



PO Box 1328
San Luis Obispo, CA 93406
(858) 337-2703
(805) 704-1810
www.a4nr.org

ALLIANCE FOR NUCLEAR RESPONSIBILITY

October 6, 2011

To: King Stablein, Chief Project Management Branch B
Division of High-Level Waste Repository Safety
US Nuclear Regulatory Commission

RE: COMMENTS OF A4NR REGARDING EXTENDED STORAGE AND WASTE
CONFIDENCE DECISION AND RULE, Public Meeting, San Luis Obispo

The Nuclear Regulatory Commission staff has come to San Luis Obispo, California, on October 6, 2011,

...seeking to inform and engage stakeholders on the Agency's planned activities on technical and regulatory issues related to extended storage and transportation of spent nuclear fuel, and on plans to develop the draft environmental impact statement for an update of the NRC's Waste Confidence decision and rule (10 CFR §51.23).

At first glance, this gesture on the part of the NRC appears to be an opening in what is presumed to be an open and transparent process for soliciting input in the update of the NRC's Waste Confidence decision and rule. However, if one reads the NRC documents that precede this announcement, one can come to an entirely different conclusion. Here is the text of an earlier memo,

The staff has engaged some stakeholders through industry meetings, workshops, public meetings, and conferences related to EST [Extended Storage and Transport] and will continue to engage various stakeholder groups, such as the public, State, local, and tribal governments, industry, and international counterparts. For example, the staff has interacted on EST issues at the Nuclear Energy Institute dry cask storage forum, NRC Storage and Transportation Licensing Workshop, Electric Power Research Institute Extended Storage Collaboration Program meetings, DOE used nuclear fuel program technical meetings, Council of State Governments and National Conference of State Legislators meetings, and several national and international conferences. The staff has also participated with stakeholders in BRC meetings to provide regulatory perspectives on the safety and security of storage and transportation. The staff has used the information from these meetings to identify regulatory and technical issues and high-priority research activities for the EST project plan. Enclosure 2 provides additional description of EST activities of external stakeholders and NRC coordination efforts.

The staff will continue to interact with stakeholders and share information to develop the technical basis for the WC update and EST regulatory framework. *The staff plans to hold a public workshop in the summer of 2011 to solicit input on technical and regulatory issues*¹. [emphasis added]

The key failing of the NRC is their assumption that the NRC's Waste Confidence Decision and rule is itself a *fait accompli*. With regard to the scope of the environmental impact statement that is to be the agenda item for the October 6 meeting, here is a description of from Enclosure 1 of the above referenced NRC memo of February 28, 2011:

The staff plans to develop the EIS to assess the impacts from approximately the years 2050 to 2250. This initial timeframe is consistent with a goal of assessing whether there continue to be no significant environmental impacts and ensuring the continued safety of SNF and high-level waste (HLW) storage beyond the "at least 60 years" considered in the 2010 WC rule.²

In short, the NRC has said that high level radioactive waste and spent fuel can remain in California for at least 60, if not hundreds of years, and now they are coming to ask us "how we'd like to see it done." What makes the agency assume that leaving the waste on our seismically active shores is a viable concept for even 60 years, let alone hundreds? At what point in the process that led up to this meeting were any residents or ratepayers in California consulted regarding this matter?

As noted in the above referenced memo, we ask:

1. When were the tribal governments in California consulted?
2. Who represented California in the "Council of State Governments and National Conference of State Legislators meetings" and when were these held? Are transcripts available?
3. When were any public meetings held in California on the subject of the Waste Confidence Decision prior to this currently scheduled meeting of October 6, 2011?

Frankly, the question we in California can ask is: Is 60 years (or longer) of on-site high-level radioactive waste storage administratively, technically or economically feasible to begin with? *That* decision was made by the NRC without the public input that the agency is now seeking. In fact, the principle consulting up to date has come from, to again quote the aforementioned memo, "the Nuclear Energy Institute dry cask storage forum, NRC Storage and Transportation Licensing Workshop, Electric Power Research Institute Extended Storage Collaboration Program meetings, DOE used nuclear fuel program," and a list heavy with utility and industry consultants. This community is abundantly aware equal weight has never been afforded to all stakeholders. The NRC's reliance on industry and utility experts – all of whom are funded by ratepayers and/or taxpayers, often results in cost overruns when independent stakeholders are ignored and/or marginalized. In the original seismic licensing of Diablo Canyon, the NRC's failure to regulate cost ratepayers billions in cost overruns.

¹ , POLICY ISSUE INFORMATION February 28, 2011, SECY-11-0029, from Catherine Haney, Director, Office of Nuclear Material Safety and Safeguards.

² , POLICY ISSUE INFORMATION February 28, 2011, SECY-11-0029, from Catherine Haney, Director, Office of Nuclear Material Safety and Safeguards, Enclosure 1.

