

**NUCLEAR REGULATORY COMMISSION**

**[Docket Nos. 50-029, and 72-1025; NRC- 2016-0029]**

**Independent Spent Fuel Storage Installation, Yankee Atomic Electric Company**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Exemption; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing an exemption in response to a September 1, 2015, request from Yankee Atomic Electric Company, (YAEC or licensee) from the requirement to comply with the terms, conditions, and specifications regarding the method of compliance defined in Amendment No. 5 of the NAC International, Inc. (NAC), - MPC Certificate of Compliance (CoC) No. 1025, Appendix A "Technical Specifications for NAC-MPC System," Technical Specifications (TS) A.5.3 "Surveillance After an Off-Normal, Accident, or Natural Phenomena Event" at the Yankee Nuclear Power Station (YNPS) Independent Spent Fuel Storage Installation (ISFSI). The exemption request seeks a modification of TS A 5.3 inspection requirements for the inlet and outlet vents following off-normal, accident and natural phenomena events.

**ADDRESSES:** Please refer to Docket ID NRC-2016-0029 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-2016-0029. 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). The ADAMS accession number for each document referenced in this document (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **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:** John Goshen, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-6933, e-mail: [John.Goshen@nrc.gov](mailto:John.Goshen@nrc.gov); U.S. Nuclear Regulatory Commission, Washington, DC 20555.

## **SUPPLEMENTARY INFORMATION:**

### **I. Background.**

The licensee is the holder of Facility Operating License No. DPR-3 which authorizes operation of the YNPS located near Rowe, Massachusetts, pursuant to part 50 of title 10 of the *Code of Federal Regulations* (10 CFR). The facility is in decommissioned status. The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the NRC now or hereafter in effect.

Under Subpart K of 10 CFR part 72, a general license has been issued for the storage of spent fuel in an ISFSI at power reactor sites to persons authorized to possess or operate nuclear power reactors under 10 CFR part 50. YAEC is licensed to operate a nuclear power reactor under 10 CFR part 50, and authorized under the 10 CFR part 72 general license to store spent fuel at the YNPS ISFSI. Under the terms of the general license, YNPS stores spent fuel using Amendment No. 5 of the NAC-MPC CoC No. 1025.

### **II. Request/Action.**

YAEC requests an exemption from 10 CFR 72.212(b)(3), 10 CFR 72.212(b)(5)(i), and 10 CFR 72.214 for the YNPS ISFSI.

- Section 72.212(b)(3) requires that a general licensee use casks that conform to the terms, conditions, and specifications of a CoC or amended CoC listed in § 72.214. The NAC-MPC CoC No. 1025 is listed in 10 CFR 72.214.
- Section 72.212(b)(5)(i) requires, in relevant part, that a general licensee demonstrate a loaded cask will conform to the terms, conditions, and specifications of a CoC for a cask listed in § 72.214.

- Section 72.214 lists casks which are approved for storage of spent fuel under conditions specified in their CoCs, including CoC 1025 and Amendment No. 5.

The licensee, as a 10 CFR 72 general licensee, is required to use the NAC-MPC System according to the technical specifications of the NAC-MPC System CoC No. 1025. Amendment No. 5 of the NAC-MPC CoC No. 1025, Appendix A, "Technical Specifications for the NAC-MPC System," TS A 5.3, "Surveillance After an Off-Normal, Accident, or Natural Phenomena Event," requires that a general licensee undertake a visual surveillance of the NAC-MPC casks within 4 hours after the occurrence of an off-normal, accident or natural phenomena event in the area of the ISFSI. This NAC-MPC cask inspection is part of the general licensee's surveillance response to verify that all the CONCRETE CASK inlets and outlets are not blocked or obstructed. The NAC-MPC TS A 5.3 also requires that at least one-half of the inlets and outlets on each CONCRETE CASK be cleared of blockage or debris within 24 hours to restore air circulation.

The licensee seeks the NRC's authorization to use NAC-MPC TS A 3.1.6 as an alternative to the visual surveillance method specified in NAC-MPC TS A 5.3. technical Specification A 3.1.6 permits (either) visual surveillance of the inlets and outlets screens or temperature monitoring of each cask to establish the operability of the Concrete Cask Heat Removal System for each NAC-MPC cask and to show that the limiting conditions for operation under 3.1.6 are met. Technical Specification A 3.1.6 establishes ongoing requirements that YNPS must comply with during all phases of the cask storage operations, not only after an unusual event in the area of the ISFSI. In effect, TS A 3.1.6 provides continuous temperature monitoring or visual verification to establish operability of the Concrete Cask Heat Removal System for all NAC-MPC CoC No. 1025 casks.

