



 OurEnergyPolicy

Consent Based Siting for Federal Interim Nuclear Storage

Outcomes from an
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Consent-Based Siting for Federal Interim Nuclear Waste Storage

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Foreword from OurEnergyPolicy

The mission of OurEnergyPolicy (OEP), a non-partisan organization, is to facilitate substantive, responsible dialogue on energy policy issues and provide this dialogue as a resource for the American people, policymakers, and the media. In doing so, we inform and support the creation of sound and effective policies. OEP seeks to encourage dialogue representative of viewpoints from across the energy sector, rather than advocate for any specific political, programmatic, policy, or technological agenda. As part of this mission, OEP introduced our roundtable initiative, a part of our larger *Energy Leaders Event Series*. These closed events engage 10–12 industry experts in several conversations examining a specific challenge facing the energy sector. Following each roundtable, OEP and the participating experts work together to create a summary of the conversation that captures their thoughts on the issue, areas of agreement and disagreement, recommendations for solutions, and other relevant insights.

In response to the U.S. Department of Energy’s December 2021 request for information, OurEnergyPolicy hosted a dialogue examining the challenges of consent-based siting for federal interim nuclear waste. The conversation was structured to include participants from across the political spectrum and to include nuclear experts with extensive experience in government, non-profit organizations, academia, private industry, and innovation. We are grateful to our participants for their involvement. The opinions expressed here do not necessarily reflect the views of the individual participants listed. The discussion represented within this paper does not express the position of OEP, which, as a non-partisan organization, does not advocate for any particular policy, solution, or approach.



Executive Summary

The roundtable discussion that resulted in this whitepaper was organized to respond to the U.S. Department of Energy's (DOE) December 2021 request for information (RFI), which asked for input on the creation of a consent-based siting process for spent nuclear waste. A successful consent-based approach would work with communities to help determine how a storage facility would align with a community's goals. To this end, the DOE sought information on the overall structure, the identification and removal of barriers to meaningful participation, and the role of interim storage as part of the country's waste management system.

When discussing the consent-based process overall, participants agreed that allowing for self-determination is key in creating "buy-in" from communities. Prior to any formal siting process, communities should be provided with unrestricted access to the resources, time, and independent expertise required to inform them as to whether siting such a facility in their community would be of greater benefit or harm. A particularly difficult problem is that the variable needs of Tribal, State, and local governments pose unique challenges. It is likely that communities will need or want additional incentives beyond financial compensation in return for their consent. This in turn necessitates that flexibility be built into the program, increasing the overall complexity of the process. Additionally, the term "consent" should be more precisely defined so that it is clear who is providing the consent, though the process should still allow for some flexibility to account for differences between communities and individual cases.

A key barrier referenced several times is the Department of Energy's lack of "in house" expertise in conducting public outreach and engagement. As a result of this shortcoming, various participants agreed that a waste management organization overseen by the United States' domestic nuclear industry could be the best entity to manage these initiatives, as is done in other countries. The industry's interests are well positioned to promote the most efficient implementation of a consent-based process for interim storage. A final key takeaway was that any progress on interim storage must support and be linked to the goal of eventually establishing a permanent repository for nuclear waste.



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Introduction

The issue of nuclear waste in the United States has been present for decades and the federal government has struggled to find a long term solution. The 1982 Nuclear Waste Policy Act (NWPA) established a national program for the permanent disposal of radioactive waste. The NWPA gave the Department of Energy the responsibility to site, build, and run a geologic repository for nuclear waste. Financially, the NWPA established a Nuclear Waste Fund, composed of fees levied against electric utilities to pay for the construction and operation of a permanent repository. Military nuclear waste was exempted from most aspects of the NWPA. For states and tribes, the NWPA authorized impact assistance payments to offset costs resulting from a facility within their borders. Efforts have been made, most notably at Yucca Mountain in Nevada, to create a permanent repository for nuclear waste but, to date, many of these projects have faced significant opposition and resulted in little to no progress towards a permanent storage site.

In 2012, the Blue Ribbon Commission on America's Nuclear Future released its [report recommending strategies for managing nuclear waste](#). The report called for a range of changes to the existing siting system, stressing the importance of U.S. leadership regarding nuclear technology. One of the key recommendations made was to encourage the siting of a permanent repository based on consent. Under the Biden administration, and pursuant to the Consolidated Appropriations Act of 2021, Congress appropriated funds to the Department of Energy for *interim* storage activities, an "important component of a waste management system" that "will enable near-term consolidation and temporary storage of spent nuclear fuel" per the Department of Energy's December 1, 2021 request for information.

