

To: SONGS Community Engagement Panel (CEP)

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Re: Moving SONGS spent nuclear fuel away or:  
The need for a California Waste Strategy

Date: 14 April 2015

### *Summary*

This memo explores the options available to the CEP as we consider the question of how to move the spent nuclear fuel from the San Onofre site as quickly as possible. Action at the federal level continues to be an option, but we suggest that we will have a larger impact—with greater benefit for our communities—by focusing especially on the development of a California strategy for promoting “consolidated interim storage.” Ideally a permanent repository would become available quickly, but that seems unlikely. Interim storage could offer a very good alternative location, and some private companies are already emerging that could provide just that. Whether those possibilities become a reality will depend on policy, and we in the CEP along with other supportive state and federal groups can help push for that outcome.

This memo reflects a sense of the meetings the CEP has had on this issue, with substantial additional input from various experts, and proposes that the CEP work on three fronts in the coming years. Notably, it proposes that we urge the California Energy Commission to develop an interim storage strategy for the state and it outlines in some detail the questions what that strategy might answer.

### *The issues*

Over the last year the CEP has devoted a substantial amount of attention to the challenges of storing high-level nuclear waste. Most of the waste generated as the plant is decommissioned is so-called “low level” nuclear waste and will be shipped to permanent repositories. That process is already under way.

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<sup>1</sup> A special thanks to Tim Frazier at the Bipartisan Policy Center (BPC) and Per Peterson (UC Berkeley) as well as to the members of the CEP and public at our January 2015 meeting for detailed conversations. And thanks to Sue Sheridan and Michael McBride for detailed discussions of the legal issues.

But the high-level waste—in particular, the spent fuel rods—seem destined to remain at the site for the foreseeable future. The original “deal” at nuclear plants envisioned that the federal government would charge operators of nuclear power plants for the service of removing the fuel from each site and storing it permanently at a single national repository— currently in the form of Yucca Mountain. For years, the government charged operators for this service—with the money amassing in a trust fund—and began the process of building and licensing Yucca Mountain. For political and possibly environmental reasons the Yucca mountain project now seems difficult to fathom. Some studies suggest that even a big (and unlikely) shift in political winds would nonetheless make it impractical to utilize the Yucca site. Indeed, the Department of Energy recognizes this fact and is now developing alternative sites and technologies for the permanent storage of defense nuclear waste that originally was to be stored at Yucca. Meanwhile, nuclear plant operators have successfully sued to stop paying into the trust fund with the understandable logic that they should not be paying the government for a service the government has no practical plan for delivering. Yucca might yet open one day, or it might be dead in the water.

That leaves us in the surrounding communities to San Onofre in a difficult situation. We have looked closely at the technologies that will be used to store the fuel in dry casks on site. Those technologies are robust, but they need oversight.<sup>2</sup> We in the CEP will be vigilant to ensure that a robust “defense in depth” approach is in place. But it makes little sense for San Onofre and the growing number of other decommissioning sites to leave fuel on site for the long haul, even after major decommissioning has been completed. Our communities have already indicated its discomfort with this approach, despite the substantial evidence that onsite storage is safe. And storing fuel in casks at dozens of sites across the country will, over the long term, be more expensive than consolidating into one or a few sites.

What can we do? Some will want to lobby the federal government, and that effort has a role. But the evidence we have heard at our meetings suggests that the federal strategies will be very hard to craft given the gridlock in Washington and the fact that the mere existence of an operational federal waste repository has become a highly politicized issue.

Over the last decade, there has been a substantial shift in mindset among people who follow this issue closely. In part, that shift has recognized the reality that the fate of a single federal, permanent repository is highly uncertain. In part, that shift has recognized that even contentious facilities such as waste storage sites can be developed successfully through consent-based siting. Both of these shifts in mindset

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<sup>2</sup> David G Victor, “Safety of Long-Term Storage in Casks: Issues for San Onofre,” Report of the Chairman of the Community Engagement Panel of the San Onofre Nuclear Generating Station, 9 December 2014. [Songscommunity.com](http://Songscommunity.com)

were reflected in the 2012 Blue Ribbon Commission Report.<sup>3</sup> Since that report was released this shift in mindset has continued, as shown by the introduction of the Senate Bill, Nuclear Waste Policy Act of 2015, on March 24, 2015<sup>4</sup> As a practical matter, that means the utilization of interim storage facilities as we wait (possibly for a long time) for permanent federal solutions to be implemented. Indeed, buying time with interim storage might turn out to be a wise strategy not just because it moves waste away from sites like San Onofre but it also allows for the development of better technologies for permanent storage—such as drilling boreholes deep into the earth’s crust where waste might be sequestered more safely and cheaply than Yucca-like cavernous facilities built into mountains.

### *Proposals for CEP Action*

What can we, as communities surrounding San Onofre, do to advance consolidated interim storage? We think the CEP should try to answer that question in practical ways. As we see it, the answer has two steps.

