

SOUTHWEST RESEARCH AND INFORMATION CENTER

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May 24, 2013

TO: Senate Energy and Natural Resources Committee

FROM: Don Hancock, Nuclear Waste Safety Program Director

RE: Discussion Draft of Nuclear Waste Administration Act of 2013

Southwest Research and Information Center (SRIC), based in Albuquerque, New Mexico, is a nonprofit organization established in 1971. SRIC is a multi-cultural organization working to promote the health of people and communities, protect natural resources, ensure citizen participation, and secure environmental and social justice now and for future generations. SRIC has been involved in policy, technical, regulatory, legal, and public education matters regarding the Waste Isolation Pilot Plant (WIPP) throughout its existence. SRIC has also been involved in various issues related to commercial spent nuclear fuel (SNF), especially during the 1980s regarding Department of Energy (DOE) efforts to establish first and second-round repository and Monitored Retrievable Storage (MRS) sites. On three occasions, SRIC made invited presentations to the Blue Ribbon Commission. On March 24, 2010, SRIC also submitted "A Perspective on U.S. Nuclear Waste Policies for the Last 40 Years," which is available at: <http://www.sric.org/nuclear/docs/Perspective%20-%20%20Blue%20Ribbon%20Commission%20final.pdf>

SRIC appreciates that the four senators have provided the discussion draft so that SRIC and other groups and individuals interested in and affected by high-level nuclear waste (HLW) and SNF are able to comment before the Nuclear Waste Administration Act is introduced. Given the more than 30 years of failed nuclear waste policy, an open and inclusive legislative process is essential if comprehensive nuclear waste legislation is to be enacted and successfully implemented. SRIC will continue to be actively involved.

1. Lessons Learned about SNF and HLW during the past 40 years

The 2010 "Perspective" concluded with seven lessons learned. Those lessons continue to be valid three years later. Those lessons are:

1. There is no national consensus about the future role of nuclear energy. But how much waste will be generated is an essential aspect of determining how many repositories are needed.

2. What health and safety standards should apply to any repository have not been determined.
3. There are major technical problems with each of the more than 20 potential repository sites that have been identified by DOE.
4. There is substantial public opposition to every proposed repository or MRS site.
5. No state has volunteered to host a repository or MRS site.
6. SNF will continue to stay at reactor sites and HLW will remain at DOE sites for decades.
7. Perceived political decisions by Presidents, Congress, and the DOE have heightened public opposition to waste programs, while failing to create operating sites. That history engenders much mistrust, which will take time, substantially improved public participation, and better performance to overcome.

SRIC believes that the Nuclear Waste Administration Act or any other nuclear waste legislation must address those lessons, or there will be another 40 years of no progress on establishing safe repositories. Following are policies that should be pursued and policies that will perpetuate past failures. While there are some provisions of the discussion draft that SRIC supports, there are numerous provisions that SRIC believes will doom the proposed program's success, even if it were enacted. Finally, SRIC will respond to the 8 questions posed.

2. Policies that should be supported

A. SRIC supports interim storage of high-level waste and spent nuclear fuel as close to the point of generation as possible, as safely as possible. For the HLW at DOE sites at Hanford, Washington; Savannah River Site, South Carolina; and Idaho National Lab (INL), Idaho, SRIC supports improved storage of HLW now and solidification of those wastes as soon as possible. SRIC recognizes that HLW and SNF will continue to be stored at DOE sites for decades.

For commercial SNF, SRIC supports Hardened On-Site Storage (HOSS) to reduce the amount and density of irradiated fuel in storage pools, increase the amount of SNF in dry storage, and improve the safeguards to reduce the impacts of natural or human events. SRIC and hundreds of groups from all 50 states support the "Principles for Safeguarding Nuclear Waste at Reactors," which is attached. The Nuclear Regulatory Commission (NRC) should be required to establish HOSS standards by rulemaking for licensed reactors.

B. SRIC supports scientifically sound, publicly accepted environmental protection standards before any SNF disposal site selection activities begin. The Environmental Protection Agency (EPA) should engage in a rulemaking process to establish new disposal standards. The existing regulations - 40 CFR 191 (for WIPP) or 40 CFR 197 (for Yucca Mountain) - are not generic standards needed before a new siting process begins. EPA must receive additional, adequate funding from Congress to conduct a rulemaking to establish new standards.

C. SRIC supports independent state and federal regulation of SNF storage and disposal facilities. Independent regulation is essential for technically sound nuclear waste facilities, public confidence that the sites are well managed and there is stringent oversight, and to ensure effective public participation and accountability. The Atomic Energy Act must be amended to allow for regulation of radionuclides by states and other federal agencies. As previously noted, NRC should issue standards for HOSS facilities for commercial SNF. The Resource Conservation and Recovery Act should be amended to include radionuclides.

D. SRIC supports an early and substantive role of tribes, states, and the public in decisionmaking. SNF and HLW will remain very dangerous to many generations, and history clearly indicates that tribes, states, and the public will engage in multiple ways in the decisionmaking. Moreover, the “affected public” is not just people in the “host” community, but includes people near other nuclear facilities and in other states.

E. SRIC supports WIPP carrying out only its existing mission. That mission is to demonstrate that the federal government and its contractors, at the cost of billions of dollars, can: (1) safely operate WIPP to meet the “start clean, stay clean” standard for up to 175,564 cubic meters of defense transuranic (TRU) waste; (2) safely transport TRU waste through more than 20 states without serious accidents or release of radioactive or hazardous contaminants; (3) meet commitments to clean up TRU waste at dozens of DOE nuclear weapons sites; and (4) safely close, decontaminate, and decommission the WIPP site by 2030 or earlier. After 14 years of operations, less than half of the legal limit is emplaced. Moreover, WIPP is failing in its mission of disposing of up to 7,079 cubic meters of remote-handled waste. There is remaining capacity for only about half of that amount, meaning that some RH waste will be left at Hanford, INL, and Oak Ridge, Tennessee.

F. SRIC supports limiting future nuclear waste generation, including no new nuclear weapons and a phased closure of commercial nuclear power plants. New nuclear weapons are contrary to United States Nonproliferation Treaty obligations. New nuclear weapons would also create more plutonium-contaminated waste for which a new TRU waste repository would be needed. As long as the amount of commercial SNF continues to increase, storage capacity must continue to expand in tandem, and the final amount of SNF requiring disposal is unknown. Without a determination of the amount of HLW and SNF to be disposed, the number and size of repositories cannot be known. SRIC supports a sustainable energy policy that focuses on increased energy efficiency and clean renewable energy technologies.