The OurEnergyPolicy roundtable on January 26, 2022 focused on analyzing and responding to the DOE's RFI regarding the new consent-based initiative. Key questions from the RFI, listed on the next page, were debated by the group, with their feedback summarized and submitted to the DOE in response. This whitepaper summarizes participant thoughts and opinions on the major issues outlined in the DOE's RFI and presents them with the intent that their expertise and viewpoints help inform and guide the efforts of others working on these issues pertaining to nuclear waste siting.



RFI Questions addressed in this whitepaper.

Area 1: Consent-Based Siting Process

- How should the Department of Energy build considerations of social equity and environmental justice into a consent-based siting process?
- What role should Tribal, State, and local governments and officials play in determining consent for a community to host a federal interim storage facility?
- 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?
- What are barriers or impediments to successful siting of federal interim storage facilities using a consent-based process and how could they be addressed?
- What organizations or communities should the Department consider partnering with to develop a consent-based approach to siting?

Area 2: Removing Barriers to Meaningful Participation

- What barriers might prevent meaningful participation in a consent-based siting process and how could those barriers be mitigated or removed?
- 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?
- How might the Department more effectively engage with local, State, and Tribal governments on consent-based siting of federal interim storage facilities?

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

- To what extent should development of an interim storage facility relate to progress on establishing a permanent repository?
- What other issues should the Department consider in developing a waste management system?



The Consent-Based Siting Process


As stated in the blue ribbon report, a consent-based “approach can provide the flexibility and sustain the public trust and confidence needed to see controversial facilities through to completion.” The roundtable participants largely agreed with this statement, but often voiced different, sometimes conflicting, perspectives when answering the questions posed in the Department’s RFI. For example, participants differed on the extent to which considerations of social equity and environmental justice should be explicitly included, but agreed that providing adequate resources and fostering self-determination in the decision process could meet these goals. Complicating the task of process design is the fact that the variable needs of Tribal, State, and local governments each pose their own challenges, meaning that flexibility must be a key component of any consent-based process. Each of those governments may also have differing needs, which could require the provision of unique benefits as part of the consent-based interim siting process. Participants named numerous barriers to successful siting, including preemption, the DOE’s lack of in-house expertise with public outreach, and defining aspects of the consent-based process such as who is providing the consent. The roundtable also covered thoughts on opportunities for the Department to partner with organizations and communities during the process, including thoughts on organizations that should lead the process itself.

Considerations of Social Equity and Environmental Justice

Participants agreed that allowing for self-determination is key in creating “buy-in” from communities when considering consent-based interim storage facility siting. Prior to any formal siting process, communities should be provided with unrestricted access to the resources, time, and independent (from the implementer) expertise required to inform them whether siting such a facility in their community would be beneficial. Providing this support, especially when dealing with traditionally marginalized and underserved communities, will maximize the Department’s ability to take social equity and environmental justice concerns into account. The Department must empower communities to negotiate on their own terms regarding aspects of the process such as oversight and investment.

Role of Tribal, State, and Local Government in Determining Consent

The variable needs of Tribal, State, and local governments pose unique challenges. As one participant noted, “You can always find a community [interested in hosting a site] but finding a state [willing to agree to it] is a different matter.” In this context, several participants advocated for bringing states and communities into the process together at an early stage. Excluding states from the process until after a deal with a community is largely negotiated could increase the likelihood of state leadership “derailing” a final deal. Others disagreed and placed more importance on working with communities, echoing the Blue Ribbon Commission by saying that the process is “about being able to work with communities and to provide them with a situation in which they can trust and share, and then the states will come along. If you don’t have the community’s support, forget about the state.” It was also pointed out that states are likely to want various levels of input regarding the siting process, including oversight roles, access to funding, and the ability to negotiate with the Department that will be sustained for many years to come. So, while emphasis must be placed on the community itself, the process should be designed to take states into consideration since their



approval will be needed.

[Regarding Tribal governments, they must be brought into the siting process at the local level.](#)


Other countries, Canada in particular, offer specific and relevant examples of how interim storage facilities can be integrated into tribal communities, while also highlighting the value of incorporating tribal knowledge to help inform siting and help further tribal relationships. Per one participant, Canada's Nuclear Waste Management Organization has very actively engaged with a council of elders and youth, which provides counsel on the application of indigenous knowledge to Canada's adaptive phased management approach as well as insights on supporting the development and maintenance of positive and productive relationships with aboriginal communities.

Benefits & Opportunities to Encourage Tribal, State, and Local Governments

It is likely that communities will want additional incentives beyond financial compensation in return for their consent. Previous projects, such as the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico, serve as examples of how communities may benefit from a variety of incentives. The impact of WIPP on the community included numerous secondary benefits such as new job opportunities, and increased funding for education. Making the possibility of these benefits apparent at the outset, and giving potential host governments the ability to help define the nature of the benefits, would likely increase the chance of community “buy-in” during the process.