Among other failures of the NRC's "Waste Confidence" assumptions:

- There is no guarantee that the physical map of the California coastline, on which three reactors and radioactive waste sites are immediately located, will even resemble its current geological boundaries in 100-200 years from now. In fact, the NRC's Waste Confidence Decision attempts to proceed before results from state-legislated updated seismic studies (that the NRC's own ASLB has said will delay the Diablo Canyon license renewal for another four years) are completed or independently reviewed.
- The Waste Confidence Decision (now being challenged in court) was made before the Fukushima incident, and these ongoing EST discussions are taking place before the "lesson's learned" from Fukushima are fully evaluated, or have even been fully identified, as the situation at that site has yet to be completely contained and stabilized.
- The NRC's "confidence" in permitting and licensing various critical nuclear reactor components such as steam generators and reactor vessel heads (that were intended to last the life of the plant, but needed costly mid-license replacement) was flawed. How can ratepayers know that the dry storage waste systems won't meet a similar fate with premature failures requiring costly repair, replacement, or remediation for any damage they might cause to the external environments?

This fact has been driven home to those of us in California who live across the continent from NRC decision-makers, yet adjacent to the seismically active Pacific Rim.

Among the other questions of concern:

- How does the NRC insure financial qualifications of licensees should the systems fail within the current 60 year policy, and if they do, whom does the NRC expect to pay the costs? What guarantees are there that the utilities will remain solvent after commercial revenue ends at a nuclear facility? Decommissioning trust funds are not intended to cover indefinite waste storage.
- Which costs associated with long term storage—including but not limited to: Security, cask repackaging, environmental monitoring, emergency response and evacuation planning and transportation—will be the burden of the utility, ratepayers, federal, state or local governments? How can the financial integrity of private utilities be guaranteed?
- Who has identified and resolved the inter-jurisdictional issues that may arise between the NRC, DOE, EPA and FEMA over concerns with emergency response, monitoring of environmental conditions, Protective Action Guidelines, and liability for property damages or health impacts?

In addition, a glaring error in the NRC's presumption is that it can issue a "generic" EIS finding for this update to the Waste Confidence Decision. Certainly, the conditions in the state of California defy the notion of "generic" and the NRC's update to the GEIS for license renewal itself identifies that the two operating reactors in California are permitted to different seismic requirements than any other. Among the issues site-specific to long-term waste storage at PG&E's Diablo Canyon facility, are the following:

- PG&E had stated that it intends to keep all fuel produced during its proposed license renewal in pools, rather than transferring to cask system. The continued cost of maintaining Once Through Cooling, safety and security, possible component replacements and seismic risks will continue according to the NRC's 2010 Waste Confidence Decision for 60+ years after operation ceases.³ *For PG&E to leave these spent fuel assemblies in the pool will also require emergency power in the event of a SBO for decades beyond operation. In addition, emergency on-site and off-site equipment will need to be maintained, available, and training and inspection rules will need to continue and be updated. Who is designated to pay – ratepayers who are receiving no power from the site, or the utility that is receiving no revenue?*
- PG&E's SFP's have been reconfigured several times and pools originally designed for 270 assemblies, now hold 1324.⁴ PG&E has no plans to reduce inventory to original design.⁵ *NRDC filed several 2.206 petitions relating to safety measures of the nation's SFPs, the Alliance for Nuclear Responsibility requests that these enhancements be included in the recommendations for onsite storage as Diablo's SFP will remain operational long after commercial operation.*
- The National Academy of Sciences and other independent scientific and technical experts have expressed concern that current overcrowded designs can increase dangers of an uncontrollable spent fuel fire.⁶ And yet, PG&E indicates that:

“The Plant Betterment Study developed for the Diablo Canyon License Renewal prior to the events at the Fukushima Daiichi plant includes one potential capital project for the spent fuel pools. This potential project is the installation of redundant spent fuel pool cooling systems at an estimated cost of \$23M. The NRC, industry, and PG&E are evaluating lessons learned from the Fukushima events. To date, no major capital investment associated with the spent fuel pool has resulted from these lessons learned.”⁷

Consequently, the Alliance for Nuclear Responsibility requests that these enhancements be included in the recommendations for onsite storage as Diablo's SFP will remain operational long after commercial operation
- PG&E's current dry cask pad is unable to accommodate the additional volume of spent fuel produced during its proposed license renewal. And yet, without requirements to do so, the utility has produced no budget on the future of waste storage, claiming,

“Cost/benefit studies have not been developed for the long term storage of spent nuclear fuel at the DCPD site. It is assumed in budget development, that PG&E will

³ Docket 11-IEP-1J, Nuclear Data Request in the 2011 Integrated Energy Policy Report June 9, 2011, pp.19-20.

⁴ Docket 11-IEP-1J, Nuclear Data Request in the 2011 Integrated Energy Policy Report June 9, 2011, p. 17.

⁵ Docket 11-IEP-1J, Nuclear Data Request in the 2011 Integrated Energy Policy Report June 9, 2011, p. 8.

