

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 72-69 and 50-440; NRC-2024-0082]

Vistra Operations Company LLC.;

Perry Nuclear Power Plant, Unit 1;

Independent Spent Fuel Storage Installation;

Environmental Assessment and Finding of No Significant Impact

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing an environmental assessment (EA) and a finding of no significant impact (FONSI) for an exemption request submitted by Energy Harbor Nuclear Corporation¹ that would permit Perry Nuclear Power Plant (Perry) to load two Holtec 89-assembly multi-purpose canisters (MPC) with continuous basket shims (CBS) in the HI-STORM Flood/Wind (FW) MPC Storage System at its Perry Unit 1 Independent Spent Fuel Storage Installation (ISFSI) in a storage condition where the terms, conditions, and specifications in the Certificate of Compliance (CoC) No. 1032, Amendment No. 5 are not met.

DATES: The EA and FONSI referenced in this document are available on May 8, 2024.

ADDRESSES: Please refer to Docket ID **NRC-2024-0082** 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:

¹ Effective March 1, 2024, the facility operating license for Perry Nuclear Power Plant was transferred from Energy Harbor Nuclear Generation LLC (owner) and Energy Harbor Nuclear Corp. (operator) to Energy Harbor Nuclear Generation LLC (owner) and Vistra Operations Company LLC. Upon completion of this license transfer, Vistra Operations Company LLC (VistraOps) assumed the responsibility for all licensing actions under NRC review at the time of the transfer and requested that the NRC continue its review of these actions.

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2024-0082**. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; email: Stacy.Schumann@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 <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, 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, at 301-415-4737, or by email to PDR.Resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the “Availability of Documents” section.

- **NRC’s PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Bernard White, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555; telephone: 301-415-6577; email: Bernard.White@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The NRC is reviewing an exemption request from Energy Harbor Nuclear Corporation, dated February 27, 2024, and supplemented by VistraOps on

March 22, 2024. VistraOps is requesting an exemption, pursuant to section 72.7 of title 10 of the *Code of Federal Regulations* (10 CFR), in paragraphs 72.212(a)(2), 72.212(b)(3), 72.212(b)(5)(i), 72.212(b)(11), and 72.214 that require VistraOps to comply with the terms, conditions, and specifications of the CoC No. 1032, Amendment No. 5. If approved, the exemption would allow VistraOps to load two MPCs which contain the 89-assembly CBS basket (MPC-89-CBS) beginning in August 2024 in the HI-STORM FW Storage System at the Perry ISFSI in a storage condition where the terms, conditions, and specifications in the CoC No. 1032, Amendment No. 5 are not met.

II. Environmental Assessment

Background

Perry is located on a 1,100 acre site on Lake Erie, 40 miles northeast of Cleveland in North Perry, Ohio. Unit 1 began operating in 1987. VistraOps has been storing spent fuel in an ISFSI at Perry under a general license as authorized by 10 CFR part 72, subpart K, “General License for Storage of Spent Fuel at Power Reactor Sites.” VistraOps currently uses the HI-STORM FW Storage System under CoC No. 1032, Amendment No. 5 for dry storage of spent nuclear fuel in a specific MPC (i.e., MPC-89) at the Perry ISFSI.

Description of the Proposed Action

The CoC is the NRC approved design for each dry cask storage system. The proposed action would exempt the applicant from the requirements of 10 CFR 72.212(a)(2), 72.212(b)(3), 72.212(b)(5)(i), 72.212(b)(11), and 72.214 only as these requirements pertain to the use of the MPC-89-CBS in the HI-STORM FW Storage System for near-term planned cask loadings. The exemption would allow VistraOps to load two MPC-89-CBS in the HI-STORM FW Storage System at the Perry ISFSI, despite

the MPC-89-CBS in the HI-STORM FW Storage System not being in compliance with the terms, conditions, and specifications in the CoC No. 1032, Amendment No. 5.

The CoC for the HI-STORM FW Storage System provides the requirements, conditions, and operating limits necessary for use of the system to store spent fuel. Holtec International (Holtec), the designer and manufacturer of the HI-STORM FW Storage System, developed a variant of the design with CBS for the MPC-89, known as MPC-89-CBS. Holtec originally implemented the CBS variant design under the provisions of 10 CFR 72.48, which allows licensees to make changes to cask designs without a CoC amendment under certain conditions (listed in 10 CFR 72.48(c)). After evaluating the specific changes to the cask designs, the NRC determined that Holtec erred when it implemented the CBS variant design under 10 CFR 72.48, as this was not the type of change allowed without a CoC amendment. For this reason, the NRC issued three Severity Level IV violations to Holtec. Perry plans to load two MPC-89-CBS canisters in the HI-STORM FW overpacks beginning in August 2024. This exemption considers the near-term planned loading of the two canisters with the CBS variant basket design.

Need for the Proposed Action

VistraOps requested this exemption in order to allow loading of two MPC-89-CBS in HI-STORM FW Storage System at the Perry ISFSI for the future loading campaign scheduled in August 2024.

Approval of the exemption request would allow VistraOps to effectively manage the spent fuel pool margin and capacity to maintain full core offload capability until its next storage cask loading campaign in 2028. Otherwise, after the refueling outages in 2025 and 2027, Perry would have an insufficient number of open fuel cells (a deficit of 25 open cells) in the spent fuel pool. It would also allow VistraOps to effectively manage

the availability of the specialized workforce and equipment needed to support competing fuel loading and operational activities at the Perry ISFSI.

Environmental Impacts of the Proposed Action

This EA evaluates the potential environmental impacts of granting an exemption from the terms, conditions, and specifications in CoC No. 1032, Amendment No. 5. The exemption would allow two MPC-89-CBS canisters to be loaded in the HI-STORM FW Storage System in the near-term loading campaign scheduled for August 2024.