3. Policies that should be opposed

A. SRIC opposes consolidated spent nuclear fuel storage facilities. Consolidated commercial SNF storage facilities are inconsistent with the principle of safe storage as close as possible to the generation site. Consolidated storage requires nuclear waste transportation, which is costly and endangers millions of people along shipping routes. Consolidated storage is not disposal, but it would almost certainly become de facto disposal, as repositories would be more difficult to site. Consolidated storage does not “solve” SNF storage at reactors, because operating reactors will continue to generate more waste that requires onsite storage. Consolidated storage likely

would increase worker exposure at the power plants and would certainly increase worker exposures during transportation and at the consolidated storage site(s). Consolidated storage when proposed by DOE in the 1980s in Tennessee was rejected, including by then Governor Lamar Alexander. Consolidated storage promoted by several nuclear utilities on the Mescalero Apache Reservation in New Mexico in the 1990s was rejected. Consolidated storage by Private Fuel Storage on Skull Valley Goshute land in Utah was licensed by the Nuclear Regulatory Commission (NRC) on February 21, 2006, but could never operate because of strong opposition and the license has now been terminated. Those repeated failures at consolidated SNF storage sites further show that such facilities should not be included in the legislation. SRIC also is aware that consolidated SNF storage is seen by some as a way to promote reprocessing.

B. SRIC opposes reprocessing. Reprocessing for nuclear weapons accounts for much of the contamination at DOE sites, and the HLW from reprocessing remains an immediate and long-term health and environmental threat. Commercial reprocessing at West Valley, New York, also was an environmental and economic disaster that remains a burden on New York and federal taxpayers. It is clear that fissile materials should not be separated from spent fuel. Reprocessing also is uneconomic. That fact is demonstrated by the lack of any commercial reprocessing in the U.S. since the failure of West Valley. Even though reprocessing has been legal in the U.S. for more than 30 years, no private entities have been willing to fund it.

C. SRIC opposes Yucca Mountain, which is a technically flawed, politically chosen site. As the State of Nevada, tribal, and non-governmental organizations have shown, Yucca Mountain has many technical flaws, including seismic and volcanic issues and rapid groundwater flow, which preclude the site from meeting adequate disposal standards. In 1987, Congress inappropriately selected Yucca Mountain as the sole repository site, a clearly political, not technical, decision.

D. SRIC opposes expanding the mission of the Waste Isolation Pilot Plant (WIPP) to include disposal of commercial waste or high-level waste. Since 1979, federal laws have limited WIPP to handling defense transuranic waste. It would do great damage to the credibility of laws and agreements covering any future nuclear waste storage or disposal sites if the WIPP mission were changed. Moreover, WIPP is technically precluded from accepting such waste because of various deficiencies, including that it is surrounded by many oil and gas wells and that bedded salt is rapidly deformed by thermally hot waste. Until March 2013, DOE policy was to send all Hanford HLW in tanks to the Waste Treatment Plant; the reversal of that policy and to now propose that HLW from 20 tanks at Hanford be sent to WIPP is wrong and unworkable. SRIC and other groups have strongly opposed that proposal (see attached letter). Moreover, current DOE plans to expand WIPP to Greater-Than-Class C (GTCC) Waste and for elemental mercury storage should be stopped. Those expansions are contrary to long-established legal limits, are unnecessary as GTCC waste can be stored onsite for decades until HLW/SNF repositories are available and mercury could be stored at commercial sites, and are inconsistent with the principle that DOE should not have authority over commercial waste and that a Nuclear Waste Administration should be established. Continued DOE promotion of new missions for WIPP should be stopped, as any nuclear waste legislation should ensure that WIPP's mission will not change.

4. Features of draft bill that SRIC can support

A. Terminate the past 30 years of DOE's authority related to consolidated SNF storage and disposal. The draft bill would require DOE to continue management of its HLW, but not give it authority over commercial SNF. DOE's efforts to site consolidated storage and disposal sites have failed to result in any operating facilities and have instead engendered public distrust and opposition to the nuclear waste program. It should be clear that the existing laws and DOE's implementation would continue to fail.

B. Ensure that generators and owners of nuclear waste pay the full cost of storage and disposal and that funds collected are used for those purposes. Just as federal taxpayers must pay the full cost of handling and disposing of HLW from nuclear weapons production, so too nuclear utility ratepayers should pay the costs for commercial SNF on-site storage and disposal. Taxpayer and ratepayer funds should be used only for those purposes. This mandate includes the use of the Nuclear Waste Fund for HOSS facilities.

C. Mandate disposal of high-level defense waste in a licensed repository. Consistent with past and current federal law, all high-level defense waste should be disposed in licensed repositories.

D. Require nuclear waste be transported in certified packages, with prior notification and technical and financial assistance to states and tribes. Transportation of large amounts of commercial SNF has not occurred in this country, should not occur until there are one or more repositories, and is appropriately perceived as threatening millions of people along shipping routes. Therefore, new shipping containers will be required, and they should all meet strict licensing requirements, including full-scale testing. All shipments should be subject to prior notification to affected states and tribes, which should receive technical and financial assistance to ensure the safest transportation. Developing a safe transportation system will take decades, but it also will be decades before shipments to repositories will begin.

E. Provide for the settlement of litigation and establish new contracts with utilities prior to the federal government taking title to nuclear waste. DOE did not meet the unrealistic January 31, 1998, deadline established in the Nuclear Waste Policy Act to begin disposal of HLW and SNF. Similar dates should not be included in new legislation. As part of a new program, it is essential that litigation related to current contracts be settled so that federal taxpayers know what the prior costs are before any new program is initiated.

5. Features of draft bill that SRIC opposes

A. The legislation should not include consolidated SNF storage facilities. HOSS facilities should be required. The numerous provisions related to consolidated SNF storage should be eliminated from the bill. Efforts by both DOE and private entities to establish such facilities have failed. Such facilities are inappropriate for many reasons, not the least of which is that they would likely become de facto disposal facilities. To better address legitimate safety concerns about current on-site storage, including potential for catastrophic failures from densely packed SNF pools, any nuclear waste legislation should require HOSS facilities as soon as possible for commercial SNF.

B. The provisions should be eliminated that provide for schedule-driven identification of eligible disposal sites before new technically sound, publicly accepted standards are established by EPA and associated licensing regulations are then promulgated by the NRC. Another lesson that should have been learned from the experience of the past 40 years is that adequate time and resources *must* be devoted to establish technically sound, publicly accepted standards. Such standards must be in place before credible scientific site selection can begin. The DOE and congressional practice of first selecting sites and then trying to tailor standards to fit them must cease. Deadlines such as having standards or general guidelines for the consideration of candidate sites issued within one year of enactment are not consistent with using the best available science and ensuring opportunities for meaningful stakeholder participation – both of which are stated goals of the draft legislation. Furthermore, it will most certainly take longer than one year to get the new Nuclear Waste Administration working, hire staff, set-up advisory committees, etc. Laying a foundation that builds widespread confidence in the ability of the new organization to do its job well cannot be done swiftly, lest it be done poorly and create new technical and credibility problems like those that have persisted for the past 40 years.

