

From: Sam Brinton <sbrinton@bipartisanpolicy.org>
Sent: Thursday, January 19, 2017 1:28 PM
To: PrivatelSF
Cc: Tracy Terry
Subject: Response to RFI on Private Initiatives to Develop Consolidated SNF Storage Facilities
Attachments: BPC Comment to the DPE RFI on Private Initiatives for CISF.pdf

Greetings,

Please find attached comments on the request for information on private initiatives to develop consolidated SNF storage facilities from the Bipartisan Policy Center Energy Project staff.

We very much appreciate the work the Department has undertaken on this important topic, as well as the opportunity to submit comments. We hope that you will find these comments valuable to your continued work on nuclear waste.

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Department of Energy
1000 Independence Ave SW
Washington, DC 20585

RE: Request for Information on Private Initiatives to Develop Consolidated Interim Storage Facilities

Dear Madame or Sir,

The staff of the Bipartisan Policy Center (BPC) welcomes the Department of Energy's request for information regarding private initiatives for making consolidated interim facility services available to the Department of Energy for the storage of nuclear waste.

First, we'd like to call your attention to a subsection of our recent report "Moving Forward with Consent-Based Siting for Nuclear Waste Facilities". Following a survey of state officials and various research reports, our Nuclear Waste Council traveled to Eunice, New Mexico and Andrews County, Texas to hear from the communities currently hosting nuclear facilities and seeking consideration to offer interim storage services. We have attached the "Insights from a Regional Stakeholder Meeting" section of our report for your information. Although the key points at the meeting were focused on the consent-based siting process, there are a variety of direct quotes from community members with a strong background on private initiatives to develop consolidated interim storage facilities which we feel will be useful.

BPC staff have released nuclear waste primer series that includes a number of issue briefs and infographics breaking down the current state of play on key issues in the debate around nuclear waste. We have attached a specific primer which relates to the request for information directly. Titled "Options for the Consolidated Storage of Spent Nuclear Fuel" this primer compares the various options for interim storage currently under consideration including at-reactor storage, federal storage facilities, and private storage facilities. We've found that to determine whether this is a viable strategy, careful analysis of the relative costs of at-reactor and consolidated storage would be necessary and existing settlements between the Department of Justice and nuclear utilities would have to be reviewed. In addition, industry supporters assert that federal funding, possibly from the Nuclear Waste Fund, could be required to license and build such a facility so further discussion on funding will be needed.

We'd like to clearly emphasize these comments are from the BPC staff only and do not necessarily represent the views of our Nuclear Waste Council. We hope the Department will use the valuable input of the commenters from across the country to design a more successful nuclear waste management program for the future, one which might employ private initiatives offering nuclear waste storage services.

Sincerely,
Bipartisan Policy Center Energy Project Staff



Moving Forward with Consent-Based Siting for Nuclear Waste Facilities

Recommendations of the
BPC Nuclear Waste Council

September 2016



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for example, the responses ranged from “No, under any circumstances” to “Yes, the state would consider any such opportunity.” Other survey respondents indicated a general openness to considering proposals, but cited specific concerns that would have to be addressed (such as impacts on groundwater in a state that is heavily reliant on groundwater). Questions about what types of information a state might need to consider hosting a facility and whether holding a statewide referendum would be necessary to ratify consent likewise elicited a range of responses.

A question about key attributes of a consent-based process drew answers that echoed many of the elements included in the Facility Siting Credo and in other studies. Specifically, respondents mentioned thorough evaluation of policy, economic, health, technical and environmental issues; transparency; candor; efficiency; voluntary participation and consent; financial backing; political support and leadership; strong, specific technical criteria; public input and full engagement; and rigorous impact analysis. Questions about what form consent might take and about where in the process a state’s consent should be considered irrevocable drew a mix of responses, including “I just don’t know.” By contrast, a more general question about the merits of a consent-based approach to siting in principle drew near-universal support from survey respondents. And all respondents answered in the affirmative when asked if they would be interested in participating in regional group discussions about siting nuclear waste facilities with other state government leaders.

