

**NUCLEAR REGULATORY COMMISSION**

**[Docket No. 50-010, 50-237, 50-249 and 72-37; NRC-2016-0047]**

**Exelon Generation Company, LLC; Dresden Nuclear Power Station, Units 1, 2 and 3  
Independent Spent Fuel Storage Installation**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Environmental assessment and finding of no significant impact; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an exemption to Exelon Generation Company, LLC (hereafter, EGC or the applicant). EGC is the general licensee operating the Dresden Nuclear Power Station (DNPS) Independent Spent Fuel Storage Installation (ISFSI) located in Morris, Illinois. Specifically, EGC seeks authorization to load and store one DNPS Unit 1 thoria rod canister containing 18 DNPS Unit 1 thoria rods in a Holtec International, Inc., multi-purpose canister (MPC)-68M. Thoria rods are not approved for storage in the MPC-68M per Certificate of Compliance (CoC) No. 1014, Amendment 8, Rev. 1<sup>1</sup> Appendix B, "Approved Contents and Design Features." EGC plans to load and store Holtec HI-STORM 100 spent fuel casks utilizing Amendment 8, Rev. 1 to CoC No. 1014 in the 2016 DNPS spent fuel loading campaign (SFLC).

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<sup>1</sup> The licensee's application referred to Amendment 8; since that time, Amendment 8 has been revised. (On February 16, 2016, Amendment 8, Rev. 1 to CoC 1014 became effective). This revision does not impact the exemption request that is the subject of this environmental assessment because none of the changes in the revision revised the thoria contents or the physical characteristics of the storage cask.

**ADDRESSES:** Please refer to Docket ID **NRC-2016-0047** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2016-0047**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). For the convenience of the reader, the ADAMS accession numbers are provided in a table in the "Availability of Documents," Section IV of this document.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Bernard White, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-6577, e-mail: [Bernard.White@nrc.gov](mailto:Bernard.White@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Introduction**

The NRC is considering issuance of an exemption from the spent fuel storage requirements applicable to EGC to operate an ISFSI at the DNPS located in Morris, Illinois. As required by § 51.30 of title 10 of the *Code of Federal Regulations* (10 CFR), the NRC performed an environmental assessment. Based on the results of the environmental assessment, the NRC has determined not to prepare an environmental impact statement for the exemption, and is issuing a finding of no significant impact.

Exelon Generation Company holds a general license under 10 CFR part 72 for the storage of spent fuel in the DNPS ISFSI. The applicant is subject to 10 CFR 72.212, which provides in part that the general license is limited to storage of spent fuel in casks approved under the provisions of 10 CFR part 72. The general licensee must ensure that each cask used conforms to the terms, conditions, and specifications of a CoC, or an amended CoC, listed in Section 72.214.

The applicant requested an exemption which would allow storage in the Holtec HI-STORM MPC-68M of a DNPS Unit 1 thoria rod canister containing 18 DNPS Unit 1 thoria rods. Specifically, the applicant requested an exemption from 10 CFR 72.212(b)(3) and the portion of 10 CFR 72.212(b)(11) that requires compliance with the terms, conditions, and specifications of CoC No. 1014, Amendment No. 8, Rev. 1. In evaluating the request, the NRC is also considering, pursuant to authority in 72.7, exemption from similar requirements in 10 CFR 72.212(a)(2), 10 CFR 72.212(b)(5)(i); and 10 CFR 72.214, "List of approved spent fuel storage casks." The NRC staff is performing a technical review of the exemption request and will prepare a separate *Federal Register* notice to document the NRC review of the structural integrity, criticality control, thermal, shielding, and confinement design functions for a loaded DNPS Unit 1 thoria rod canister. The NRC staff's decision whether to issue the exemption to

EGC as proposed, will be based on the results of the NRC staff's review as documented in this environmental assessment and in the separate Federal Register Notice.