C. The decision to comingle defense and commercial waste in the same repositories should not be reconsidered. There is no technical basis to have separate defense and commercial HLW/SNF repositories; the long-lived hazard of the wastes require the same environmental protection requirements. The decision of April 30, 1985 by President Reagan, pursuant to provisions of the Nuclear Waste Policy Act, should be preserved.

D. Provisions related to consent must be substantially changed and strengthened, including 1) allowance for states and tribes to establish their own decision-making processes, 2) full National Environmental Policy Act (NEPA) compliance, 3) binding “non consent,” and 4) public “informed consent.” In our representative democracy, the public has in the past and will continue to insist on playing a major role in decisions about nuclear waste. That is a key lesson from the experiences of the past 40 years. The minimal public hearing provisions are grossly insufficient and would likely not play in a meaningful role in decisionmaking.

Although the draft legislation uses the rhetoric of “consensus” and “voluntary siting,” it does not establish a structure or process to ensure that either can be implemented. Section 304(f) specifies that a state governor, local governmental authority, and/or Tribal government provide consent for a facility. There is nothing explicit about community/public consent, which is essential because elected officials will come and go during the many years needed to site, design, build, and operate a repository. Trying to prescribe how states and tribes will participate and consent is inappropriate and shows a lack of understanding of existing processes in some states, including referenda, or other measures that the public might require. NEPA is a proven process for providing essential technical analysis and public participation for decisions, particularly ones that include an explicit consent process. Legislation should clearly indicate that states and tribes can exercise binding “non-consent” in order to establish that “no means no” and to stop expenditures that will not lead to a repository. Conditions, mechanisms, and deadlines for re-evaluation and reconsideration (opt out) should be allowed at all stages.

There must be a requirement for *informed* consent. Interested and affected parties must have a say in determining what information is needed and the ability to use the Freedom of Information Act and other methods to get information; be provided information that contains the data needed for effective decision making; obtain that information in a timely and easy manner; and comprehend and act on what they access. Informed consent means having access to needed information over many years, so legislation also should require that adequate funding be provided so the public can obtain independent technical analysis.

6. Responses to the 8 questions posed

A. Considerations for locating storage facility sites

1. Should the Administrator take into account, when considering candidate storage facility sites, the extent to which a storage facility would: (a) unduly burden a State in which significant volumes of defense wastes are stored or transuranic wastes are disposed of; or (b) conflict with a compliance agreement requiring the removal of nuclear waste from a site or a statutory prohibition on the storage or disposal of nuclear waste at a site? Alternatively, should the State and other non-federal parties seeking to site a candidate storage facility be allowed to determine whether they are unduly burdened? Should the final consent agreement, which would be sent to Congress for ratification, contain an authorizing provision to amend any conflicting compliance agreement or statutory prohibition?

SRIC Response – SRIC opposes the proposed spent fuel storage facilities and urges that those provisions be eliminated from the bill. Instead, the bill should require HOSS facilities at commercial nuclear power plants.

Regarding (a) and (b), the DOE nuclear weapons and waste sites should not be considered for additional waste storage. The nation has moral and legal commitments to clean up those sites, and adding additional waste will delay and compromise necessary cleanup missions. Consistent with the principle that storage of HLW and SNF be as close to the point of generation as possible, as safely as possible, SRIC recognizes that storage at DOE sites will continue until repositories are operating. SRIC also supports stringent compliance agreements so that storage is as safe as possible.

SRIC also believes that Native American lands should be excluded from consideration on environmental justice grounds and because the nation has not fully complied with treaty obligations.

Locating consolidated storage at existing nuclear power plant(s) has not been tried in the U.S. While SRIC does not support consolidated storage, if it is necessary for some waste, including that at shutdown reactors, the appropriate alternative sites would be at operating reactors, perhaps in regional storage facilities to reduce transportation and minimize the impacts at any one reactor site. Operating reactors have some level of consent. Operating reactors have the greatest incentive to ensure safe storage as any releases could shut down the reactor. The Nuclear Waste Fund could fund such limited storage, consistent with HOSS principles.

Section 304(a)(1) appears to require the Administrator to select sites for characterization, even if they are not suitable. Such a requirement should not be included in any nuclear waste legislation.

Linkage between storage and repository

2. Should the bill establish a linkage between progress on development of a repository and progress on development of a storage facility? If so, is the linkage proposed in section 306 of the bill appropriate, too strong, or too loose? If a linkage is needed, should it be determined as part of the negotiations between the state and federal governments and included in the consent agreement rather than in the bill?

SRIC Response – SRIC opposes the proposed spent fuel storage facilities and urges that those provisions be eliminated from the bill. Instead, the bill should require HOSS facilities at commercial nuclear power plants. Section 306 is unnecessary if there is HOSS rather than consolidated spent fuel storage.

Should Congress ignore the opposition of SRIC and many other organizations and individuals to consolidated spent fuel storage, linkage would be necessary. The provisions of the discussion draft are too loose. The strongest linkage – requiring commercial SNF to be removed from a consolidated storage site if a repository does not operate – would not prevent de facto permanent storage since the host state or tribe could not force consolidated storage on another location. SRIC opposes any legislation that would increase the number of sites storing SNF or HLW.

Separate process for storage facility siting

3. Should the bill establish separate storage and disposal programs with clearly defined requirements for each, with any linkage negotiated in the consent agreement between the federal and non-federal parties, to allow the two program to run on separate, but parallel tracks, as proposed in the alternative section 305 (which would replace section 304(b)-(g) of the draft bill)?

SRIC Response – SRIC opposes the proposed spent fuel storage facilities and urges that those provisions be eliminated from the bill. Instead, the bill should require HOSS facilities at commercial nuclear power plants.

SRIC strongly opposes the two separate spent fuel storage programs in the alternative section 305 and urges that they not be included in any legislation.

4. To what extent should the siting and consensus approval process for spent fuel storage facilities differ from that for the repository? Should the Administrator be required to conduct sufficient site-specific research (referred to as “characterization” in the bill) on candidate storage sites to determine if they are suitable for storing nuclear waste or only on candidate repository sites to determine if they are suitable for geologic disposal of nuclear waste? Should the Administrator be required to hold public hearings both before and after site characterization (as required by current law in the case of the Yucca Mountain site) or only before site characterization?