⁶ Safety and Security of Commercial Spent Nuclear Fuel Storage: Public Report Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage, National Research Council, Chapter 3, 2006

⁷ Docket 11-IEP-1J, Nuclear Data Request in the 2011 Integrated Energy Policy Report June 9, 2011, p. 18.

store spent nuclear fuel on site until the Department of Energy is ready to perform the removal.”⁸

Long term waste storage cannot be left as an unfunded future mandate to ratepayers or citizens. The NRC, DOE and the utilities must complete cost estimates so the state can use this information in its decision making and energy planning. No group of stakeholders should be made to approve of an unfunded federal mandate.

The issues listed above are only for PG&E’s Diablo Canyon facility. At the decommissioned Humboldt Bay nuclear power plant, the current ISFSI also presents unique (hence *not* “generic”) challenges to long-term storage, especially after Fukushima and a new focus on the tsunami threat created by the Cascadia Subduction Zone. The California Coastal Commission, an agency with federal equivalency in issuing permits for such facilities, grudgingly granted a permit for the ISFSI, stating, “However, for several reasons, the Commission cannot conclude that the site will be safe from tsunami hazards either during the relatively short-term or in perpetuity,”⁹ and only granted the permit because leaving the waste in spent fuel pools at the same site would be even more dangerous. Such conflicts need to be resolved before any policy regarding long term storage of waste can be finalized. As Allison Macfarlane, of the Blue Ribbon Commission has written,

“Although Earth scientists are well aware that Japan sits in a tectonically active region, they are far from understanding all the tectonic processes that occur over time, including those that generate large earthquakes and tsunamis. These uncertainties must be taken into account by decision-makers. There needs to be accurate and honest accounting of what is known and not known—whether related to the safety of a nuclear power plant or a given repository site.”¹⁰

Further, California’s unique seismic setting and varied topography present other “non-generic” challenges. This issue was identified by Dr. Per Peterson, an adjunct member of the Blue Ribbon Commission and member of the Diablo Canyon Safety Committee, who wrote, “Logistics for transport in California likewise involve greater complexity than many other parts of the country due to the lack of rail access for most of our facilities. So the issues for removal and disposition of spent fuel from California do involve challenges, which must be considered in the development of national policy for the management of spent fuel and high level waste...”¹¹

The NRC needs to fully answer questions regarding these issues first, and then we can discuss the details. For those who live on the constantly shifting shores of California, we cannot begin with an “assumption” of even a 60 year confidence in the storage of radioactive waste. Why should California believe the NRC’s 2010 plan will be any more successful than the 1982 Waste Confidence Act—in which we have no confidence. How many times will Californians need to pay for seismic studies and retrofits before waste is removed? The California Public Utilities Commission has advised California’s utilities to get our ratepayer money returned from the failed

⁸ Docket 11-IEP-1J, Nuclear Data Request in the 2011 Integrated Energy Policy Report June 9, 2011, p. 20.

⁹ Mark Johnsson, THE TOHOKU EARTHQUAKE OF MARCH 11, 2011: A PRELIMINARY REPORT ON IMPLICATIONS FOR COASTAL CALIFORNIA, March 24, 2011, pp. 11-12.

¹⁰ Allison Macfarlane, SCIENCE, September 2, 2011, pp 1225-26

¹¹ Dr. Per Peterson, email to Rochelle Becker, November 25, 2010.

Yucca Mountain investment, but those funds also had contributions from our taxpayer pockets, and in this fragile economy we can't afford to spend more money on empty NRC promises.

In summary, our concern is one of process. The NRC arrives on the west coast asking for input and buy-in on a decision with a flawed fundamental concept. It is possible that, upon thoughtful examination, there is no basis for believing that even a 60-year Waste Confidence Decision presents a plausible—if interim—solution to the conundrum of high-level radioactive waste. The NRC needs to go back to the drawing board and start the entire long-term waste solution process anew. *They must seek public input from the outset*, at the very conceptual stages of the idea. Allison Macfarlane, a member of the Blue Ribbon Commission, recently reflected on the more positive experience of certain European nations in dealing with long term waste storage, recently wrote,¹²

“The experience of all these countries has been to move away from a purely technical assessment of reasonable repository sites and toward one that balances technical assessment with public acceptance, by acknowledging the reality that, in a democracy, finding an acceptable site will only be successful with the consent of the affected public”

The fundamental question to be asked *is whether a “Waste Confidence Decision” of any length is feasible or affordable*. Of course, the absence of such an easy solution—one that would no doubt please the utilities—brings into question the entire ongoing use of nuclear generation. And, absent a solution to the end of the nuclear fuel cycle, it is a difficult challenge that must be faced. **The discussion must have public input and participation from the outset**—no preordained assumptions or prerequisites. The answers may not likely please the utilities—or for that matter, all energy consumers—but these realities, including all financial implications, *must* be dealt with.

¹² Allison Macfarlane, SCIENCE, September 2, 2011, pp 1225-26