## **II. Environmental Assessment**

### *Description of the Proposed Action*

The proposed action would exempt EGC from specific portions of the requirements of 10 CFR 72.212, "Conditions of general license issued under § 72.210," specifically 10 CFR 72.212(a)(2), 10 CFR 72.212(b)(3), 72.212(b)(5)(i), a portion of 72.212(b)(11), and 10 CFR 72.214, "List of approved spent fuel storage casks." The proposed exemption request pertains to the requirements of CoC No. 1014, Amendment 8, Rev. 1, Appendix B, "Approved Contents and Design Features," Table 2.1-1, "Fuel Assembly Limits." The addition of a new multi-purpose canister (MPC) – 68M to the approved models included in CoC No. 1014 was one of the additions included in Amendment 8. Thoria rods are approved content for the MPC-68F, MPC-68, and MPC-68FF. However, Appendix B, Table 2.1-1, Section VI, does not include, as approved content, thoria rods for storage in the MPC-68M. For the DNPS ISFSI, the exemption would allow EGC to deviate from the requirements of CoC No. 1014, Amendment 8, Rev. 1 by permitting the storage of thoria rods in the MPC-68M.

### *Need for the Proposed Action*

The proposed action would relieve the applicant from requirements of 10 CFR 72.212(a)(2), 72.212(b)(3), 72.212(b)(5)(i), the portion of 72.212(b)(11) which states that "The licensee shall comply with the terms, conditions, and specifications of the CoC...", and 10 CFR 72.214, "List of approved spent fuel storage casks." The applicant maintains that loading the thoria rod canister during the 2016 DNPS SFLC is part of a program to ensure full core

discharge capability. If not loaded during the 2016 DNPS SFLC, EGC states that it would not be able to load and store the DNPS Unit 1 thoria rod canister until 2018.

### *Environmental Impacts of the Proposed Action*

In the preparation of this Environmental Assessment, the staff used guidance in NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs."

The staff evaluated the environmental impacts associated with this exemption. The NRC staff determined that non-radiological environmental impacts from approval of the exemption would not change from those evaluated in CoC 1014, Amendment Nos. 1 and 8, because: (1) the proposed action would not involve any construction activities, land disturbance, excavation, physical changes to the DNPS facilities, or changes in land use; (2) operation of the ISFSI does not require usage of water resources; and (3) the ISFSI does not generate gaseous, liquid, or solid effluents or wastes during operation. Therefore, there are no significant non-radiological impacts associated with the proposed action.

The NRC staff also determined that the radiological doses to workers and to the public associated with the proposed action are bounded by previous analyses for CoC 1014, Amendment No. 8, and that radiological doses would be below the NRC's regulatory limits in 10 CFR Part 20 and Part 72. In prior NRC staff reviews of CoC 1014, Amendment Nos. 1 and 8, the NRC staff concluded that the Metamic-HT basket in the MPC-68M has very little effect on the external dose rate; and a single thoria rod canister, while unbounded in part of the gamma source spectrum, will not impact cask external dose rates. Additionally, the NRC staff determined that the proposed action will not increase the probability or consequences of accidents since the exemption would authorize loading of a different type of fuel assembly, but use the same procedures for loading, preparation for storage, and storage as all other fuel assemblies. No changes are being made in the types or quantities of effluents that may be

released offsite, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action. Based on these findings, the NRC concludes that there are no significant environmental impacts associated with the approval of the exemption.

### *Environmental Impacts of the Alternatives to the Proposed Action*

An alternative to the proposed exemption request would be for Holtec, the CoC holder, to submit an amendment request for Certificate of Compliance No. 1014, which the NRC would need to review for approval. The NRC review and approval of an amendment request would result in a delay in the loading and storage of the DNPS Unit 1 thoria rod canister. EGC plans to load the thoria rod canister during the DNPS 2016 SFLC as part of a program to ensure full core discharge capability. In order to load the thoria rod canister during the spring 2016 SFLC campaign, EGC stated that it must finalize fuel loading package documentation by December 2015.

Based on the amount of time generally required to review and approve CoC amendment requests (e.g., 18 months to 27 months), there would not be adequate time for development of fuel loading packages. The timing constraints would also extend beyond the scheduled start of the DNPS SFLC campaign in Spring 2016. According to EGC, delaying the approval to mid-2016 or beyond would delay EGC's ability to have full-core offload capability in the DNPS spent fuel pool until spring 2018. This alternative is not considered further because it does not meet the purpose and need of the proposed action.

