

February 25, 2022

Office of Nuclear Energy  
U.S. Department of Energy  
1000 Independence Ave. SW  
Washington, DC 20585

Attention: Alisa Trunzo

**Subject: Response to 86 FR 68244: American Nuclear Society Response to Request for Information (RFI) on Using a Consent-Based Siting Process to Identify Federal Interim Storage Facilities Consent-Based Siting of Federal Interim Storage Facilities**

On behalf of the approximately 10,000 nuclear technology professionals that make up the [American Nuclear Society](#) (ANS), we are pleased to provide comments on the Department of Energy's (DOE's) "Notice of Request for Information (RFI) on Using a Consent-Based Siting Process To Identify Federal Interim Storage Facilities" (*Federal Register*, December 1, 2021).

First, we provide our perspective on nuclear power and the unblemished record of safety associated with storage and transportation of used nuclear fuel. As you are well aware, nuclear power generates roughly 20 percent of the country's electricity and more than half of its greenhouse-gas-emissions-free electricity. We anticipate significant expansion of the country's nuclear generation because, unlike some other energy sources, nuclear power can provide clean energy around the clock and can furnish high-temperature steam for industrial applications alongside its traditional electricity generation role. As with all technologies, nuclear power generates some waste, albeit a very small volume compared to other energy sources. The commercial nuclear industry has a stellar record managing its waste and in particular the used fuel that is a by-product of energy production. Nuclear plants store their used fuel assemblies safely on-site in used fuel pools and in robust, passively cooled dry storage systems. When it is necessary to transport used fuel, it is done by truck, rail, or barge, using established and proven processes and inside protective overpacks that meet rigorous regulatory requirements and provide ample protection against radiation exposure. During the entire history of commercial used fuel management—in excess of six decades—no member of the public has been harmed by a radiation release associated with the storage or transportation of used fuel.

As documented in the Nuclear Regulatory Commission's continued storage rule,<sup>1</sup> used fuel can be stored indefinitely at nuclear power plant sites with minimal environmental impacts. Nevertheless, that is not the optimal solution for managing the material. Consolidated interim storage could enable closure and beneficial societal reuse of decommissioned sites, lower used fuel storage requirements at operating nuclear power plants, and reduce federal

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<sup>1</sup> "Continued Storage of Spent Nuclear Fuel." *Federal Register* 56238, Vol. 70, No. 182. Nuclear Regulatory Commission. September 19, 2014.

outlays (damage payments) for the government's failure to fulfill its obligations under its contracts with nuclear plant operators. Waste management options include recycling, which can be deployed to recover and reuse fissile material, and transmutation technology, which can modify the nature of some of the remaining waste. Nevertheless, there will always be long-lived radioisotopes that require extended isolation from the biosphere (i.e., permanent disposal). New technologies like borehole disposal offer potential alternatives to the traditionally considered approach of mined geological disposal. We advocate that the government develop a flexible and adaptive integrated waste management program that includes the ultimate disposal of long-lived radioactive material. Such a program should accommodate technological advances that will inevitably occur and not preclude our country from taking best advantage of the resources in the material that we currently refer to as waste.

We commend the DOE for issuing its RFI on consent-based siting for consolidate storage facilities. Even if the anticipated expansion of nuclear energy does not occur, the existing inventory of used fuel plus additional amounts that will be generated by currently operating plants will not go away by itself (at least, not for a very long time). Consistent with the Atomic Energy Act and the Nuclear Waste Policy Act, the federal government has an essential role to play in the management of used fuel and high-level radioactive waste. However, it has now been nearly a quarter of a century since the government was supposed to begin removing used fuel from reactor sites. For more than a decade, the government has had no program in place to fulfill its statutory and legal obligations. We interpret the DOE RFI as a signal that the government intends to reestablish a workable program to discharge these responsibilities.

As we discuss above, consolidated storage is but one element of an integrated waste management program, but one that could provide benefits to stakeholders around the country. Numerous organizations, including ANS,<sup>2,3,4,5,6</sup> have made recommendations about comprehensive measures needed to put the U.S. program on a path to success. We will not opine further on such measures in these comments, but we hope that this RFI will serve as a starting point for a more comprehensive conversation about governance reform, funding reform, ultimate disposal, and other matters critical to the success of the U.S. nuclear waste management program. Because these are matters of national policy, fundamental changes to the country's program must be authorized and funded through congressional action. In the meantime, the executive branch of government should take what measures it can to enable ultimate success.

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<sup>2</sup> American Nuclear Society. Position Statement #76: "Interim Storage of Used or Spent Fuel." February 2017. <https://cdn.ans.org/policy/statements/docs/ps76.pdf> (current as of Feb. 23, 2022).

<sup>3</sup> American Nuclear Society. Position Statement #18: "Transportation of Radioactive Materials." July 2021. <https://cdn.ans.org/policy/statements/docs/ps18.pdf> (current as of Feb. 23, 2022).