SRIC Response – SRIC opposes the proposed spent fuel storage facilities and urges that those provisions be eliminated from the bill. Instead, the bill should require HOSS facilities at commercial nuclear power plants.

SRIC supports holding public hearings (and full compliance with NEPA) and other measures that the public, states, and tribes may require, before and after site characterization for disposal facilities.

Complexity of repository and storage facility siting processes

5. Should the siting process in section 304 of the draft bill be streamlined? If so, how?

SRIC Response – SRIC opposes the proposed spent fuel storage facilities and urges that those provisions in Section 304 be eliminated from the bill. Instead, the bill should require HOSS facilities at commercial nuclear power plants. Regulations for HOSS facilities should be established by rulemaking, with robust public participation requirements.

SRIC supports a repository process that begins with EPA rulemaking to establish generic environmental protection standards for disposal facilities. After the EPA rules are finalized, NRC should conduct a rulemaking to establish new licensing regulations. Once the new EPA and NRC regulations are in place, potential disposal sites that are likely to meet the regulations should be identified with full participation of states, tribes, and the public. Anything less dooms the process to failure.

Governance of the Nuclear Waste Administration

6. Should the new entity be governed by a single administrator or by a board of directors?

(a) If by a single administrator, should the administrator serve for a fixed term? If so, how long should the term of service be? Should the legislation prescribe qualifications for the administrator? If so, what should be the selection criteria?

(b) If by a board of directors, how many people should comprise the board and how should they be selected?

SRIC Response – SRIC believes that a board of directors that includes both oversight and representational directors would be more successful than the single administrator model. A board of 7 to 11 could be large enough for diversity of expertise, backgrounds, and representation. The board could be composed of people selected by the House, Senate, and President.

7. The Blue Ribbon Commission recommended establishment of both a board of directors for management oversight (whose “primary role ... is not to represent all stakeholder views, but rather to carry out fiduciary responsibilities for management oversight”) and “a larger and more widely representative stakeholder advisory committee.” The draft bill responds to these recommendations, first, by establishing a Nuclear Waste Oversight Board of senior federal officials and, second, by authorizing the Administrator to establish advisory committees. Should the Oversight Board and advisory committee be combined into a single body to perform both management oversight and stakeholder representation functions? Should the focus and

membership of any advisory committees be established in the legislation or left to the Administrator?

SRIC Response – SRIC believes that a diverse, broadly representative board and the Technical Review Board (Section 508) could provide the necessary oversight and representation. Advisory committees could be formed to handle specific issues of concern to the staff and board.

SRIC generally supports strong state, tribal, and public oversight and adequate funding so that they can provide or withhold “informed consent.” Such oversight lessens the need for funding other advisory committees.

8. Dr. Meserve testified in 2012 that representatives of stakeholders and public utility commissioners should be added to the Nuclear Waste Oversight Board. Would these additions make the Board better able to carry out its fiduciary oversight mission effectively?

SRIC Response – Yes. However, the alternative board of directors structure discussed above would be more workable and focussed, since the principals of the Oversight Board have other primary responsibilities.

March 24, 2010

Principles for Safeguarding Nuclear Waste at Reactors

The following principles are based on the urgent need to protect the public from the threats posed by the current vulnerable storage of commercial irradiated fuel. The United States does not currently have a national policy for the permanent storage of high-level nuclear waste. The Obama administration has determined that the Yucca Mountain site, which has been mired in bad science and mismanagement, is not an option for geologic storage of nuclear waste. Unfortunately, reprocessing proponents have used this opportunity to promote reprocessing as the solution for managing our nuclear waste. Contrary to their claims, however, reprocessing is extremely expensive, highly polluting, and a proliferation threat, and will actually complicate the management of irradiated fuel. Nor will reprocessing obviate the need for, or “save space” in, a geologic repository. The United States has a unique opportunity to re-evaluate our nuclear waste management plan. We can make wise decisions about safeguarding radioactive waste or go down the risky, costly, and proliferation prone path towards reprocessing.

The undersigned organizations’ support for improving the protection of radioactive waste stored at reactor sites is a matter of security and is in no way an indication that we support nuclear power and the generation of more nuclear waste.

- **Require a low-density, open-frame layout for fuel pools:** Fuel pools were originally designed for temporary storage of a limited number of irradiated fuel assemblies in a low density, open frame configuration. As the amount of waste generated has increased beyond the designed capacity, the pools have been reorganized so that the concentration of fuel in the pools is nearly the same as that in operating reactor cores. If water is lost from a densely packed pool as the result of an attack or an accident, cooling by ambient air would likely be insufficient to prevent a fire, resulting in the release of large quantities of radioactivity to the environment. A low density, open-frame arrangement within fuel pools could allow enough air circulation to keep the fuel from catching fire. In order to achieve and maintain this arrangement within the pools, irradiated fuel must be transferred from the pools to dry storage within five years of being discharged from the reactor.
- **Establish hardened on-site storage (HOSS):** Irradiated fuel must be stored as safely as possible as close to the site of generation as possible. Waste moved from fuel pools must be safeguarded in hardened, on-site storage (HOSS) facilities. Transporting waste to interim away-from-reactor storage should not be done unless the reactor site is unsuitable for a HOSS facility and the move increases the safety and security of the waste. HOSS facilities must not be regarded as a permanent waste solution, and thus should not be constructed deep underground. The waste must be retrievable, and real-time radiation and heat monitoring at the HOSS facility must be implemented for early detection of radiation releases and overheating. The overall objective of HOSS should be that the amount of releases projected in even severe attacks should be low enough that the storage system would be unattractive as a terrorist target. Design criteria that would correspond to the overall objective must include: Resistance to severe attacks, such as a direct hit by high-explosive or deeply penetrating weapons and munitions or a direct hit by a large aircraft loaded with fuel or a small aircraft loaded with fuel and/or explosives, without major releases. Placement of individual canisters that makes detection difficult from outside the site boundary.
- **Protect fuel pools:** Irradiated fuel must be kept in pools for several years before it can be stored in a dry facility. The pools must be protected to withstand an attack by air, land, or water from a force at least equal in size and coordination to the 9/11 attacks. The security improvements must be approved by a panel of experts independent of the nuclear industry and the Nuclear Regulatory Commission.

