POLICY ISSUE
(Notation Vote)

October 3, 2019 SECY-19-0097

FOR: The Commissioners

FROM: Margaret M. Doane
Executive Director for Operations

SUBJECT: DENIAL OF PETITION FOR RULEMAKING ON REVISIONS OF 10 CFR PART 72 REQUIREMENTS FOR THE STORAGE OF SPENT NUCLEAR FUEL (PRM-72-8; NRC-2018-0017)

PURPOSE:

In this paper, the staff requests Commission approval to deny a petition for rulemaking (PRM) requesting revisions of requirements for the storage of nuclear fuel (PRM-72-8) and publish notice of denial in the *Federal Register* (FR). This paper does not address any new commitments or resource implications.

BACKGROUND:

Raymond Lutz and Citizens Oversight, Inc. (the petitioners) filed a petition with the U.S. Nuclear Regulatory Commission (NRC) on January 2, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18022B207), requesting that the NRC amend Part 72 of Title 10 of the *Code of Federal Regulations* (10 CFR), "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 Hardened Extended-life Local Monitored Surface Storage (HELMS) approach for the long-term storage of spent nuclear fuel.

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The NRC assigned docket number PRM-72-8 to this petition and published a notice of docketing and request for public comments in the FR on March 22, 2018 (83 FR 12504). The public comment period closed on June 5, 2018, and the NRC received 70 comment submissions. In accordance with Management Directive 6.3, the staff seeks the Commission's approval to deny PRM-72-8 in its entirety.

DISCUSSION:

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 petitioners further assert that the current storage casks are not designed for long-term storage and could be left at their current location indefinitely, and that this longer timeframe requires a storage system designed for an extended life. Therefore, the petitioners recommend adding a new requirement to 10 CFR Part 72 that specifies that storage casks comply with a "design life" of 1,000 years.

Additionally, the petitioners state that the current storage "at some 70 sites near 104 reactors all around the country, are hardly optimal for nuclear waste storage. This default solution is simply unacceptable." Thus, the petitioners states that spent nuclear fuel should be moved to local consolidated interim storage sites with a number of siting requirements, such as the requirements that the storage sites be located at least 5 miles from water resources, major roads, railroads, industrial areas, residential properties, and at least 15 miles from the boundary of any city, town, or other population center.

The petitioners also assert that the 1,000 year "design life" likely is not feasible without monitoring and replacing part of the storage cask system on regular intervals. Therefore, the petitioners recommend that 10 CFR Part 72 be revised to maintain continuous monitoring during the initial license period and periodic monitoring after the initial license period. The petitioners also recommend a dual-wall canister design as "easy to test" and "easy to replace," and further recommend revisions to 10 CFR Part 72 to state that a dual-wall canister is one method of confinement protection that would ensure that degradation of the fuel and cladding during storage will not pose operational safety problems.

Requested Change(s)

Based on these assertions, the petitioners request that the NRC amend 10 CFR Part 72 to embrace the HELMS approach. The petitioners explain the primary bases for the HELMS approach as:

- **H**ardened Storage System – More resistant to terrorist attacks and extreme events.
- **E**xtended Life – 1,000-year design-life to accommodate indefinite storage.
- **L**ocal siting – Current sites are too risky, and waste needs to be moved to local, safer areas with less risk.
- **M**onitoring/Maintenance – 24/7 monitoring to allow for timely maintenance and repair.
- **S**urface Storage – Geologic repository for disposal is not available.

Public Comments

The NRC received 70 comment submissions on the petition from members of the public, industry groups, and other interested stakeholders. The majority of the commenters supported

the petition but did not provide specific information for the NRC to evaluate. Four commenters from industry and interest groups did not support the petition, several commenters provided comments that were outside the scope of the petition, and one commenter raised a general concern, not expressing support or opposition. A summary of the comments submitted is discussed in the enclosed *Federal Register* notice (FRN) (Enclosure 1).

Technical Evaluation

The staff evaluated the PRM and the public comments received and analyzed each regulatory issue and its rationale raised by the petitioners, including any supporting information. The staff considered the merits of the petition and the immediacy of any safety, environmental, or security concerns raised by the petitioners. In addition, the staff considered whether the issues are already under consideration by the NRC in other NRC processes and the NRC's relevant past decisions and current policies.