Another potential incentive includes co-locating interim waste sites with clean energy facilities, as a way to improve a community's prospects for consent. This would allow new clean energy employment opportunities, potentially improve the local environment, and help facilitate the clean energy transition. Co-locating interim waste storage sites with research facilities is also an option.

A final suggestion from the conversation is that “in next year's budget review, we should be seeking appropriations for grants that state, tribal, and local governments can apply for, allowing them to start studying this issue on their own. It should be made clear that those state tribal and local governments can negotiate what protections and benefits are going to be involved in a process like this.” Empowering these communities in this way is an essential “benefit” that must be included in this process.




Barriers to Successful Siting and How to Address Them

A key barrier referenced several times during conversation is the Department of Energy's lack of expertise in conducting public outreach and engagement. This may be addressed by hiring neutral third parties that specialize in public engagement, or by expanding hiring to bring this expertise "in-house" at the Department. Various parties also recommended that the process would best be led by a waste management organization overseen by the United States' domestic nuclear industry, as is done in Canada, Finland, Sweden, Japan, France, and Switzerland. Slight disagreement existed with one participant saying that the Department of Energy may not be the organization to lead the process but, "given where we are today, maybe it is the place where it has to start."

A broader, and more fundamental, challenge is that of definitions. Per one participant, "a consent-based process has never been defined." Various others agreed, adding that, more specifically, "who is providing the consent?" has never been addressed. A detailed approach that answers this question, or at the very least provides a framework for it, will likely be needed to ensure equitable and fair negotiations between key stakeholders. As stated during the conversation "If you're to start a new [consent-based] process today, without having a much clearer description of what the process would be, you are almost forcing communities to make a decision upfront whether they'd be willing to grant consent, just in order to start a consent-based process." One participant suggested that a definition of consent should be a "stepwise," tiered, process with "off-ramps" along the way. This process could reduce perceived barriers to participation by removing "an initial hurdle for a community to start the process." A similar problem exists with definitions for environmental justice. Who decides, and what are the criteria as they relate to the siting of nuclear waste storage sites? Several speakers mentioned that rigid definitions could actually be detrimental to the process and that a certain level of flexibility is needed in order to effectively and meaningfully address concerns over environmental justice as well as what "consent" means for various regions, states, and communities. Efforts must be made to prevent the process from becoming a question of "what is a community's price for accepting a facility that they do not want?"

Since states and the federal government must work together to solve the challenge of interim storage facilities, the topic of preemption must be addressed. The ability of states to preempt the federal government's decisions on siting is an inherent barrier to allowing communities to consent. States having the final say effectively strips agency away from the places that siting will most greatly impact. The Private Fuel Storage interim storage facility in Utah was referenced as an example of the complexities of such situations. The case raised serious questions about tribal sovereignty and states' rights. A participant voiced the opinion that obtaining consent from states should be the ultimate goal as, without their consent, the consent of a community is of little consequence. This viewpoint contrasted with several others who supported the idea, stated earlier, that states will "come along" with the decision of a community if the process is conducted properly. One participant cited the WIPP facility in New Mexico as an example of the state dropping objections to the facility after it was given oversight responsibilities through the Resource Conservation and



Recovery Act (as explained in the Blue Ribbon Commission report).

Organizations & Communities that the Department of Energy Should Partner With

Of the opinions offered, the majority agreed that the nuclear industry itself is a strong candidate to oversee the initiative. This would be beneficial as the nuclear industry's interests are aligned to promote the most efficient and effective implementation of a consent-based process. Giving responsibility to the private sector for waste disposal has been done successfully in other countries. "There is a successful model out there" where an industry sponsored panel is convened to review and produce recommendations with community input. Other countries have moved away from governments and ministries leading these initiatives, instead requiring industry to clean up nuclear waste and facilitate research through independent, not-for-profit, nuclear utility-run entities.


In contrast, some participants felt that, while the industry should certainly be a partner in the process and "clearly has a role as an implementer," the overall approach should be led by the federal government, which "has the long-term institutional structure to ensure implementation over many decades and perhaps centuries."

Removing Barriers to Meaningful Participation

The sections below focus more explicitly on the challenges inherent within the consent-based process. Participants were able to expand upon the above listed "barriers to successful siting" and offer their thoughts on factors that can interfere with meaningful community and stakeholder participation. The main barriers discussed include authority to provide consent, identifying the necessary resources for process participants and how they should be provided, and the interaction between the Department of Energy and potential host communities/States/Tribes.