- **Require periodic review of HOSS facilities and fuel pools:** An annual report consisting of the review of each HOSS facility and fuel pool should be prepared with meaningful participation from public stakeholders, regulators, and utility managers at each site. The report must be made publicly available and may include recommendations for actions to be taken.
- **Dedicate funding to local and state governments to independently monitor the sites:** Funding for monitoring the HOSS facilities at each site must be provided to affected local and state governments. The affected public must have the right to fully participate.
- **Prohibit reprocessing:** The reprocessing of irradiated fuel has not solved the nuclear waste problem in any country, and actually exacerbates it by creating numerous additional waste streams that must be managed. In addition to being expensive and polluting, reprocessing also increases nuclear weapons proliferation threats.

National

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Kay Cumbow, Citizens for Alternatives to Chemical Contamination

Ronald and Joyce Mason, Swords Into Plowshares Peace Center and Gallery

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Louie Miller, Mississippi Sierra Club

Montana

Florence Chessin, Missoula Women for Peace, a branch of Women's International League for Peace and Freedom

North Carolina

Lewis Patrie, Western North Carolina Physicians for Social Responsibility

E.M.T O'Nan, Protect All Children's Environment

Avram Friedman, The Canary Coalition

Jim Warren, North Carolina Waste Awareness and Reduction Network

Janet Marsh, Blue Ridge Environmental Defense League

North Dakota

Kandi L. Mossett, Indigenous Environmental Network

Jodie L. White, The Environmental Awareness Committee, Save Our Sacred Earth Campaign

Nebraska

Buffalo Bruce, Western Nebraska Resources Council

Tim Rinne, Nebraskans for Peace

New Hampshire

Will Hopkins, New Hampshire Peace Action

New Jersey

Paula Gotsch, Grandmothers, Mother and More for Energy Safety

Norm Cohen, Coalition for Peace and Justice-UNPLUG Salem Campaign

New Mexico

Mervyn Tilden, Sovereign Dine' Foundation

Janet Greenwald, Citizens for Alternatives to Radioactive Dumping

Joni Arends, Concerned Citizens for Nuclear Safety

Scott Kovac, Nuclear Watch of New Mexico

Greg Mello, Los Alamos Study Group

Don Hancock, Southwest Research and Information Center

Nevada

Judy Treichel, Nevada Nuclear Waste Taskforce

Jim Haber, Nevada Desert Experience

New York

Joanne Hameister, Coalition on West Valley Nuclear Wastes

Anne Rabe, Center for Health, Environment, and Justice

James Rauch, For a Clean Tonawanda Site (FACTS)

Barbara Warren, Citizen's Environmental Coalition

Phillip Musegaas, Riverkeeper NY

Tim Judson, Central New York Citizens Awareness Network

Ohio

Chris Trepal, Earth Day Coalition

Terry Lodge, Toledo Coalition for Safe Energy

Sharon Cowdrey, Miamisburg Environmental Safety and Health Network

Oklahoma

Marilyn McCulloch, The Carrie Dickerson Foundation

Oregon

Dona Hippert, Oregon Toxics Alliance

Charles K. Johnson, Center for Energy Research

Nina Bell, Northwest Environmental Advocates

Kelly Campbell, Oregon Physicians for Social Responsibility

Gerry Pollet, Heart of America Northwest

Pennsylvania

David Hughes, Citizen Power

Katherine Dodge, Northwest Pennsylvania, Audobon Society

Gene Stilp, Taxpayers and Ratepayers United

Ernest Fuller, Concerned Citizens for SNEC Safety

Patricia Harner, Philadelphia Physicians for Social Responsibility

Dr. Lewis Cuthbert, Alliance for a Clean Environment

Rhode Island

Sheila Dormandy, Clean Water Action Rhode Island

South Carolina

Susan Corbett, South Carolina Sierra Club

Dr. Finian Taylor, Hilton Head for Peace

South Dakota

Deb McIntyre, South Dakota Peace and Justice Center

Charmaine White Face, Defenders of the Black Hills

Tennessee

Donald B. Clark, Network for Economic and Environmental Responsibility, United Church of Christ

Rev. Charles Lord, Caney Fork Headwaters Association

Rev. Douglas B. Hunt, Interfaith Power & Light

Ralph Hutchinson, Oak Ridge Environmental Peace Alliance

Rev. Walter Stark, Cumberland Countians for Peace and Justice

Ann Harris, We the People, Inc.

Texas

Eliza Brown, SEED Coalition

Mavis Belisle, JustPeace

Gary Stuard, Interfaith Environmental Alliance

Craig Tounet, Austin Physicians for Social Responsibility

Jill Johnston, Southwest Workers Union
Utah

Margene Bullcreek, Ohngo Guadedah
Devia Awareness

Vanessa Pierce, HEAL Utah

Virginia

Scott Sklar, The Stella Group, Inc.

Elena Day, People's Alliance for Clean
Energy

Vermont

Arnie Gundersen, Fairewinds Associates,
Inc.

Clay Turnbull, New England Coalition on
Nuclear Pollution

Chris Williams, Vermont Citizens
Awareness Network

Margaret Harrington Tamulonis, Women's
International League for Peace

Washington

Tom Carpenter, Hanford Challenge

Wisconsin

Charlie Higley, Citizens Utility Board

Bonnie Urfer and John LaForge,
Nukewatch Wisconsin

Al Gedicks, Wisconsin Resources
Protection Council

Judy Miner, Wisconsin Network for Peace
and Justice

West Virginia

Gary Zuckett, West Virginia Citizens
Action Group

Wyoming

Mary Woolen, Keep Yellowstone Nuclear
Free



March 26, 2013

Secretary Steven Chu
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Washington DC 20585
The.Secretary@hq.doe.gov

RE: Proposal to Ship Hanford High-Level Radioactive Waste to New Mexico

Dear Secretary Chu,

We write to you regarding the Department of Energy's (DOE) News Release and subsequent publication in the Federal Register on March 11, 2013 of DOE's "preferred alternative" to retrieve, treat, package, characterize and certify certain Hanford tank wastes for disposal at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico.¹ As detailed below, DOE's proposed course of action would fail to resolve or meaningfully address potential threats to the Columbia River from leaking high-level radioactive waste (HLW) tanks at Hanford. The waste proposed for treatment and transfer to WIPP is too small a fraction of the total inventory of Hanford tank waste to make the investment worthwhile and the proposal does not prioritize the leaking single-shell tanks. Further, DOE's "preferred alternative" would likely have a disastrous impact on both efforts to arrive at a national nuclear waste strategy and associated progress at the WIPP facility from legal, technical and institutional perspectives.

