Amendment 1 to CoC 1030, subject to conditions described above, will not significantly impact the quality of the human environment. Accordingly, the Commission has determined that an environmental impact statement for the proposed exemption is not warranted.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," final NRC records and documents regarding this proposed action are publicly available in the records component of NRC's Agencywide Documents Access and Management System (ADAMS). The request for exemption dated January 12, 2010 (ML100141456), was docketed under 10 CFR 50, Docket Nos. 50-335 and 50-389, and under 10 CFR 72, Docket No. 72-1030. These documents may be inspected at NRC's Public Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. These documents may also be viewed electronically on the public computers located at the NRC's Public Document Room (PDR), O1F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee. Persons who do not have access to ADAMS, or who encounter problems in accessing

the documents located in ADAMS, should contact the NRC PDR Reference staff by telephone at 1-800-397-4209, or (301) 415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this 31st day of March. 2010.

For the Nuclear Regulatory Commission.

/RA/

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