

May, 2009

Letter to President Obama Concerning Yucca Mountain and the Re-evaluation of U.S. Radioactive Waste Policy and Management

Dear President Obama:

We welcome your decision to curtail activity at the proposed Yucca Mountain radioactive waste site and endorse your plan to evaluate the nation's high-level radioactive waste and commercial irradiated fuel programs and policies. We want to be involved in this process and we hope it will be earnest, open, and transparent. In that spirit, we urge you to ask all levels of your Administration to embrace and honor this period of evaluation of nuclear waste policy and ensure that the voices of the public are heard in that evaluation.

We represent groups rooted in communities impacted by radioactive waste -- the generation, storage, and potential transportation of this dangerous material, as well as communities that have been targeted for, or currently "host" disposal sites. We are concerned for the health and sustainability of our communities. We are "stakeholders," in the original sense of the word, when it comes to radioactive waste policy.

It is deeply disturbing to us that Secretary Chu suggested that the Yucca licensing process might continue -- and also that acting DOE Assistant Secretary for Environmental Management Ines Triay recently traveled to a meeting in Georgia at which DOE contractors were urged by her office to pursue irradiated fuel storage and reprocessing -- long before the radioactive waste evaluation has even begun. We ask you and your team to conduct a real evaluation -- not prejudge the outcome.

President Obama, we applaud your commitment to sound science as the basis for sound public policy. In our view, there are few decisions that our government will make which rank, in terms of long-term impact, with the plan for this waste. Irradiated fuel contains more than 95% of the radioactivity generated to date by industrial-scale nuclear enterprise.

We wish to offer you our perspective on Yucca, on nuclear reprocessing, centralizing storage and on the current storage of irradiated fuel at commercial reactor sites.

It is our unequivocal finding that sound science has **not** been the basis of, nor the guide for implementation of the Yucca Mountain project; many of the organizations signing this letter have repeatedly called, and worked for the cancellation of the Yucca dump.

In 1987, when Congress amended the Nuclear Waste Policy Act, abandoning the deliberate repository site selection process of the Act and singling out the Yucca Mountain site as the only candidate repository site to be studied, it was understood that this was a purely political decision that the Nevada congressional delegation was powerless to stop. In 1992, when it was evident that the Yucca Mountain site could not meet the EPA's general radiation protection standard for repositories, instead of rejecting

Yucca, Congress rescued the site. It directed EPA to promulgate new, “reasonable” standards, specific to Yucca Mountain, consistent with recommendations of a National Academy of Sciences panel study to consider the technical bases for a site-specific Yucca Mountain radiation protection standard. A key portion of the new standard subsequently was overturned by the D.C. Circuit Court of Appeals for not being consistent with an important safety recommendation of the NAS report. The revised standard is now in litigation over how that safety recommendation is to be addressed.

By 1995, sufficient information existed to convince DOE that infiltrating water could move rapidly down through fractures in the mountain, incorporate radionuclides from the emplaced waste, and result in unacceptable radiation releases to the environment. This ultimately resulted in a Yucca Mountain repository strategy change by DOE to primary reliance on engineered, rather than natural, barriers to delay release of radionuclides. And in 2001, the recognition of technical flaws in the site resulted in the removal from DOE’s Site Recommendation Guidelines of a site disqualification provision designed to assure that a site with such a hydrologic defect would not be considered for development as a repository – another change in the rules rather the application of them.

In 1998, many of the undersigned groups tried to have these same rules enforced by signing the “Petition for Disqualification of Yucca Mountain[1]” that put a spotlight on the fact that Yucca could not meet the original, legislatively defined Site Suitability Guidelines for a geologic repository with respect to rapid groundwater movement. With more than 200 organizations[2] supporting this petition, it was a grave disappointment that then-Secretary of Energy Bill Richardson did not act to disqualify the Yucca Mountain site. Richardson stated that he agreed with the Petition[3], but paradoxically, did not act on it; stating only that further study was needed. We do appreciate that President Clinton was an ally we worked closely with in stopping the shipment of irradiated fuel to the Yucca site in Nevada during the 1990’s while the site was still under study.[4] We affirm to you today our backing, and readiness to work with you for a decision to suspend all activity at Yucca Mountain – and its ultimate cancellation.

We hope and ask that you will include in your policy review of radioactive waste, data and analysis from non-industry sources. Sound science and democratic inclusion of the public, particularly impacted communities such as ours, must be the basis for any plan going forward.

We cannot wait for that process, however, to deliver these urgent findings: reprocessing is not a credible plan for radioactive waste management and it is not a “waste solution.” The volume of irradiated fuel is reduced; nonetheless *total waste* volume is substantially increased.[5] Further, a robust solid, ceramic waste form is converted to a caustic, highly radioactive liquid[6] -- not an improvement! Where reprocessing has been done, this liquid waste has either been directly discharged into water (France, United Kingdom, Russia, Japan) or has leaked into groundwater (Hanford, Savannah River Site, West Valley). “Dilution” is not a solution, particularly when the most efficient concentrating food chain is aquatic.