Barriers to Meaningful Participation

Confusion continues to exist around the hierarchy of parties needed to provide consent - communities, states, counties or all three - as part of the process. As stated by the Blue Ribbon Commission, it is especially difficult to advance plans for a storage facility without the consent of the state government, but it must be left up to the individual states to determine how they want to provide consent. Importantly, it was pointed out that the definition of consent at the state level does not need to be the same as at the community level. A "community has to be supportive of the siting of a facility, but a state government ultimately may not need to signal affirmation, but merely no objection." WIPP was cited again as an example of a project where the state government never formally said "yes," but instead, dropped its objections once certain concerns had been addressed.



Regarding jurisdictional lines, it is likely that projects will not always have clear delineations, and the process should be designed with enough flexibility to account for this and other challenges. Underscoring this idea, a participant stressed the importance of the individual community where the storage facility would be placed, saying that “if a community is not on board, a state will not be either.”

Resources for Interested Communities

Various parties stressed that this question has been answered sufficiently by the Blue Ribbon Commission. Of particular importance is that funding should be provided so that communities may hire their own independent analysts to confirm whatever they are being told by the implementer. This is vital as communities must be able to independently verify the information they are being given if their consent is to be valid. Several participants stressed the importance of increasing access to educational opportunities for involved communities. Other participants disagreed with the idea of including a structured educational component, noting that education on nuclear issues has not been shown to change minds in this context. What is essential, they argued, is a willingness to listen, acknowledge, and address the concerns of those in affected communities as they arise.

How the Department Could More Effectively Engage with Governments

As stated previously, participants agreed that the Department currently lacks the expertise required to meaningfully and effectively engage with prospective host communities. “What’s really important here is that the Department of Energy hire people who know about public engagement and have the skill sets to facilitate” these interactions. “It is essential to have really top-notch people doing this kind of work.” Hiring expertly trained facilitators and professionals experienced in public engagement is necessary for a successful consent-based process. “Public engagement is extremely important, and if they get this wrong, they may lose the entire project.”

The EPA’s Superfund program was suggested as a model for how the Department might more effectively engage with local, State, and Tribal governments. This program has decades of experience meaningfully engaging with various communities and governments. Elements of this program could be helpful in determining the appropriate role for the Department of Energy in public engagement on consent-based siting.

Another participant suggested the Department could implement a tool, akin to the [Thriving Earth Exchange](#), a program that the American Geophysical Union has run for several years, in order to help the Department connect with communities, states, and various other stakeholders. Sustained engagement and knowledge sharing will be vital, so creating a source of “robust and technically sound information” that every party can access and rely on will be key.



Interim Storage as Part of a Waste Management System

Every panelist stressed the importance of an interim storage site transitioning to a permanent repository. Several participants voiced disappointment that the focus of this initiative is only for interim storage. As one participant stated, “It explicitly kicks the repository-can down the road again, and it’s time to stop doing that.” The 2012 Blue Ribbon Report was again referenced in conversation as having emphasized a final geologic repository as the ultimate goal of a consent based process. The general opinion of the group was that consent for an interim storage site provided without an explicit path towards a final repository is not valid consent.

Interim Storage to Permanent Storage

Echoing the recommendations of the Blue Ribbon Commission, the roundtable participants were in agreement that any progress on interim storage must be linked to some activity related to permanent storage. “You can’t have a truly consent-based siting of an interim storage facility without any clear path toward final disposal.” The Biden administration needs to work with Congress to put forward legislation that will fix problems present in existing law regarding how to handle the Nuclear Waste Fund and make progress on siting permanent repository(ies).

Other Issues the Department Should Consider

One participant suggested that the scope of the process could be broadened to consider more than just spent fuel management, in certain cases. “Many of these communities have some history with nuclear.” Expanding the scope to include other nuclear activity, as well as spent fuel management, could further entice communities that are already familiar with the industry. “It is important that the community feel that it’s a part of a long-term process.”



Key Takeaways / Conclusion

This whitepaper is best used as a guide for determining the obstacles and solutions around consent-based siting. The information presented here is intended to be a summary of the views of industry leaders and experts in the field of nuclear energy. While the individual participants often had different views, they were frequently able to agree on the importance of transitioning an interim site to a permanent repository. Experts differed on the subject of process oversight – whether it is better led by the Department or if a nuclear industry sponsored panel was better equipped to handle it. An additional area where participants differed was on the issue of who provides the consent. There may not be an easy solution to this challenge, but attempts must be made to define consent as much as possible while still leaving flexibility for unique and different situations.

The management of nuclear waste in the U.S. has had a troubled history with political opposition. Despite the lack of progress, nuclear waste disposal will remain an important issue, especially as the current Biden administration funds advanced nuclear research and development to meet its climate goals. The perspectives and solutions suggested in this whitepaper would help Congress, the Biden administration, and the nuclear industry proceed to help address domestic nuclear waste management.