With such caution in mind, we urge you to ensure DOE complies with the law and retracts the preferred alternative of attempting to ship high-level radioactive waste to New Mexico. It is costly, unwise and illegal to ship Hanford tank waste to WIPP. DOE should move as quickly as practicable to build new tanks to empty the actively leaking high-level radioactive waste tanks and have tank capacity for eventual feed to the Waste Treatment Plant. We would be happy to meet with your successor in the coming weeks to discuss these and other matters. We further detail these matters below.

Background

As national and regional groups that have worked on the nuclear weapons complex cleanup for decades, we share DOE's concerns about protecting human health, the environment, and of course, the Columbia River and its central role as the lifeblood of the Pacific Northwest. We also share concerns about achieving an effective high-level waste program inclusive of state, tribal and public

¹ EIS-0391: Notice of Preferred Alternative, 78 Fed. Reg. 15358, (March 11, 2013). Notice available at: <http://energy.gov/nepa/downloads/eis-0391-notice-preferred-alternative>.

interests that ultimately arrives at long-term geologic disposal solution for defense-generated HLW and commercial spent nuclear fuel.

As you know, Hanford's tanks are leaking HLW with an underground flow pathway toward the Columbia River. An estimated one million gallons of contamination have already leaked from the tanks, and an undetermined quantity has entered the groundwater adjacent to the river. The Washington State Department of Ecology has declared, "out of these 149 SSTs, 67 have been declared as known or assumed leakers that have released more than one million gallons of waste to the soil and groundwater. The released tank waste is now moving toward, but has not reached, the Columbia River."² Six single-shell tanks and one double-shell tank are now confirmed to be actively leaking, and 14 others may be leaking, according to DOE.³ Such leaks will only serve to drive existing contamination closer to the Columbia River. This is an urgent problem, and we applaud the State of Washington and the Department of Energy for their renewed commitment to address this crisis.

While we share concerns for a meaningful and effective high-level waste disposal program, the position of the NRDC, Hanford Challenge and Southwest Research and Development Center is that DOE's "preferred alternative" to retrieve, treat, package, characterize and certify certain Hanford tank wastes for disposal at WIPP in New Mexico is both unlawful and fraught with several technical problems that make it evident any such plan does not meaningfully solve the urgent situation in Washington.

The Hanford EIS and the subject of shipping HLW to New Mexico

Prior to the close of the public comment period on the Draft Tank Closure & Waste Management EIS (TC & WM EIS), DOE issued a statement in the Federal Register (74 FR 67189) that indicated it was no longer considering sending Hanford tank waste to WIPP, declaring the intention that these wastes would be retrieved and treated at the Waste Treatment Plant (WTP) being constructed at Hanford.⁴ For this reason, the State of Washington Department of Ecology (Ecology) and many members of the public did not comment on sending tank waste to WIPP during the public comment period, and no public meeting was held in New Mexico. However DOE changed its position in the Final TC & WM EIS and included the preferred alternative of sending portions of tank waste to WIPP.

In its Forward to the Final TC & WM EIS, Ecology elaborated on some of its concerns over DOE's current approach to the potential mixed TRU tank waste:

Ecology has legal and technical concerns with any tank waste being classified as mixed TRU waste at this time. DOE must provide peer-reviewed data and a strong, defensible, technically and legally detailed justification for the designation of any tank waste as mixed TRU waste, rather than as HLW. DOE must also complete the WIPP certification process and assure Ecology that there is a viable disposal pathway

² http://www.ecy.wa.gov/programs/nwp/tank_waste_storage.htm

³ "The U.S. Department of Energy and its contractor are evaluating 14 other single-shell tanks that appeared to have lost liquid, according to state regulators and others who attended a DOE briefing in Oregon Monday." http://www.oregonlive.com/environment/index.ssf/2013/03/more_tanks_could_be_leaking_at.html#incart_river_default

⁴ "DOE is now expressing its preference that no Hanford tank wastes would be shipped to WIPP." 74 Federal Register 67189, (December 18, 2009).

(i.e., permit approval from the State of New Mexico and the U.S. Environmental Protection Agency) before Ecology will modify the Hanford Sitewide Permit to allow tank waste to be treated as mixed TRU waste. Further, Ecology is concerned with the cost benefit viability of an approach that sends a relatively minor amount of tank waste to WIPP, given the cost it would take to secure the disposal path, and to construct and operate the drying facility for the TRU tank waste.⁵

A treatment facility to retrieve, process and package Hanford tank waste for shipment to WIPP would be expensive, and time-consuming. Without substantially more information, we are unclear how any such plan could comply with current law. We are unaware of blueprints or plans for such a drying facility, and certainly there is no existing facility at Hanford that could accomplish that mission.

DOE named 20 tanks with high level waste that DOE would seek to reclassify as TRU in the Final TC & WM EIS,⁶ but an earlier review by the Washington State Department of Ecology put the number of tanks that might qualify under the legal definition of TRU at only eight tanks.⁷ DOE's current presentations further the intention to classify 11 tanks as Contact Handled TRU (CH-TRU) and send this waste, totaling around 280,000 gallons to WIPP.⁸ However, no policy, cost or legal analysis on the topic has been completed and therefore there is no credible basis at this time for DOE's preferred alternative of sending Hanford tank waste to WIPP.

The Legal Bar Against Reclassifying HLW

There is a contentious legal history on the subject of treatment and disposal of HLW, particularly with respect to "reclassifying" HLW and disposing of it in a manner not consistent with the Nuclear Waste Policy Act, 42 U.S.C. § 10101, *et seq.* DOE's efforts to reserve to itself unfettered authority to reclassify HLW over the last 15 years have precipitated litigation by NRDC and other environmental groups, and the direct objection of several states. *See, NRDC v. Abraham*, 271 F.Supp. 2d 1260 (D. Idaho 2003), *rvsd'* on ripeness grounds, *NRDC v. Abraham*, 388 F.3d 701 (9th Cir. 2004) (collectively the "HLW Decisions"). *See also*, Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375, § 3116, 118 Stat. 1811, 2162-64 (2004). We will not review that entire history here, but make a few relevant points.

First, all the waste in the tanks is currently HLW.⁹ However, we note that DOE is not barred from removing high-level radioactive waste (HLW) from the tanks and treating that waste for disposal. Nor do the HLW decisions bar DOE from separating some portion of that waste into a stream that meets low-level radioactive waste (LLW) standards and disposing of that portion of the waste outside

⁵ Washington State Department of Ecology Forward, Final TC & WM EIS, DOE/EIS-0391, December 2012.

⁶ Final TC & WM EIS, DOE/EIS-0391, December 2012, p. 2-26 sec. 2.2.2.2.5.

⁷ Conversation between Tom Carpenter, Hanford Challenge, and Department of Ecology staffer, March 16, 2013.