The claim that waste is “recycled” is inaccurate—only 1% is re-usable, and that is plutonium.[7] Plutonium as a fuel is needlessly dangerous; in commerce this weapons-usable material could be diverted into the wrong hands.[8] In a reactor plutonium is harder to control;[9] if reactor control is lost, plutonium fuel results in twice as many fatal cancers as the same accident would cause if uranium fuel were in use.[10]

The claim that the uranium can be re-used is patently false since the attempts to do so during the Cold War resulted in catastrophic contamination of the uranium enrichment infrastructure.[11] These “hidden costs” or externalities must be included in an assessment of the cost of such a program, over and above the DOE’s projected \$15 billion cost to build a reprocessing plant. Reprocessing is only an appearance of a solution. We also share the concern that many of the likely sites for reprocessing in the United States would unfairly impact low-income communities or low-income communities of color. Together we must find a better way.

Centralizing the storage of irradiated fuel is integral to reprocessing. We are concerned that any centralized storage site may become de facto permanent. Over the last four decades there has also been a long series of attempts to establish “centralized interim storage” independent of reprocessing: the defunct Monitored Retrievable Storage (MRS) program which toward the end systematically targeted Indian Reservations; the industry’s “privatized” storage program – again targeting the Native Americans, first the Mescalero Apache Nation in New Mexico and the Skull Valley Goshute Reservation in Utah; a near decade of effort by the industry to change the Nuclear Waste Policy Act to allow centralized storage at Yucca, the sovereign treaty lands of the Western Shoshone Nation.

As a community we have worked, and will continue to work, to stop such plans—for five key reasons: first, the risks and hazards of transportation are compounded if the waste is taken to a “temporary” site; second, we do not believe that a site will be “temporary” as long as more of this waste is being generated; third, we do not see moving the waste just so more can be generated as appropriate policy; fourth, putting this most persistent and deadly of wastes in a single congressional district when there is not a fully funded permanent program in place does not facilitate ongoing congressional appropriation for this problem; and finally in the case of an Indian Reservation, we oppose the *export* of some of the worst wastes our dominant society has ever produced in order to dump it on the people of another Nation.

In addition to sharing these views we ask your help with the waste where it is today in existing decentralized storage—at reactors. This situation is not responsive to the concerns and needs of the communities where this storage is located. The activist community that has opposed Yucca Mountain over the past two decades engaged with community organizers in reactor communities. A dialogue was established about current waste storage practices and the needs of communities where that is currently happening. We would like to share the findings known as “Community Principles for Safeguarding Nuclear Waste at Reactors” with you. Please see the attached document[12] (also endorsed by over 200 groups nationwide). In summary these principles include:

- Potential for drain-down leading to fire in overloaded wet-storage pools. This is the single greatest danger at a nuclear site—and one of the greatest threats to homeland security today;[13]
- Pools should only store irradiated fuel for the first 5 years;[14]
- Dry waste containers must be built with more quality control and care;[15]
- Containers should include heat and radiation monitors;[16]
- Containers should not be visible from outside the site boundary;[17]
- Containers should not be put on a pad like bowling pins – rather should be spread out and “hardened” to prevent and minimize harm from a potential attack;
- Communities should have funding for monitoring;
- Storage should be reviewed on a regular, annual basis;[18]
- Those signing the “Principles for Safeguarding Nuclear Waste at Reactors” oppose reprocessing of the waste due to the increased number of waste streams and the potential for nuclear proliferation.

These minimal requests from communities that currently host this deadly waste and are most impacted now, and will likely remain so for decades to come, must be factored into a fair review of radioactive waste policy, particularly if future policy is to rely upon further storage at these sites.

We do not, however, support the continued generation of more radioactive waste—whether by extending the licenses of the existing reactors, expansion of the existing sites with the addition of new reactors, or from new reactor sites. Many of the undersigned are active intervenors in the proposed licenses for new reactors in part because generation of this very troubling waste is not an acceptable by-product of making electricity.

Today the cost of a new nuclear power plant is on par with retail prices for solar panels.[19] “Nega-watts[20]” generated through aggressive efficiency upgrades and standards for new construction are more than 10 times cheaper than building new reactors[21] and also deliver far greater and more rapid reductions in Greenhouse Gas Emissions. When good design is employed, all new construction in the United States could be “net- zero[22]” and retro-fits of existing buildings could reverse demand projections, obviating the need for expanded nuclear generation.

We look forward to working with you, your Department of Energy, Environmental Protection Agency, Council on Environmental Quality, and with Congress to explore options for the nuclear waste we have today. We will work diligently, and hope you and your administration will join us, as we anticipate that an honest, rational, science-based analysis of policy will show that when it comes to radioactive waste, prevention is the best medicine. We would like to work with you to stop the expanded production of this waste for which there truly is nothing except responsible long-term stewardship to achieve the goal of isolation—ensuring that it does not enter our air, our water, our food, or our children.