C. Insights from a Regional Stakeholder Meeting

On March 29, 2016, the Nuclear Waste Council held a regional meeting in Eunice, New Mexico. The area around Eunice hosts the Waste Isolation Pilot Plant, the National Enrichment Facility, and—just across the border in Andrews County, Texas—the only commercial U.S.

facility licensed to treat, store, and dispose of certain classes of low-level radioactive waste. The latter facility is operated by Waste Control Specialists (WCS), which is seeking an NRC license to construct a facility for the consolidated storage of commercial nuclear spent fuel. This proposed new facility would also be located in Andrews County, Texas.

Because of these existing and proposed facilities, local communities in southeastern New Mexico and western Texas have extensive first-hand experience with siting and hosting nuclear-related projects and facilities. Their greater familiarity and local economic conditions may have also made them more receptive than other communities to considering new nuclear-related development. As noted in earlier sections, there is state and local support for a new WCS facility to store spent nuclear fuel in Andrews County, Texas, while local leaders in New Mexico’s Eddy and Lea Counties have formed an alliance to explore options for hosting a similar type of facility on the New Mexico side of the border. Much of the discussion at the Nuclear Waste Council meeting focused on these proposals and on lessons learned from the experience of siting the National Enrichment Facility.¹⁹

Attendees noted that local support had been crucial to the successful siting of both the WCS low-level waste facility and the National Enrichment Facility.²⁰ In the latter case, consistent efforts by the project sponsor, Louisiana Energy Services (LES), to engage and inform the community played a critical role in building and sustaining local support. LES, which had learned the importance of effective community outreach after failed siting efforts in Louisiana and Tennessee, made concerted efforts to engage constructively with local citizens and respond to their questions in an open and timely manner. Parallel efforts to inform the community about technical aspects of uranium enrichment and about the safety standards and regulations that would apply to the facility were also appreciated, as were small but important touches, such as having Spanish

translators available at meetings. Finally, the opportunity to visit an enrichment facility in the Netherlands and speak directly with local citizens and community leaders there was cited as an extremely valuable step toward building confidence. The relatively small size of the local population and its relatively sophisticated understanding of the technical and scientific issues was also helpful; the community valued the economic benefits that came with the facility as well as the opportunity to “build something” and exercise leadership in an area of national interest. A striking contrast between the perspective of rural and urban communities was frequently mentioned; some participants noted that politicians from bigger cities like Austin and Santa Fe often raised questions and concerns, but then failed to consistently appear at local meetings or work with local officials to address these concerns.

Other key points raised at the meeting and in follow-up written comments submitted to the Nuclear Waste Council are summarized below. (Importantly, these comments were heard from meeting participants, many of whom expressed potential support for future facilities; thus, they do not represent the views of all council members.) Together these points suggest that a consent-based approach can offer advantages for future efforts to site nuclear waste facilities, provided that potential host communities understand a consent-based approach to include significant efforts at delivering honesty, transparency, and accountability throughout the siting process.

- Support can be found for new nuclear facilities, provided the sponsoring entity is willing to maintain appropriate communications throughout the siting process and conduct operations in a manner that protects human health and the environment.
- Entities that are invested in the success of a facility will do a better job of communicating and

operating that facility. Private entities may be better at building trust and delivering accountability than the federal government.

- A strong state and local government presence is needed, even in the case of facilities that are federally regulated. Different views exist within the council with respect to the appropriate division of state and federal regulatory authority over future nuclear waste facilities (see text box on p.24).
- A new facility has to provide tangible value for the host community. Meeting attendees expressed the view that citizens of western Texas and southeastern New Mexico, in particular, are informed about issues relevant to the nuclear fuel cycle and have successfully navigated two consent-based processes in recent years (although not for facilities that handle commercial spent fuel or defense high-level radioactive waste).
- For the community, confidence in the science and in the safety of the proposed facility was a prerequisite for moving to the next step. That step included developing a relationship of trust with the company and it required transparency and openness. Citizens want to hear the good and the bad and they appreciated the fact that LES was forthcoming about the difficulties it encountered in past efforts to secure a site.
- Exposure to a similar facility overseas left participants with a greater appreciation for the importance of a strong safety culture and high standards of management.
- Gaining local community approval is more important than requiring every elected official in a state to be 100 percent on board. Including a diversity of views is a good thing, but it can also lead to stalemate if consent is interpreted as unanimity.