<sup>4</sup> American Nuclear Society. Position Statement #80: "Licensing of Yucca Mountain as a Geologic Repository for Used Nuclear Fuel and High-Level Radioactive Waste." February 2017. <https://cdn.ans.org/policy/statements/docs/ps80.pdf> (current as of Feb. 23, 2022).

<sup>5</sup> American Nuclear Society. Position Statement #22: "Creation of an Independent Entity to Manage U.S. Used Nuclear Fuel." July 2015. <https://cdn.ans.org/policy/statements/docs/ps22.pdf> (current as of Feb. 23, 2022).

<sup>6</sup> American Nuclear Society. "Issue Brief: A Proposal for Progress on Nuclear Waste Management." February 2020. <https://www.ans.org/file/1245/Progress+on+Nuclear+Waste+Management.pdf> (current as of Feb. 23, 2022).

In the attachment to this letter, we provide responses to some of the questions in the DOE RFI. Those responses were developed by ANS members with extensive technical and managerial experience in the field of used fuel and high-level waste management, as well as considerable background interacting with stakeholders and the public on nuclear waste-related matters. Over the past decades, the U.S. government and other organizations have completed myriad studies, analyses, and reports in the field of waste management, and the DOE should take advantage of this information base as it formulates its next actions. Numerous public and private initiatives to establish consolidated interim storage facilities in the U.S., both historical and ongoing, provide important lessons learned. The DOE should also factor in the large and growing international experience base in used fuel management, which includes the successful implementation of consolidated interim storage in a number of countries.

ANS looks forward to working with the DOE to reestablish an integrated used fuel management program that includes interim storage. If you have any questions related to these comments, please feel free to contact me at (704) 578-5817 or [snesbit@ans.org](mailto:snesbit@ans.org).

Sincerely,

Steven P. Nesbit

A handwritten signature in black ink, appearing to read "Steven P. Nesbit", with a long horizontal line extending to the right.

President  
American Nuclear Society

## Attachment

### American Nuclear Society (ANS) Responses to Specific Questions in the Department of Energy's (DOE's) December 1, 2021, Request for Information (RFI) on Using a Consent-Based Siting Process to Identify Federal Interim Storage Facilities

**The DOE RFI questions are provided below, along with ANS responses. In some cases ANS does not provide a response.**

#### Area 1: Consent-Based Siting Process

1. How should the Department build considerations of social equity and environmental justice into a consent-based siting process?

The DOE should conduct a broad and transparent process and reach out to as many communities as possible. The DOE should not encourage or discourage communities from participating in a consent-based siting process based on the DOE's perception of the economic or demographic status of the community. In a consent-based process, the community will have the opportunity to weigh factors and arrive at its own decision as to the desirability of hosting a facility.

The process of siting, construction, operation, closure, and long-term monitoring of a nuclear waste storage site should have minimal environmental impacts (including radiation) but positive economic benefits to the host community. The environmental impact statements for the proposed private consolidated storage facilities in Texas<sup>7</sup> and New Mexico<sup>8</sup> support this point.

2. What role should Tribal, State, and local governments and officials play in determining consent for a community to host a federal interim storage facility?

No comments provided.

3. What benefits or opportunities could encourage local, State, and Tribal governments to consider engaging with the Department as it works to identify federal interim storage sites?

The DOE should provide general information on the nature and characteristics of a potential interim storage facility. It should also provide suggestions of related facilities, activities, and benefits in which a hosting entity might have interest, such as co-location of research and development centers and educational partnerships. The DOE should be flexible and prepared to discuss any interests and ideas of a potential host.

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<sup>7</sup> NUREG-2239. "Environmental Impact Statement for Interim Storage Partners LLC's License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas." U.S. Nuclear Regulatory Commission. July 2021. <https://www.nrc.gov/docs/ML2120/ML21209A955.pdf> (current as of Feb. 23, 2022).

<sup>8</sup> NUREG-2237. "Environmental Impact Statement for the Holtec International's License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel and High Level Waste: Draft Report for Comment." U.S. Nuclear Regulatory Commission. March 2020. <https://www.nrc.gov/docs/ML2006/ML20069G420.pdf> (current as of Feb. 23, 2022).

4. What are barriers or impediments to successful siting of federal interim storage facilities using a consent-based process and how could they be addressed?

Historically, efforts to site a consolidated interim storage facility have foundered due to opposition from the host state. The lack of a program to develop a permanent disposal facility has proven to be a barrier to ongoing attempts to site private interim storage facilities in Texas and New Mexico. The existence of an integrated waste management program addressing storage, transportation, and disposal, as opposed to one focused only on interim storage, would help address these concerns.

In recommending establishment of a new waste management organization outside of the DOE, the Blue Ribbon Commission observed that the DOE management approach is not well suited to building and sustaining the degree of trust and stability necessary for a successful integrated waste management program.<sup>9</sup> The DOE should be willing to work with potential hosts on alternative governance structures, recognizing that congressional action would be needed to implement a new approach.