[1]Petition for Disqualification of Yucca Mountain posted on-line at:
<http://www.nirs.org/radwaste/yucca/disqualifyyuccapetitionfinal.htm>

[2]Letter to Secy Richardson with Petition for Disqualification Signatories posted on-line at: <http://www.nirs.org/radwaste/yucca/disqualifyyuccafinalletterwithsignatures.htm>

[3]Letter from Secy Richardson to Michael Mariotte, Executive Director, Nuclear Information and Resource Service, January, 1999.

[4]President Clinton issued veto statements on revisions to the Nuclear Waste Policy Act offered by nuclear industry-supporters during both his terms. A letter from White House Chief of Staff Panetta to Congress pledging this veto in 2000 is attached.

[5]Schneider, Mycle and Yves Merignac, April 2008. "Spent Nuclear Fuel Reprocessing in France." A report of International Panel on Fissile Materials. Posted as of 04-10-2009 at: http://www.fissilematerials.org/ipfm/site_down/rr04.pdf

[6]ibid.

[7]See Bob Alvarez, June 2008. Institute for Policy Studies "Nuclear Spent Fuel Recycling" posted at: http://www.cornnet.nl/~akmalten/Alvarez_nuclear_recycling_June-21-2008-rev-2.pdf. And July 2008. Foreign Policy in Focus "Nuclear Recycling Fails the Test" posted at: <http://www.fpif.org/fpiftxt/5351>

[8]Union of Concerned Scientists June 2008. Nuclear Reprocessing: Dirty, Dangerous and Expensive. Posted on-line:
http://www.ucsusa.org/assets/documents/nuclear_power/nuclear-reprocessing-factsheet.pdf

[9]See, among others, Dana Powers of the Advisory Committee on Reactor Safety to the U.S. Nuclear Regulatory Commission, letter to Chairwoman Jackson, May 17, 1999 post at: <http://www.nrc.gov/materials/fuel-cycle-fac/mox/pdf/4621825.pdf> which raises specific concerns about response time to reactivity transients in the reactor core, and also Paul Leventhal, Nuclear Control Institute <http://www.nci.org/s/sp21297.htm>

[10]Lyman, Edwin, 1999. Nuclear Control Institute, Public Health Consequences of MOX Fuel: NRC Reactor Licensing Issues. Posted at: <http://www.nci.org/i/ib12199.htm>

[11]See series of articles in the Washington Post, August – December 1999 from investigative journalist, Jobie Warrick, including: <http://www.washingtonpost.com/wp-srv/national/daily/sept99/paducah21.htm>

[12]Also posted on-line at:
<http://www.citizen.org/documents/PrinciplesSafeguardingIrradiatedFuel.pdf>

[13]Alvarez, Robert, Jan Beyea, Klaus Janberg, Jungmin Kang, Allison McFarlane, Gordon Thompson, Frank N. von Hippel. 2003. Reducing Hazards from Stored Stored Spent Power-Reactor Fuel in the United States. Science and Global Security journal, posted on-line at:
http://www.princeton.edu/~globsec/publications/pdf/11_1Alvarez.pdf and Board on Radioactive Waste Management, National Academy of Sciences, 2005. "Safety and Security of Commercial Spent Nuclear Fuel Storage" (public report).

[14]Conversely, waste that has less than 5 years in liquid storage is too thermally hot to put in dry storage.

[15]Kamp, Kevin, 2004. "Get the Facts on High-Level Atomic Waste Storage Casks." Nuclear Information and Resource Service. Posted at:
<http://www.nirs.org/radwaste/atreactorstorage/drycaskfactsheet07152004.pdf> , and "Summary of Oscar Shirani's Allegations of Quality Assurance Violations Against Holtec Storage/Transport Casks." Compiled by Kevin Kamps, 2004. Posted at:
<http://www.nirs.org/radwaste/atreactorstorage/shiranialeg04.htm>

[16]Currently there is no real-time monitoring of these installations at reactor sites in the U.S.

[17]At Palisades in Michigan the containers are in clear view 150 yards from the water of Lake Michigan with no restriction on boat access; at Brown's Ferry in Alabama, the waste is on a pad next to the fence on a deserted, but public country road; on Prairie Island, the waste containers are like bowling pins lined up across the street from the Prairie Island Indian Community Day Care Center. Many other sites are similarly vulnerable at this moment. Irradiated fuel in a single dry cask is sufficient source-term to create a clear and present danger to anyone downwind if the material were dispersed and would create an enormously expensive clean-up.

[18]Current regulations of the U.S. NRC do not require any of the above.

[19]Citations provided in Got Solar! Fact sheet posted at:
<http://www.nirs.org/factsheets/gotsolar.pdf>

[20]Coined by Amory Lovins, Rocky Mountain Institute, a "Nega-Watt" is a Watt of energy that was previously required to do a certain task, which is no longer required, thanks to energy efficiency or conservation.

21 Lovins, Amory, 2008. "Forget Nuclear." Rocky Mountain Institute. Posted at:
<http://www.rmi.org/sitepages/pid467.php>

[22]Net Zero cite