- Artificial impediments, such as a one-size-fits-all approach to consent-based siting, must not create hurdles to actual progress. Equal weight should be given to needed facilities that are sited and developed by a private entity as to facilities that are government owned and operated.
- Flexibility is key in that consent will look different for different facilities in different circumstances. Moreover, affected state and tribal governments, as well as potential host communities, must play a key role in defining the mechanisms used to register consent and on the conditions attached to consent. These issues must be negotiated from the bottom up, rather than the top down.
- The process used to select an interim storage site may be very different from the process used to select a permanent disposal site. To the extent possible, multiple siting options should be left open so that competition on the merits—in terms of safety, performance, cost, etc.—can drive the selection of a particular site.

July 2015

Options for the Consolidated Storage of Spent Nuclear Fuel

This issue brief is one in a series being developed by the Bipartisan Policy Center's Nuclear Waste Initiative, which is exploring ways to advance progress toward durable solutions for managing and disposing of the nation's inventory of spent nuclear fuel and high-level radioactive waste. This brief focuses on options for moving forward with the development of one or more facilities for the consolidated storage of spent fuel from commercial nuclear power plants. It is based on a longer analysis prepared for the Bipartisan Policy Center by Van Ness Feldman, LLP.



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Background and Context

In its final report, issued in 2012, the Blue Ribbon Commission on America's Nuclear Future (BRC), which had been tasked with developing recommendations for a comprehensive overhaul of the U.S. nuclear waste management program, called for the "prompt development of one or more consolidated storage facilities." According to the BRC, such facilities would provide important benefits in terms of operational flexibility, cost savings, and improved understanding of technical issues related to spent fuel storage—benefits that are particularly important given the uncertain time frame for resolving the current political impasse over developing a permanent deep geological repository at Yucca Mountain. As the BRC explained:

Developing consolidated storage capacity would allow the federal government to begin the orderly transfer of spent fuel from reactor sites to safe and secure centralized facilities independent of the schedule for operating a permanent repository. The arguments in favor of consolidated storage are strongest for "stranded" spent fuel from shutdown plant sites.

As the BRC also recognized, however, significant barriers stand in the way of developing consolidated storage capability and that development is expected to be complicated. Chief barriers include existing statutory restrictions on the federal government's ability to move forward with such a facility before a construction license has been issued for a permanent repository and the difficulty of finding a site where affected state, tribal, and local authorities would consent to host the storage of spent nuclear fuel from other locations.

The statutory issues stem from provisions of the Nuclear Waste Policy Act (NWPA) that tie construction of a federal "monitored retrievable storage" (MRS) facility to progress on a first repository and provisions that set capacity limits on such a facility so that it cannot accommodate all of the spent fuel in need of disposal.¹ These provisions were intended to allay concerns that any MRS facility would become a de facto permanent disposal site. Originally, the U.S. Department of Energy (DOE) was required to choose a site for an MRS facility by June 1985. In 1987, amendments to the NWPA annulled DOE's initial selection of an MRS site in Tennessee and created an Office of Nuclear Waste Negotiator to attempt to convince another state to agree to host the first MRS facility. This effort did not succeed and the Office of Nuclear Waste Negotiator was terminated in 1995.

The concern that any consolidated storage facility would become a de facto repository is still valid and the BRC was sensitive to it. In fact, the BRC report states that a program to establish consolidated storage will only be successful if it is accompanied by an effective disposal program. The BRC went on to write, "Progress on both fronts [consolidated storage and disposal] is needed and must be sought without further delay."

Although the BRC's recommendations generally assume that the federal government would develop a consolidated storage facility, the first serious post-BRC storage proposal has come from a private party, Waste Control Specialists (WCS), which has announced plans to build a facility in Andrews County, Texas—apparently with the support of the county and the State of Texas itself. The WCS proposal is consistent with a federal MRS because WCS envisions that DOE would be its only customer. DOE would take title to the spent fuel at nuclear power plant sites and transport it to the WCS facility. DOE would retain title throughout the storage period and pay WCS for use of the storage facility. This would allow DOE to reduce payments from the Judgment Fund.