⁸ USDOE ORP Presentation by Kevin Smith to the Oregon Hanford Cleanup Board, March 4, 2013.

⁹ "It is undisputed that the waste stored at Hanford, INEEL, and Savannah River is highly radioactive and the result of reprocessing. No solids have yet been extracted from the liquid waste at those sites and treated to reduce fission products. Thus, the waste at issue in this case falls within NWPAs's definition of HLW." *NRDC v. Abraham*, 271 F.Supp.2d 1260, 1265 (D.Idaho 2003) (emphasis added).

of a geologic repository in a properly licensed disposal site. Such a process, however, is not what DOE has proposed.

Second, Section 3116 of the 2005 National Defense Authorization Act, the Bush Administration's response to the original Idaho Federal District Court HLW Decision, was a significant change to the entire structure and purpose of the NWPA, not a "clarification."¹⁰ That law, which allows DOE to reclassify HLW as "Waste Incidental to Reprocessing" subject to certain criteria, has application in South Carolina and Idaho. Section 3116 does not have application in Washington or Oregon. *See*, Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375, § 3116, 118 Stat. 1811, 2162-64 (2004). Further, the "waste incidental to reprocessing" concept codified in Section 3116 does not set cleanup standards of "99 percent," "most of the radioactivity," or an "inch and half of waste at the bottom of the tank." The Natural Resources Defense Council and Hanford Challenge voiced repeatedly in comments Hanford Draft TC & WM EIS that this concept should be dropped from consideration in final and preferred alternatives for the Hanford Draft TC & WM EIS.

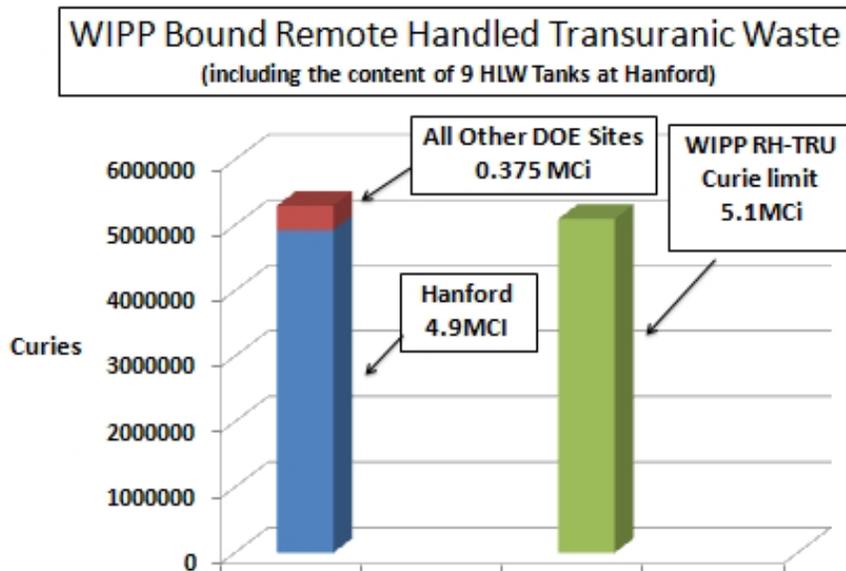
In short, under the current NWPA, the Environmental Protection Agency (EPA) and the Nuclear Regulatory Commission (NRC) regulate the geologic disposal of HLW – and decide what is (and what is not) HLW. At the Hanford Reservation, DOE may not unilaterally decide that HLW has been transformed into "waste incidental to reprocessing" or "TRU waste" for disposal at WIPP. If the concepts embodied in Section 3116 are in any way adopted or used via the Hanford Final TC & WM EIS and subsequent preferred alternatives, DOE will be in direct contravention of the NWPA.

Further Data and Analysis of Hanford HLW Tanks Needed

Along with ensuring you are clear on the status of HLW law, we would like you to consider the characteristics of the wastes in the 20 Hanford tanks named as candidates for disposal at WIPP. An analysis of Hanford's TWINS database reveals that the radioactivity content of these 20 Hanford tanks named in the EIS come close to almost entirely filling the radioactivity limits for the WIPP facility. Specifically, for remote-handled Transuranic Waste (RH-TRU), the curie content in the Hanford tanks is 4.9 million curies. WIPP's RH-TRU limit for such waste is 5.1 million curies.¹¹

¹⁰ NRDC and dozens of environmental and public interest groups stood with Washington, Oregon, New York, and New Mexico and objected to the concepts embodied in Section 3116. Only the states of South Carolina and Idaho – who sided with the other states throughout the litigation until March 2004 in objecting to DOE's assertion of "waste incidental to reprocessing" authority – submitted to DOE's cleanup budget-threatening tactics and supported the legislative change. Via Section 3116, DOE obtained an exemption from the NWPA and the ability to reclassify HLW as "incidental waste" without any congressional or state oversight. No such similar path forward exists at the Hanford site.

¹¹ http://www.wipp.energy.gov/library/seis/DOE_EIS-0026-SA-08.pdf



Sources: TWINS Data Base [09-2003], DOE/EIS-0391, Table E-11, DOE/TRU-12-342, Table 3.11

Apparently, DOE has no plans to remove radionuclides from these wastes, and instead relies on a plan to simply remove and dry the tank waste according to Appendix E of the Final TC &WM EIS. However, in order to stay under the curie limit for WIPP, either the current law will have to change to substantially increase the curie limits for the RH-TRU, or DOE will have to decontaminate the sludge (10-20% of the volume containing ~95% of the Sr) and the Cs in the salts (80-80% of the volume containing ~90% of the Cs.). This will likely involve the use of sludge washing. Once these contaminants are removed, we have no information where DOE intends to dispose of these toxic radionuclides.

The Situation at the Hanford Tank Farms

We concur with DOE and the State of Washington that there is practically little if any capacity to receive more high level wastes in the current underground waste tanks at the Hanford Tank Farms. And specifically there is diminishing capacity left in the existing double-shell tanks (DST), according to Hanford's System Plan, relied upon in the 2013 Hanford Lifecycle Scope, Schedule and Costs Report. The System Plan identifies that, after the C Farm tank waste campaign is completed and waste is retrieved from the AX Farm Single-Shell-Tanks (SSTs) and from some of the A Farm SSTs by 2020, there will be only 0.9 million gallons of Double-Shell-Tank (DST) capacity left.¹²

However, these estimates consider neither the need to empty and take AY-102 out of commission nor the amount of waste in actively leaking tanks. The recently identified DST leaker, AY-102, has 800,000 gallons of waste that will need to be removed from that tank alone. The lack of integrity of

¹² River Protection Project System Plan, ORP-11242 Revision 6, p.5-10. October 2011. Available at www.hanford.gov/files.cfm/ORP-11242_REV_6_-_1110050954.pdf.

tank AY-102 calls into question the assumption that the current DSTs will last long enough to see the waste treatment mission through.

