

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Part 72**

**[Docket No. PRM-72-8; NRC-2018-0017]**

**Requirements for the Storage of Spent Nuclear Fuel**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Petition for rulemaking; denial.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking (PRM), submitted by Raymond Lutz and Citizens Oversight, Inc. (the petitioners), dated January 2, 2018. The petitioners requested that the NRC amend its regulations regarding spent nuclear fuel storage systems to embrace the Hardened Extended-life Local Monitored Surface Storage (HELMS) approach, and identified many revisions to accommodate such an approach. The NRC is denying the petition because the petitioners do not present significant new information or arguments that support the requested changes to the regulations or that provide substantial improvements for public safety, environmental protection, or common defense and security. The NRC's current regulations continue to provide for the adequate protection of public health and safety, environmental protection, and common defense and security.

**DATES:** The docket for PRM-72-8 is closed on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** Please refer to Docket ID **NRC-2018-0017** when contacting the NRC

about the availability of information for this action. You may obtain publicly-available information related to this action by any of the following methods:

- **Federal Rulemaking Web Site:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2018-0017**. 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 individuals 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 "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 [pdresource@nrc.gov](mailto:pdresource@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:** 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:** Timothy McCartin, telephone: 301-415-7099, e-mail: [Timothy.McCartin@nrc.gov](mailto:Timothy.McCartin@nrc.gov), or Gregory R. Trussell, telephone: 301-415-6244, e-mail: [Gregory.Trussell@nrc.gov](mailto:Gregory.Trussell@nrc.gov). Both are staff of the Office of Nuclear Material Safety and Safeguards, the U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

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### **I. The Petition**

Section 2.802 of Title 10 of the *Code of Federal Regulations* (10 CFR), “Petition for rulemaking—requirements for filing,” provides an opportunity for any interested person to petition the Commission to issue, amend, or rescind any regulation in 10 CFR chapter I. On January 2, 2018, the NRC received a petition from Raymond Lutz and Citizens Oversight, Inc. The NRC docketed this petition on January 22, 2018, and assigned it Docket No. PRM-72-8. The NRC published a notice of docketing and request for public comment on March 22, 2018 (83 FR 12504). The petitioners request that the NRC amend 10 CFR part 72, “Licensing requirements for the independent storage of spent nuclear fuel, high-level radioactive waste, and reactor-related greater than Class C waste,” to embrace the HELMS approach, for the long-term storage of spent nuclear fuel.

The petitioners recommend a hardened storage system because they state that the current storage systems are not equipped to resist malicious attacks. The petitioners further state that the current storage casks will corrode and crack and are not designed for indefinite surface storage. However, the petitioners assert that spent nuclear fuel will continue to be stored on the surface for very long time periods, potentially indefinitely, due to the lack of a deep geologic repository for permanent disposal. The NRC regulations provide that storage casks can be initially licensed for up to 40 years with possible renewals of up to 40 years, with no restriction on the number of renewals. The

petitioners assert this regulatory process creates an “indefinite” timeframe, which they contend requires a storage system designed for an extended life. For these reasons, the petitioners recommend that all spent fuel storage systems have a design life of 1,000 years, which includes a “passive life” of 300 years. The petitioners also assert that spent nuclear fuel needs to be moved to local consolidated interim storage sites away from water resources and dense populations. Additionally, the petitioners assert that the storage casks need a more robust monitoring system, including continuous monitoring during the initial 40 years.

The HELMS approach is discussed further in Section III, “Reasons for Denial,” of this document.

## **II. Public Comments on the Petition**

The notice of docketing of the PRM invited interested persons to submit comments. The comment period closed on June 5, 2018, and the NRC received 70 comment submissions from members of the public, interested stakeholders, and industry groups. Many of the comments were similar in nature. The discussion that follows consolidates and summarizes the relevant issues. The public comments are available in their entirety at [www.regulations.gov](http://www.regulations.gov) under Docket ID NRC-2018-0017. A list of the public comments and their respective ADAMS Accession numbers is included in Section IV, “Availability of Documents,” of this document.

The NRC received 58 comment submissions in support of the petition. These commenters were opposed to indefinite storage, asserted that casks are too thin, and supported double-wall canisters. Additionally, many commenters supported the petitioners’ recommendation for a 1,000-year design life. Commenters stated that interim storage facilities can be maintained for longer time periods with periodic replacement of the casks and adequate resources and attention to maintaining the

storage facilities. Some commenters stated that a HELMS approach would address imminent terrorist attacks as well as unpredictable events by moving the waste to a half-dozen interim storage sites away from coastal areas or waterways.

The NRC received four comment submissions from stakeholders and industry groups that did not support the petition. In general, the commenters asserted the petition is without merit, the petitioners' suggestions are not supported by a technical basis, and costs were not considered. The commenters noted that existing regulations and oversight, including inspections, provide the necessary framework to ensure the safe storage of spent nuclear fuel. Additionally, the commenters stated that the petitioners disregarded the NRC's experience with spent fuel storage. One commenter noted that, in NRC's 2014 final rule on the continued storage of spent nuclear fuel (79 FR 56251; September 19, 2014), the Commission emphasized that the national policy remains to dispose of spent fuel in a geologic repository and that the petitioners did not provide a basis for revisiting the Commission's policy decisions. The commenters also claimed that the petition included factual inaccuracies; however, the commenters did not provide specific information that the NRC could evaluate.

One commenter who opposed the petition noted that hardened onsite storage would further fortify the structures with mounds of concrete, steel, and gravel. This commenter believed that this would result in the permanent-storage of spent nuclear fuel at the facility.

The NRC received a comment of general concern to stop the "waste burial" at San Onofre Nuclear Generating Station. The commenter stated that money was being put before public safety but did not provide specific information for the agency to evaluate.

The NRC also received several comment submissions that were outside of the scope of this petition.

### **III. Reasons for Denial**

#### **A. General Discussion**

The petitioners assert a mismatch now exists between the NRC regulations for the storage of spent nuclear fuel in dry casks in 10 CFR part 72 and the status for the disposal and storage of spent nuclear fuel today. The petitioners note that a geologic repository for permanent disposal of spent nuclear fuel does not exist. Additionally, the petitioners state that storage of spent nuclear fuel at nuclear plants for an indefinite period is allowed under the NRC's regulations.<sup>1</sup> The petitioners request many revisions to the 10 CFR part 72 requirements and state these are needed to accommodate the indefinite surface storage of spent nuclear fuel.

Although the 10 CFR part 72 regulations were developed at a time when a geologic repository was expected to be operational in 1998, extensive work has been done since the initial development of the regulations to ensure that the continued storage of spent nuclear fuel is safe and secure. This work includes revisions to 10 CFR part 72 and the development of guidance documents. Additionally, the evaluation of operational data collected nationally and internationally demonstrates that the NRC's regulatory framework for the continued storage of spent nuclear fuel provides reasonable assurance of adequate protection of public health and safety. The Commission described the basis for the safety and security of continued storage most recently in the NRC's 2014 final rule on continued storage and accompanying NUREG-2157, "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear

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<sup>1</sup> The petitioners asserted that the NRC's 2014 final rule, "Continued Storage of Spent Nuclear Fuel," authorized indefinite storage. As part of the development of the final rule, the staff prepared a generic environmental impact statement that analyzed the environmental impacts of continued storage and provides a regulatory basis for the rule. The final rule did not authorize the production or storage of spent fuel, nor did it amend or extend the term of any license.

Fuel.” In these two documents, t