The petitioners assert a mismatch now exists between the NRC regulations for the storage of spent nuclear fuel in dry casks at 10 CFR Part 72, and the current status for the disposal and storage of spent nuclear fuel today. The petitioners noted that a geologic repository for permanent disposal of spent nuclear fuel does not exist. Additionally, the petitioners said that storage of spent nuclear fuel at nuclear plants for an indefinite period of time is allowed under NRC's regulations.[1] The petitioners request a number of revisions to 10 CFR Part 72 requirements that they state are needed to accommodate the indefinite surface storage of spent nuclear fuel.

Although the 10 CFR Part 72 regulations were initially developed at a time when a geologic repository was expected to be available by approximately 1998, extensive work has been done since then to confirm that the regulatory requirements for the continued storage of spent nuclear fuel provide reasonable assurance of adequate protection of public health and safety. This work includes revisions to 10 CFR Part 72 and the development of guidance documents. In addition, the evaluation of operational data collected nationally and internationally demonstrates that the NRC's regulatory framework for the continued storage of spent nuclear fuel ensures safe storage. The Commission described the basis for the safety and security of continued storage in its 2014 final rule on the continued storage of spent nuclear fuel (79 FR 56238; September 19, 2014) and accompanying NUREG-2157, "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel" (September 2014; ADAMS package No. ML14198A440). In these two documents, the NRC discussed its current regulatory framework for the storage of spent nuclear fuel as a basis for the continued safe storage of spent nuclear fuel. In particular, the NRC explained that:

1. Decades of operating experience and ongoing NRC inspections demonstrate that the reactor and independent spent fuel storage installation (ISFSI) licensees continue to meet their obligation to safely store spent fuel in accordance with the requirements of 10 CFR Parts 50, 52, and 72.

[1] 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.

2. The NRC continues to improve its understanding of long-term dry storage issues and is separately examining the regulatory framework and potential technical issues related to extended storage and subsequent transportation of spent fuel for multiple ISFSI license renewal periods extending beyond 120 years.

3. The NRC is also closely following Department of Energy and industry efforts to study the effects of storing high burnup spent fuel in casks.

4. If the NRC were to be informed of or identifies a concern with the safe storage of spent fuel, the NRC would evaluate the issue and take whatever action or change in its regulatory program as necessary to continue providing adequate protection of public health and safety, the environment, and the common defense and security.

The NRC has determined in its 2014 final rule on continued storage that regulatory oversight will continue in a manner consistent with the NRC's regulatory actions and oversight currently in place today to provide for continued storage of spent fuel in a safe manner, until the fuel can be safely disposed of in a repository (79 FR 56252; September 19, 2014).

Since the publication of the 2014 final rule, the NRC has continued to evaluate issues associated with the storage of spent nuclear fuel in dry casks and has not identified any necessary changes to the regulations based on the concerns raised by the petitioners. Furthermore, the NRC routinely evaluates the safe storage of spent nuclear fuel through operating experience and inspection findings. Therefore, because of the NRC's robust regulatory framework, the staff concludes that continued storage will continue to be safe.

The information provided in NUREG-2157 as part of the NRC's 2014 final rule on continued storage combined with the information and experience in dry cask storage continues to support the adequacy of the regulations in 10 CFR Part 72 to provide reasonable assurance of adequate protection of public health and safety. Therefore, the staff has determined that the petitioners' requested revisions to 10 CFR Part 72 are not necessary to protect public health and safety, and that the suggested revisions could add unnecessary regulatory burden and costs without a commensurate benefit.

RECOMMENDATION:

The staff recommends that the Commission deny PRM-72-8 in its entirety. The petitioners do not present any significant new information or arguments that support the requested changes to the regulations or provide substantial improvements for public safety, environmental protection, or common defense and security. The current regulations continue to provide for the adequate protection of public health and safety, environmental protection, and common defense and security. The staff requests the Commission's approval to publish an FRN denying PRM-72-8. The enclosed letter for signature by the Secretary of the Commission (Enclosure 2) informs the petitioners of the Commission's decision to deny the petition.

The staff will also inform the appropriate congressional committees of the Commission's decision.

COORDINATION:

The Office of the General Counsel has reviewed this package and has no legal objection to the denial of the petition.

for
Margaret M. Doane
Executive Director
for Operations

Enclosures:
1. Draft *Federal Register* notice
2. Letter to Petitioners

DENIAL OF PETITION FOR RULEMAKING ON REVISIONS OF 10 CFR PART 72 REQUIREMENTS FOR THE INDEFINITE STORAGE OF SPENT NUCLEAR (PRM-72-8; NRC-2018-0017. DATED _____ 2019

ADAMS Accession Nos: Package – ML19129A235; SECY – ML19134A310; FRN – ML19142A282; Letter to Petitioner – ML19134A311

* concurrence via email

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