The potential environmental impacts of storing spent nuclear fuel in NRC-approved storage systems have been documented in previous assessments. On July 18, 1990, the NRC amended 10 CFR part 72 to provide for the storage of spent fuel under a general license in cask designs approved by the NRC. The EA for the 1990 final rule analyzed the potential environmental impacts of using NRC-approved storage casks. The EA for the HI-STORM FW Storage System, CoC No. 1032, Amendment No. 5, published in 2020, tiers off of the EA issued for the July 18, 1990, final rule. “Tiering” off earlier EAs is a standard process encouraged by the regulations implementing the National Environmental Policy Act of 1969 (NEPA) that entails the use of impact analyses of previous EAs to bound the impacts of a proposed action where appropriate. The Holtec HI-STORM FW Storage System is designed to mitigate the effects of design basis accidents that could occur during storage. Considering the specific design requirements for the accident conditions, the design of the cask would prevent loss of containment, shielding, and criticality control. If there is no loss of containment, shielding, or criticality control, the environmental impacts would not be significant.

The exemptions requested by VistraOps at the Perry site as they relate to CoC No. 1032, Amendment No. 5 for the HI-STORM FW Storage System are limited to the near-term planned loading of two storage systems utilizing the CBS variant basket

design. The staff determined that this change in the basket would not result in either radiological or non-radiological environmental impacts that significantly differ from the environmental impacts evaluated in the environmental assessment supporting the issuance of CoC No. 1032, Amendment No. 5. If the exemption is granted, there would be no significant change in the types or amounts of any effluents released, no significant increase in individual or cumulative public or occupational radiation exposure, and no significant increase in the potential for or consequences from radiological accidents. Accordingly, the Commission concludes that there would be no significant environmental impacts associated with the proposed action.

Alternative to the Proposed Action

The staff considered the no-action alternative. The no-action alternative (denial of the exemption request) would require VistraOps to delay the near-term planned loading of spent fuel in the MPC-89-CBS in the HI-STORM FW Storage System at the Perry ISFSI. Delaying the loading of spent fuel into the two casks in August 2024 could affect VistraOps's ability to effectively manage pool capacity, reactor fuel offloading, and refueling. It could also pose challenges to spent fuel heat removal and impact the availability of the specialized workforce and equipment needed to support competing fuel loading and operational activities at Perry and other VistraOps sites. The NRC determined that the no-action alternative would result in undue potential human health and safety impacts that could be avoided by proceeding with the proposed exemption, especially given that the staff has concluded in NRC's Safety Determination Memorandum, issued with respect to the enforcement action against Holtec regarding these violations, that fuel can be stored safely in the MPC-89-CBS casks.

Agencies Consulted

The NRC provided the Ohio Emergency Management Agency (OH-EMA) a copy of this draft EA for review by an email dated April 25, 2024. On April 25, 2024, OH-EMA stated via email that it had no comments on the draft EA and FONSI.

III. Finding of No Significant Impact

The environmental impacts of the proposed action have been reviewed in accordance with the requirements in 10 CFR part 51, which implement NEPA. Based upon the foregoing environmental assessment, the NRC finds that the proposed action of granting the exemption from the regulations in 10 CFR 72.212(a)(2), 72.212(b)(3), 72.212(b)(5)(i), 72.212(b)(11) and 72.214, which require the licensee to comply with the terms, conditions, and specifications of the CoC, in this case limited to specific future loading of two canisters with the 89-assembly CBS variant design basket beginning August 2024, would not significantly impact the quality of the human environment. Accordingly, the NRC has determined that a FONSI is appropriate, and an environmental impact statement is not warranted.

IV. Availability of Documents

The documents identified in the following table are available to interested persons through ADAMS, as indicated.

Document Description	ADAMS Accession No. or <i>Federal Register</i> notice
Issuance of order for license transfer, dated September 28, 2023.	ML23237B448 (Package)
VistraOps and Energy Harbor Nuclear Corporation letter providing Notice of Planned Closing of Transaction and Provision of Documents to Satisfy Order Conditions, dated February 23, 2024	ML24054A498
Energy Harbor Nuclear Corporation request for specific exemption, dated February 27, 2024.	ML24058A180
NRC authorization of license transfer amendment, dated March 1, 2024.	ML24057A092 (Package)
VistraOps supplement to request for exemption, dated March 22, 2024.	ML24082A132
NRC issuance of Certificate of Compliance No.	ML20163A701 (Package)

1032, Amendment 5, dated June 25, 2020.	
Holtec International, Inc. – Notice of Violation; The U.S. Nuclear Regulatory Commission Inspection Report No. 07201014/2022-201, EA-23-044, dated January 30, 2024.	ML24016A190
10 CFR part 72 amendment to allow spent fuel storage in NRC-approved casks, dated July 18, 1990.	55 FR 29181
EA for part 72 amendment to allow spent fuel storage in NRC-approved casks, dated March 8, 1989.	ML051230231
Final rule for List of Approved Spent Fuel Storage Casks: Holtec International HI-STORM Flood/Wind Multipurpose Canister Storage System CoC No. 1032, Amendment 5, dated May 13, 2020.	85 FR 28479
NRC Safety Determination of a Potential Structural Failure of the Fuel Basket During Accident Conditions for the HI-STORM 100 and HI-STORM Flood/Wind Dry Cask Storage Systems, dated January 31, 2024.	ML24018A085
NRC email to OH-EMA, “State’s review of EA/FONSI for Perry Exemption,” dated April 25, 2024.	ML24120A321
Email from OH-EMA regarding request for State review of the Perry exemption request environmental assessment, dated April 26, 2024.	ML24120A322

Dated: May 3, 2024.

For the Nuclear Regulatory Commission.

/RA/

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