The proposed alternative for implementing TS A 5.3 provides that Surveillance Requirement (SR) 3.1.6.1 is required following off-normal, accident or natural phenomena

events. The NAC-MPC Systems in use at an ISFSI shall be inspected in accordance with SR 3.1.6.1 within 4 hours after the occurrence of an off-normal, accident or natural phenomena event in the area of the ISFSI to confirm operability of the CONCRETE CASK Heat Removal System for each NAC-MPC System. Additionally, if a CONCRETE CASK Heat Removal System(s) for one or more NAC-MPC Systems is determined to be inoperable, Required Action A.1 of TS A 3.1.6 requires the licensee to restore the affected Concrete Cask Heat Removal System(s) to an operable condition within 8 hours.

The NAC-MPC Final Safety Analysis Report (FSAR) supports the use of either method defined in SR 3.1.6.1 to establish operability to comply with NAC-MPC TS A 3.1.6 or NAC-MPC TS A 5.3. Section 11.1.1 of the FSAR states, “Blockage of Half of the Air Inlets would be detected by the daily concrete cask operability inspection, which is performed either by the outlet air temperature measurements or by visual inspection of the inlet and outlet screens for blockage and integrity.”

### **III. Discussion.**

Under 10 CFR 72.7, the Commission may, upon application by any interested person or upon its own initiative, grant an exemption from the requirements of 10 CFR part 72 if the exemption is authorized by law, will not endanger life or property or the common defense and security and is otherwise in the public interest. As explained below, the proposed exemption is lawful, will not endanger life or property, or the common defense and security, and is otherwise in the public interest. The ADAMS accession numbers for the applicable documents are:

| Document          | Date              | ADAMS Accession No. |
|-------------------|-------------------|---------------------|
| Exemption Request | September 1, 2015 | ML15254A050         |

|                       |    |             |
|-----------------------|----|-------------|
| Letter of transmittal | NA | ML16033A150 |
|-----------------------|----|-------------|

**The Exemption is Authorized by Law**

The exemption would permit the licensee to use either of the inspection methods permitted by NAC-MPC TS A 3.1.6 as an alternative to the single surveillance method in NAC-MPC TS A 5.3. The licensee would conduct a surveillance response within 4 hours after the occurrence of an off-normal, accident, or natural phenomena event, as required by NAC-MPC TS A 5.3, but would be permitted to use either temperature monitoring or visual inspection to ensure the Concrete Cask Heat Removal Systems are within the limiting conditions for operation. The exemption is limited to off-normal, accident, or natural phenomena events, specifically major snow or icing events (snow/ice events that have the potential to or that exceed blockage of greater than one-half of the inlet or outlet vents).

The licensee requested an exemption from the provisions in 10 CFR part 72 that require the licensee to comply with the terms, conditions, and specifications of the CoC for the approved cask model that it uses. Section 72.7 of 10 CFR allows the NRC to grant exemptions from the requirements of 10 CFR Part 72. Issuance of this exemption is consistent with the Atomic Energy Act of 1954, as amended, and is not inconsistent with NRC regulations or other applicable laws. As explained below, the proposed exemption will not endanger life or property, or the common defense and security, and is otherwise in the public interest. Therefore, the exemption is authorized by law.

**The Exemption is Consistent with the Common Defense and Security**

The requested exemption would allow the licensee to use the SR, conditions, required actions, and completion times defined in NAC-MPC TS A 3.1.6 as an alternative to the single-method surveillance response in NAC-MPC TS A 5.3. Technical Specification A 3.1.6 permits

(either) visual inspection of the inlet and outlet screens or temperature monitoring to establish the operability of the Concrete Cask Heat Removal System for each NAC-MPC System and to comply with the limiting conditions for operation for TS A 3.1.6. SR 3.1.6.1 permits temperature monitoring or visual inspection of the inlet and outlet screens to be utilized to establish the operability of the Concrete Cask Heat Removal System for each NAC-MPS System to meet Limiting Condition for Operation 3.1.6. In the event the applicable acceptance criterion of SR 3.1.6.1 is not met, Required Action A.1 requires the licensee to restore the affected Concrete Cask Heat Removal System(s) to an operable condition within 8 hours.

The NRC staff reviewed the licensee's request and finds allowing the use of either visual surveillance of the inlet and outlet screens or temperature monitoring of the inlets and outlets within 4 hours of the occurrence of off-normal, accident, or natural phenomena events, when limited to major snow and icing events, does not compromise safety. The exemption still requires the licensee to perform SR 3.1.6.1 to establish the operability of the Concrete Cask Heat Removal Systems event 24 hours via temperature monitoring or visual inspection of the inlet and outlet screens. In addition, the exemption provides no additional time to complete the required surveillance of the inlets and outlets screens in accordance with TS A 5.3. The use of either method will ensure that adequate air flows past the storage canister and that heat transfer occurs. For these reasons, the NRC staff found the same level of safety is obtained by using either of the TS A 3.1.6 methods to comply with NAC-MPC TS A 5.3 during limited types off-normal, accident, or natural phenomena.