First, is it practical to imagine that private firms would develop commercially viable, consent-based interim storage facilities? On this, we think the answer is a resounding yes. In fact, depending on how you interpret current law it is possible that such a facility could be developed, licensed and made fully operational without politically divisive changes in law. Because these are private facilities they can obtain a license from the Nuclear Regulatory Commission without running afoul of the requirement that the nation license only one permanent, federal storage facility. Already one such facility in Utah, conceived by a consortium of electric companies (including Edison at the time) called Private Fuel Storage Inc. (PFS)—has already obtained a license for this activity from NRC. (PFS still holds a license as of today, but difficulties in siting a transport route have kept the facility from getting off the drawing board.) The larger issue is whether private storage facilities can be funded with the money that has accumulated in the federal trust fund—the Nuclear Waste Fund (NWF). There are some court precedents suggesting that the NWF can only be used narrowly for permanent storage, but no case has looked directly at consolidated interim storage. Moreover, DOE has been broadly supportive of this kind of storage facility and thus might not sue to prevent the use of NWF funds. And utilities themselves probably would be willing to post some funds to get these facilities into operation—knowing that those funds were authorized by their own state regulators and knowing that over time federal policy in this area could be cleared up.

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<sup>3</sup> Blue Ribbon Commission on America’s Nuclear Future, “Report to the Secretary of Energy” January 2012, <http://bipartisanpolicy.org/blog/blue-ribbon-commission-americas-nuclear-future-releases-final-report/>

In this first step, we have a strong ally in the Bipartisan Policy Center (BPC), which co-organized the January meeting with us near San Onofre and is tracking these issues closely and helping to guide, where possible, federal policy.

The second step concerns *getting ready to utilize* consolidated interim storage. At present, the debate around nuclear waste in California has mostly focused on lamenting the lack of a serious federal policy. While there is more that might be done at the federal level, we need to lay the groundwork for interim storage. Doing that will require a strategy. We doubt that the San Onofre communities could do it all ourselves; because many of the issues revolve around state regulation we need a state-based strategy. Building that strategy will require an organization that is well-linked to the relevant state regulatory bodies yet also has analytical capabilities and experience with developing politically viable, technically-informed policy strategies. The leading candidate in my mind is the California Energy Commission (CEC).

Development of a California strategy probably requires efforts in tandem on three fronts. First, we would want to ask (via the Governor?) that the CEC articulate a strategy for how California's reactors would utilize consolidated interim storage. Doing that would require answering a series of questions—some technical and others political:

- What would be appropriate sequencing of shipments—which waste should be shipped first and what should be left on site longer?
- If problems arise with the use of NWF funds to pay for transport and interim storage how could state regulators and trust fund administrators backstop contributions from in-state reactors?
- What kinds of test shipments and activities will be needed to certify that rail and road transport systems are licensed and adequately regulated? If the storage facility is located in another state—for example, Texas—what kinds of bilateral regulatory cooperation would be needed so that testing regimes developed in that state would be recognized in California and in transit states (e.g., Arizona and New Mexico)? How should California engage effectively with other groups, notably the Western Interstate Energy Board (WIEB), that have already done extensive work in this area so that private developers see an effective but favorable regulatory environment rather than a discouraging cacophony of state rules?
- Should California encourage development of a consolidated site in California itself or leave the marketplace to develop its own supply? If California develops its own site would it defer to the NRC's system for evaluating and licensing the site or would California require additional regulatory reviews?
- If sites are developed in other states should California or Californian operators of nuclear sites contribute to testing and development of those sites?
- Can California credibly defer to the NRC to regulate shipments, as currently required under federal law, or would the state impose other rules and regulations?

- Do state agencies (including the CEC) need additional authority from NRC or other federal bodies in order to advance a state-led effort to advance consolidated interim storage.

Private firms that are developing (or considering) consolidated interim storage see the waste in California as a huge opportunity. Absent clear and credible answers to these kinds of questions, California might unwittingly discourage the development of private interim solutions to our waste problem. The CEP would want to work with others—including BPC and Western Interstate Energy Board (WIEB) as well as the CEC—to help articulate a full list of questions whose answers are needed.

Second, we should begin discussions with other sites—especially those that are currently or soon facing decommissioning—to share our experiences and develop an alliance of communities that face the same challenges. The logical place to begin is in California, but there may be other sites that should be approached. We should develop a list.

Third, we have a strong interest in demonstrating credibility and interest to as many consolidated interim storage facilities as possible. So far there may be at least two projects at various stages of preparedness—the PFS facility and now the Waste Control Specialists facility in Andrews County along the Texas/New Mexico Border—with perhaps several others to appear in the coming years. We should consider holding an event with all the key sites perhaps a year or two in the future—once elements of a California strategy might be taking shape and when there is greater clarity about these sites' own regulatory and commercial hurdles. We have an interest in encouraging several viable sites to emerge so that there is competition in the industry, options for policy makers—and so that, unlike Yucca mountain, we are not held hostage to problems at one site.