¹ It has been suggested that the Department of Energy could seek to license an MRS facility without resorting to the NWPA process, using statutory authority provided under the Atomic Energy Act. Whether this approach would hold up to legal scrutiny, however, is uncertain (see also, footnote 2).

Two other federal-level developments with relevance for consolidated storage occurred in March 2015. First, new legislation was introduced in Congress to implement several of the BRC recommendations. Specifically, Senate Bill 854 would create a new Nuclear Waste Administration within the executive branch to take over DOE’s nuclear waste responsibilities and would create a process for approving interim storage facilities so that the government could begin accepting spent fuel from nuclear utilities. (Other provisions in S.B. 854 would provide for “consent-based siting” and resume the collection of Nuclear Waste Fund fees from nuclear utilities.) Also in March 2015, Energy Secretary Moniz—as part of a broader announcement that included a change in federal policy concerning the commingling of defense waste and commercial spent fuel—announced new efforts to move forward on interim storage, including establishing a consent-based process for siting storage facilities and repositories.

Options for Interim Storage

This section discusses three options for interim storage, including the main advantages and disadvantages of each approach.

Option A: At-Reactor Storage

Today, nearly all of the nation’s inventory of spent nuclear fuel is being stored at the sites where it was generated, including at roughly 61 still-operating nuclear power plants (99 units) and 14 shutdown reactor sites. All operating plants have water pools to store spent fuel after it is removed from the reactor core; in addition, some portion of the older spent fuel inventory at many plants is being stored in dry casks onsite. At shutdown plant sites, where the water pools have been decommissioned, all the spent fuel has been moved to dry storage. At reactor sites with enough room to expand existing dry storage facilities, it would be relatively easy to accommodate spent fuel from other reactors.

In terms of timeliness and cost, therefore, consolidating storage at existing reactor sites could have some advantages. Moving spent fuel from shutdown sites, in particular, could generate large cost savings, since the cost of dry storage at a shutdown plant far exceeds the cost at a still-operating plant (\$4.5–\$8 million per year compared with approximately \$1 million per year, according to the BRC’s estimates). The NRC already has extensive regulations in place to govern at-reactor storage and recently concluded—in its Continued Storage Rule—that at-reactor storage is safe and can be maintained indefinitely. (It is worth noting that the latter rule is being challenged in court by some states and environmental groups.)

Perhaps the main drawback of the at-reactor option is that nuclear utilities have so far shown no interest in pursuing this approach. In the present situation, where utilities’ payments into the Nuclear Waste Fund have been suspended but utilities can still sue the federal government to recover the costs of onsite storage; there is little incentive for the industry to support a change in current policy. If, on the other hand, a reactor owner were to offer additional storage services in exchange for a fee and DOE took title to the spent fuel, that might create an incentive. In that case, opposition from communities near the reactor (and/or along the path that spent fuel would travel to reach the site) could constitute the main impediment and a consent-based process might be needed to identify communities that would be willing to accept the transfer of spent fuel from other sites to their local nuclear plant. It is doubtful that DOE would be able to take title to the fuel if it were to remain on a utility site for storage.

Option B: Federal Storage Facilities

DOE maintains various facilities for storing government-generated nuclear waste, both from the weapons program and from its reactor and other nuclear operations. Some of this waste is in the form of spent fuel; some of it is high-level waste in liquid form (typically stored in tanks). Thus, one approach might be for DOE to take title to commercial spent fuel and transfer the spent fuel to one or more of the government's existing sites.² However, this option presents a number of political and legal difficulties. One issue is that a history of well-reported problems at existing DOE facilities (e.g., leaking tanks at Hanford) means that many host states would be strongly opposed. In fact, the States of Washington and Idaho have court-approved agreements with DOE to move spent fuel and high-level waste out of state within the next few decades. In addition, any federal storage option would require congressional appropriations and is likely subject to the NWPA restrictions discussed previously. Thus, if DOE wished to proceed ahead of licensing a permanent repository, it would either have to seek an amendment to the NWPA or convince the courts that it can take this step under the Atomic Energy Act. It would also have to convince Congress to provide funding. The WCS proposal would also be subject to these same limitations.