The NRC staff has determined that the thermal, structural, criticality, retrievability, and radiation protection requirements of 10 CFR part 72 and the offsite dose limits of 10 CFR part 20 will be maintained. For these reasons, the staff finds the same level of safety is obtained by using either of the TS A 3.1.6 methods to comply with NAC-MPC TS A 5.3. Therefore, the NRC concludes that the exemption will not endanger life or property or the common defense and security.

## **The Exemption Presents no Undue Risk to Public Health and Safety**

As described in the application, exempting the licensee from visual surveillance of cask inlet and outlet vents within 4-hours of a major snowstorm would allow the licensee to more effectively prioritize important storm-related activities at the YNPS site. Snow and ice blockage of the inlet and outlet vents is unusual. Moreover, snow and ice blockages are identified reliably by temperature monitoring of individual casks. The NRC staff recognizes there is a risk to the safety of workers responsible for clearing snow and ice from cask pads during extreme winter conditions when visual surveillance of casks must be undertaken within 4 hours. The NRC staff finds this risk to workers can be reduced by using SR 3.1.6.1 to establish the operability of the Concrete Cask Heat Removal Systems via temperature monitoring or visual inspection of the inlet and outlet screens. In addition, the limiting conditions for operation of the NAC-MPC System require the Concrete Cask Heat Removal System for each cask to be operable during storage operations thus ensuring public health and safety are not reduced.

Therefore the NRC staff finds that allowing the licensee to use the SR, conditions, required actions, and completion times defined in NAC-MPC TS A 3.1.6 as an alternative to the single-method surveillance response in NAC-MPC TS A 5.3 would reduce worker safety risks to plant workers involved in snow removal. Therefore, granting the exemption is otherwise in the public interest.

## **Environmental Considerations**

The staff evaluated whether there would be significant environmental impacts associated with the issuance of the requested exemption. The staff determined the proposed action fits a category of actions that do not require an environmental assessment or environmental impact statement. The exemption meets the categorical exclusion requirements of 10 CFR 51.22(c)(25)(i)-(vi).



Granting an exemption from the requirements of 10 CFR 72.212(b)(3), 10 CFR 72.212(b)(5)(i), and 10 CFR 72.214 for the YNPS ISFSI involves the visual surveillance requirement associated with TS A 5.3A. A categorical exclusion for inspection and SRs is provided under 10 CFR 51.22(c)(25)(vi)(C), if the criteria in 10 CFR 51.22(c)(25)(i)-(v) are also satisfied.

The granting of the exemption: i) would not involve a significant hazards consideration because it does not reduce a margin of safety, create a new or different kind of accident not previously evaluated, or significantly increase the probability or consequences of an unevaluated accident; ii) would not create a significant change in the types or significant increase in the amounts of any effluents that may be released offsite because the exemption does not change or produce additional avenues of effluent release; iii) would not significantly increase individual or cumulative public or occupational radiation exposure because the exemption does not introduce new or increased radiological hazards; (iv) would not result in significant construction impacts because the exemption would not involve construction or other ground disturbing activities, nor change the footprint of the existing ISFSI; v) would not significantly increase the potential for, or consequences from, radiological accidents because the exemption requires a surveillance method that ensures the heat removal system of casks is maintained within the limiting conditions for operation; and vi) the request seeks exemption from inspection or surveillance requirements, specifically, the single-method surveillance requirement in NAC-MPC TS A 5.3, may be substituted with the SR, conditions, required actions, and completion times defined in NAC-MPC TS 3.1.6.

In its review of the exemption request, the NRC staff determined the proposed exemption meets the eligibility criterion for categorical exclusion in 10 CFR 51.22(c)(25).

Therefore, there are no significant radiological environmental impacts associated with the proposed action.

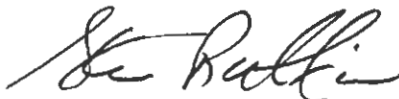
#### **IV. Conclusion.**

The NRC has determined that, under 10 CFR 72.7, the exemption is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest. Therefore, the NRC grants YAEC an exemption from the requirements in 10 CFR 72.212(b)(3), 10 CFR 72.212(b)(5)(i), 10 CFR 72.214, and to TS A.5.3 for the NAC-MPC System CoC No. 1025 storage casks at the YNPS ISFSI. The exemption authorizes the licensee to use the SR, conditions, required actions, and completion times defined in NAC-MPC TS A 3.1.6 to comply with NAC-MPC TS A 5.3 after off-normal, accident, or natural phenomena events, but is specifically limited to major snow or icing events (events that have the potential to or that exceed blockage of greater than one-half of the inlet or outlet vents).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 4<sup>th</sup> day of February, 2016.

For the Nuclear Regulatory Commission.



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