As another alternative to the proposed action, the staff considered denial of the exemption request (i.e., the "no-action" alternative). This alternative would have the same environmental impacts as the proposed action. In the event that the NRC denied the requested exemption, EGC would continue to operate under the requirements of the current Holtec HI-STORM CoC, which has previously been determined to have no significant impacts. The

potential environmental impact of using the Holtec HI-STORM system was initially analyzed in the environmental assessment for the final rule (65 FR 25241; May 1, 2000) to add the Holtec HI-STORM system to the list of approved spent fuel storage casks in 10 CFR 72.214. The environmental assessment for the May 1, 2000, final rule concluded that there would be no significant environmental impact for adding the Holtec HI-STORM system, and therefore, the NRC issued a finding of no significant impact.

#### *Alternative Use of Resources*

This action does not impact any resource implications discussed in previous environmental reviews.

#### *Agencies and Persons Consulted*

The staff consulted with Mr. Joseph Klinger, Assistant Director of the Illinois Emergency Management Agency (IEMA) by e-mail, regarding the environmental impact of the proposed action. The State's response was received by e-mail dated October 28, 2015. The e-mail response states that IEMA reviewed the draft environmental assessment and found "no basis for denial of this Exemption Request." Mr. Klinger concurred with the environmental assessment and finding of no significant impact.

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 critical habitat. The NRC staff has also determined that the proposed action is not a type of activity that has the potential to impact historic properties because the proposed action would occur within the established DNPS site boundary. Therefore, no consultation is required under Section 106 of the National Historic Preservation Act.

### **III. Finding of No Significant Impact**

The NRC staff has reviewed EGC's exemption request to authorize EGC to load and store one DNPS Unit 1 thoria rod canister containing 18 DNPS Unit 1 thoria rods in the DNPS ISFSI. Based on its review of the proposed action, in accordance with the requirements in 10 CFR Part 51, the NRC staff has determined that approval of the exemption from the requirements of 10 CFR 72.212(a)(2), 10 CFR 72.212(b)(3), 72.212(b)(5)(i), a portion of 10 CFR 72.212(b)(11), and 10 CFR 72.214 to allow EGC to load and store one DNPS Unit 1 thoria rod canister containing 18 DNPS Unit 1 thoria rods in CoC No. 1014, Amendment 8, Revision 1, will not significantly affect the quality of the human environment. For these reasons, NRC has determined that pursuant to 10 CFR 51.31, preparation of an Environmental Impact Statement is not required for the proposed action, and pursuant to 10 CFR 51.32, a Finding of No Significant Impact (FONSI) is appropriate.

### **IV. Availability of Documents**

The documents identified in the following table are available to interested persons through one or more of the methods indicated in the "ADDRESSES" section.

| <b>Document</b>   | <b>ADAMS Accession No.</b> |
|---|----------------------------|
| Exelon Generation Company (EGC) application dated January 29, 2015  | ML15029A334                |
| EGC supplement dated June 8, 2015   | ML15159A745                |
| NRC e-mail dated October 21, 2015, to Illinois Emergency Management Agency (IEMA) forwarding draft environmental assessment and IEMA response dated October 28, 2015, to draft environmental assessment | ML15323A022                |
| Holtec HI-STORM final rule  | ML010670391                |
| NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs"   | ML032450279                |

Dated at Rockville, Maryland, this 25th day of February, 2016.

For the Nuclear Regulatory Commission.

**/RA/**

Steve Ruffin, Acting Chief,  
Spent Fuel Licensing Branch,  
Division of Spent Fuel Management,  
Office of Nuclear Material Safety  
and Safeguards.

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|-------------|---------------|--------------|------------------------|---------|
| <b>OFC</b>  | NMSS          | ADM          | OGC                    | NMSS    |
| <b>NAME</b> | PLongmire/BHW | CLeatherbury | JBielecki<br>via email | SRuffin |
| <b>DATE</b> | 11/19/15      | 10/21/15     | 2/24/16                | 2/25/16 |

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