There is at least a significant question about how many, if any, of the Hanford tanks identified as TRU-waste candidates, would actually qualify as such. Even giving DOE the benefit of the doubt that some portion of this waste could be removed, treated, and disposed of as TRU, which as we describe above is not a lawful act, assuming all 20 of the tanks qualify as TRU, it still amounts to only 3.1 million gallons, or around 5.6 percent of the total waste volume in the tanks. It is not worth the time and money to build a TRU treatment facility at Hanford for such a small amount of waste. Second, even if the waste was suitable for WIPP, the timing does not negate the need for immediate action to build new tanks, empty leaking tanks and get the Waste Treatment Plant on track. We cannot let the false solution of unlawfully shipping some insignificant fraction of HLW to WIPP distract us from real and immediate needs.

What We Recommend at Hanford

The only sure way to relieve the crisis at Hanford is to build new waste tanks, as soon as possible. Indeed, this conclusion has been reached by the Governors of both Washington¹³ and Oregon,¹⁴ and by the Hanford Advisory Board,¹⁵ a 32-member council of diverse Hanford stakeholder seats that operates by consensus. This has been a contentious political point for years, as investing in new tanks was feared to take attention (and funding) away from the much needed Waste Treatment Plant and would become a default “solution.” However, with the integrity of current tanks in such question and the delays at the WTP, new DSTs need to be on the table. The technology is mature, there are no questions about the legality or technical feasibility of such a plan, and given the trade-offs in costs between building a (risky) TRU-treatment facility and tanks, the choice is clear. Additionally, new double-shell tanks are needed to help staging for Waste Treatment Plant operation.

Washington law requires that any tank containing hazardous materials that is reported as starting to leak must be pumped below the point of the leak within 24 hours, or as soon as practicable.¹⁶ It is of paramount importance that no new leakage be tolerated, and those tanks that are reported to be actively leaking must be remediated as soon as possible. This requires that waste in those tanks be moved to double-shell tanks that have not leaked (i.e., not AY-102) and have enough room to accommodate the waste.

Furthermore, the System Plan assumes that RH-TRU waste will be treated at the WTP together with HLW.¹⁷ Regardless of what DOE may intend to someday ship to WIPP, new tanks are needed immediately at Hanford to prevent more waste from entering the ground and water systems and to

¹³ Governor Jay Inslee wants more tanks at Hanford, Feb. 1, 2013, *Tri-City Herald*, <http://www.tri-cityherald.com/2013/02/01/2258268/governor-jay-inslee-wants-more.html>

¹⁴ John Kitzhaber calls for more tanks to hold Hanford's high-level radioactive waste, Jan. 30, 2013, *Oregonian*, http://www.oregonlive.com/environment/index.ssf/2013/01/kitzhaber_calls_for_-more_tanks.html

¹⁵ Hanford Advisory Board Advice, Nov. 2, 2012, http://www.hanford.gov/files.cfm/HABAdv_263.pdf

¹⁶ Washington Admin. Code 173-303-640.

¹⁷ 2013 Hanford Lifecycle Scope, Schedule and Costs Report, DOE/RL-2012-13, Rev. O. December 2012. Available at http://www.hanford.gov/files.cfm/DOE-RL-2012-13_FINAL_REV.0_.pdf.

ensure that the transfer of waste to the Waste Treatment Plant is efficient and safe once operational. Furthermore, DOE must act to put the Waste Treatment Plant on track with an independent assessment and realistic plan for how to address the cost-overruns, delays, and most importantly the design and quality assurance problems plaguing the WTP.

Institutional Implications of Such a “Preferred Alternative”

The DOE’s relationship with several states, including licensing issues, and the coherency of the entire nuclear weapons complex cleanup will be called into question if DOE proceeds with this preferred alternative. Specifically, the WIPP Land Withdrawal Act (LWA, PL 102-579, Section 12, 106 Stat. 4791 (1992)) bans transportation to or disposal of HLW or commercially generated spent nuclear fuel at WIPP. *See* Section 12 of the LWA. The ban reflected the position of New Mexico officials and the congressional delegation, as well as public opinion. The legislative history illustrates Congressional recognition that Hanford tank wastes are HLW and included in the ban.

Further, DOE’s WIPP environmental impact statements have at no point included any Hanford HLW (or any other HLW from any other site, for that matter) in possible WIPP inventory. Therefore, transportation or emplacement of any Hanford tank waste at WIPP requires congressional action to amend the LWA, as well as substantial and new NEPA analyses.

Finally, such a preferred alternative contradicts the national nuclear waste strategy proposed by President Obama’s Blue Ribbon Commission on America’s Nuclear Future and DOE’s January 2013 proposal to emphasize the importance of consent in future nuclear waste storage and disposal programs.¹⁸ Indeed, an effort to enact the ideas of the BRC into legislation was proposed at the end of the previous Congress by former Energy & Natural Resources Chairman Jeff Bingaman (NM). New iterations modeled on Senator Bingaman’s template are currently being developed in this Congress. In the context of WIPP, the consent given was clearly under the stipulation that no HLW or spent nuclear fuel would be transported or disposed there. Not abiding by the longstanding limitations included in the state’s consent would not only undermine DOE’s credibility and Congressional action for New Mexico, but also set an extraordinary precedent, rendering it unthinkable that any other state would rely on DOE’s assurance that the agency would abide by conditions or limitations that are integral to state consent.

And as a practical matter, WIPP is not designed for and does not have the capabilities to handle HLW. Indeed, WIPP is not succeeding in its remote-handled (RH) waste disposal mission, as it has available space for only about half of the RH waste that is allowed by the LWA and the Consultation and Cooperation Agreement. DOE’s focus regarding WIPP should be on assuring that the facility is fulfilling its mission, not on adding additional activities for which the site is not suited.

This is a matter of significant concern and, we note, some measure of complexity. Representatives from each signatory group will be in Washington, D.C. from April 15-19, 2013 and request to meet

¹⁸ Department of Energy, Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste, January 2013. Available at: <http://energy.gov/sites/prod/files/Strategy%20for%20the%20Management%20and%20Disposal%20of%20Used%20Nuclear%20Fuel%20and%20High%20Level%20Radioactive%20Waste.pdf>

with your successor and staff to discuss these matters. Thank for your consideration and we look forward to hearing from you.

Sincerely,



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