5. How should the Department work with local communities to establish reasonable expectations and plans concerning the duration of storage at federal interim storage facilities?

The DOE should communicate openly and honestly with potential hosts about plans and expectations. These communications would be enhanced if there were an integrated waste management program in place, or at least under development. Ultimately, understandings related to duration of storage should be codified contractually or through some other mechanism acceptable to the hosts.

6. What organizations or communities should the Department consider partnering with to develop a consent-based approach to siting?

No comments provided.

7. What other issues, including those raised in the *Draft Consent-Based Siting Process* ([www.energy.gov/sites/prod/files/2017/01/f34/Draft Consent-Based Siting Process and Siting Considerations.pdf](http://www.energy.gov/sites/prod/files/2017/01/f34/Draft%20Consent-Based%20Siting%20Process%20and%20Siting%20Considerations.pdf)), should the Department consider in implementing a consent-based siting process?

No comments provided.

## Area 2: Removing Barriers to Meaningful Participation

1. What barriers might prevent meaningful participation in a consent-based siting process and how could those barriers be mitigated or removed?

Lack of trust in the DOE as a dependable, long-term partner may be a barrier for some states, tribes, and communities. The DOE should be prepared to invest in long-term relationships with host communities and other stakeholders. The DOE should also be amenable to working with potential hosts on alternative governance structures, recognizing that congressional action would be needed to implement a new approach. See also the response to Area 1, #4.

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<sup>9</sup> "Blue Ribbon Commission on America's Nuclear Future: Report to the Secretary of Energy." January 2012. [https://www.energy.gov/sites/default/files/2013/04/f0/brc\\_finalreport\\_jan2012.pdf](https://www.energy.gov/sites/default/files/2013/04/f0/brc_finalreport_jan2012.pdf) (current as of Feb. 23,2022).

2. What resources might be needed to ensure potentially interested communities have adequate opportunities for information sharing, expert assistance, and meaningful participation in the consent-based siting process?

For communities that are not already hosts to nuclear technology facilities, the DOE should consider providing opportunities to government officials and other leaders to visit communities that host nuclear power plants, independent spent fuel storage installations, fuel fabrication plants, etc.

The DOE should also be prepared to provide reasonable resources to interested potential hosts for the purpose of conducting independent assessments and obtaining external support (technical, legal, etc.).

3. How could the Department maximize opportunities for mutual learning and collaboration with potentially interested communities?

The DOE should consider supporting joint technical or social research projects with potentially interested communities and should seek to involve local and regional business, educational, and research institutions in such work, where feasible.

The DOE should consider a program like the Gateway for Accelerated Innovation in Nuclear (GAIN) program to enable interested host entities to access national laboratory and United States Geological Survey resources.

The DOE should refer communities to respected nongovernmental organizations that are not identified directly with the nuclear industry or with antinuclear groups. Such organizations would include colleges and universities, professional societies (e.g., ANS, the Health Physics Society, the Institute of Nuclear Materials Management), and pragmatic environmental organizations.

4. How might the Department more effectively engage with local, State, and Tribal governments on consent-based siting of federal interim storage facilities?

The DOE should be open to partnership and governance arrangements that can be adjusted to local, State, and Tribal desires (see also the response to Area 1, #4). The DOE should be prepared to invest in long-term relationships with host communities and other stakeholders (see also the response to Area 2, #1). The DOE should be prepared to leverage the range of benefits and authority-sharing possibilities available to the federal government.

5. What information do communities, governments, or other stakeholders need to engage with the Department on consent-based siting of federal interim storage facilities?

Communities and governments need the ability and resources to develop their own information independently, rather than being forced to rely solely on federal government experts. See also the responses to Area 1, #3 and Area 2, #2 and #3.

### **Area 3: Interim Storage as Part of a Waste Management System**

1. How can the Department ensure considerations of social equity and environmental justice are addressed in developing the nation's waste management system?

See the response to Area 1, #1.



2. What are possible benefits or drawbacks to co-locating multiple facilities within the waste management system or co-locating waste management facilities with manufacturing facilities, research and development infrastructure, or clean energy technologies?

Co-location of facilities is not required for a successful integrated waste management program. Depending on the characteristics of the program, there may be advantages and/or disadvantages to co-location, but little more can be said in the absence of an integrated program.

3. To what extent should development of an interim storage facility relate to progress on establishing a permanent repository?

We are skeptical that a consent-based interim storage process will be successful in the absence of an integrated waste management program that also addresses permanent disposal.

4. What other issues should the Department consider in developing a waste management system?

We note that an integrated waste management system is itself only a part of a clean, reliable national energy system, including nuclear power and other energy resources.

The design of each part of the integrated waste management system (e.g., storage, transportation, and disposal) and associated research and development must work together to enable a safe, efficient, and affordable outcome.

In developing a federal interim storage facility or facilities, the DOE should consider the range of needs over the life of the facility. Those needs include monitoring the condition of storage systems and, potentially, remediating the systems and/or repackaging the spent fuel.