Option C: Private Storage Facilities

A private storage facility may offer a viable alternative for moving forward. This approach has been pursued in the past—in fact, the NRC issued a license for a private storage facility, Private Fuel Storage (PFS) in 2006. The PFS facility would have been built in Utah to store spent fuel destined for final disposal at Yucca Mountain. However, PFS was never constructed because the project failed to obtain the land withdrawals needed to provide rail access to the site.³ More recently, WCS has proposed a private storage facility for Andrews County, Texas, but the facility would be more like a federal MRS. WCS has publicly stated it will file an application for a storage license with the NRC in 2016.

Winning state, tribal, and local support is likely to be the most important obstacle to siting a private facility, as the PFS experience demonstrates. By contrast, the record of the Waste Isolation Pilot Plant (WIPP) in New Mexico suggests that it is possible to gain some measure of state and local support for a nuclear waste facility—in the WIPP case, though several areas of dispute had to be resolved through legislation and litigation, the State of New Mexico administers regulatory authority over the hazardous-waste aspects of the disposed material and actively regulates the facility in that limited fashion, accordingly. But the well-publicized release of radiation at WIPP in 2014, which is still being investigated and which led the state to propose \$54 million in civil penalties (to be paid by DOE), has raised new questions about whether New Mexico will continue to be a willing host for WIPP, let alone for a new facility.

Nonetheless, at this writing WCS seems to enjoy good relations with the State of Texas, with other relevant state agencies, and with county officials (who have formally issued a resolution endorsing the WCS plan). Of course, even if the host state and county are (and remain) supportive, other stakeholders, including communities through which spent fuel will travel on the way to the WCS facility may have different views.

If WCS goes forward, the question is whether any reactor owners would be willing to send spent fuel to the facility rather than simply keeping it onsite at taxpayer (via payments from the Judgment Fund) expense. The answer for almost all of the permanently shutdown sites has been yes, assuming the DOE would take title as the material left the facilities. For spent fuel stored at shutdown reactor sites, the cost savings to DOE could be sufficient to justify DOE's working with the owners to mitigate damages. Were that the case, DOE could work with the owners and WCS to come up with a transportation plan that would move the spent fuel to the WCS facility.

² In fact, DOE already holds three storage licenses, issued by the NRC under Atomic Energy Act authority, "for special purposes," and is using two of them to store spent fuel at Fort St. Vrain, Colorado, and Idaho Falls, Idaho.

³ PFS is now attempting to sell its assets. The NRC has indicated that the PFS license could be transferred for use at another site, provided that any site-specific issues were resolved.

To determine whether this is a viable strategy, careful analysis of the relative costs of at-reactor and consolidated storage would be necessary and existing settlements between the Department of Justice and nuclear utilities would have to be reviewed. In addition, industry supporters assert that federal funding—possibly from the Nuclear Waste Fund—could be required to license and build the WCS facility. (WCS has indicated that it will apply for the license and construct the facility without prior federal funding, provided there is progress on legislation that authorizes DOE to take title and contract with WCS for storage.) In that case, Congress would have to make the necessary appropriations and authorizations. Alternatively, it is possible that nuclear utilities could pay for off-site storage from their own funds, and then sue DOE for damages. If such damages were deemed recoverable, which is not at all clear, they would presumably be paid by taxpayers out of the Judgment Fund, not out of the Nuclear Waste Fund.

Location of Consolidated Storage Facilities

Numerous options exist for locating consolidated storage facilities, but one strategy that could be considered is regional “on-the-way” storage. This would entail locating regional facilities where they could become collection points for spent fuel being moved from reactors to likely repository sites. In this way, redundant transportation needs could be avoided or minimized. Another option, as noted above, is to locate consolidated storage at operating reactor sites that have existing spent fuel facilities, existing transportation infrastructure and routes, and trained staff.



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Founded in 2007 by former Senate Majority Leaders Howard Baker, Tom Daschle, Bob Dole and George Mitchell, the Bipartisan Policy Center (BPC) is a non-profit organization that drives principled solutions through rigorous analysis, reasoned negotiation and respectful dialogue. With projects in multiple issue areas, BPC combines politically balanced policymaking with strong, proactive advocacy and outreach.

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