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If You Care About Human Health and the Environment, You Will Oppose Allowing DOE's HLW Reclassification

According to Energy Communities Alliance (ECA) — a non-profit with nothing negative to say about the Department of Energy or the nuclear industry and does not include any Idaho membership — says the potential reclassification by the DOE of its High-Level Waste (HLW) would “allow DOE to dispose of waste in accordance with its radiological characteristics and ability to meet appropriate disposal facility requirements rather than the waste’s origin.”

ECA continues: “As the hosts, sender and receiver sites for the federal government’s HLW, we support DOE’s efforts to examine alternative disposal pathways for waste in our communities that, under the current interpretation based on artificial standards, can only go to a HLW repository,” Rick McLeod, CEO of the Savannah River Site Community Reuse Organization, said in an ECA news release. “If DOE moves to more appropriately align disposal decisions based on actual risk, some of this waste may be safely managed as transuranic or low-level waste and can be moved out of our communities sooner while saving significant taxpayer dollars.”

The reality is that allowing the DOE to reclassify its HLW to “non-HLW” will mean that vast amounts of the DOE’s HLW becomes low-level waste (LLW). What this means is that the DOE has far fewer regulatory requirements about how it chooses to dispose of the LLW on its DOE sites.

If the ECA cared about risk, perhaps they would write something about the many mistakes the DOE has made, in recent years not just decades ago, about its efforts to dispose of HLW on its DOE sites. Or perhaps they would write something about the hazards to groundwater from the shallow burial on DOE sites of this reclassified waste.

While the Department of Energy may wish to dispose at least some of its HLW at the Waste Isolation Pilot Plant (WIPP), a deep geologic repository in New Mexico, once DOE reclassifies it’s HLW, it will be low-level waste (LLW). If the low-level waste qualifies as defense-related transuranic waste and is accepted by WIPP for disposal it could be disposed of at WIPP. But currently WIPP does not accept spent fuel reprocessing HLW.

Low-level waste exceeding Class C concentrations of radioactivity, also known as Greater-Than-Class C waste, can be as hazardous at HLW as there are no limits on the concentrations of

long-lived fission products, activation products and transuranic radionuclides in Greater-Than-Class C “low-level waste.”

The DOE historically and currently buries low-level waste on its DOE sites without needing to comply with U.S. Nuclear Regulatory Commission regulations. The DOE can and will bury this reclassified “low-level waste” shallowly on DOE sites, arguing that the risk to human health and the environment is acceptable, based on its decision that the risk is acceptable as indicated by its biased and unrealistic “performance assessments.”

The “performance assessments” estimate the rate at which radionuclides will leach out of the waste burial site into groundwater, soil and air. But there is no requirement that the performance assessments be accurate or actually protective of human health and the environment. There is no requirement for the DOE to heed bad news indicated from any risk or performance assessment. While conducting a performance assessment can be useful for comparing options for radioactive waste disposal, the state-of-the-art performance assessments can’t predict waste migration performance over a few decades, let alone over the hundreds of thousands of years that the radioactive waste needs to be isolated.

The DOE’s performance assessments tend to include various assumptions that bias the resulting performance of the waste disposal site toward the appearance of low groundwater contamination as the radionuclides are modeled as slowly trickling out from shallow burial sites.

Performance assessments are complex and the complexity and jargon fools many people into having unwarranted confidence in the stated results. The reality is that the rate at which radionuclides leach out into groundwater is going to be variable and groundwater will be unsafe to drink, perhaps for many years on end. The way that performance assessments are conducted allows focusing on average values of groundwater contamination. It’s as though having one foot in ice water and one foot in scalding hot water means that on average, but with a “best estimate” analysis, it’s declared that you’re comfortable. But in the context of drinking radioactively contaminated water, it means illness, shortened life spans, and increased birth defects.

The reality of this “risk informed” exercise is analogous to “tobacco science” — a tortured, biased propaganda exercise — not a balanced analysis to understand the realities and uncertainties of the risk to human health and the environment posed by shallow burial of vast amounts of long-lived radionuclides at DOE sites over geologic time frames, over one million years.

The DOE’s HLW typically contains Greater-Than-Class C (GTCC) low-level waste, transuranic waste also called TRU, and toxic chemicals for nuclear fuel or irradiation target separations. TRU waste is a subset of Greater-Than-Class C low-level waste based on exceeding curie concentration of certain transuranic alpha-emitters. Both GTCC and TRU waste have long been recognized as needing deep geologic disposal. **The reclassified HLW would become low-level waste, with no limit as to how high the concentrations of long-lived fission products, activation products or transuranic can be. The hazard of the reclassified waste will be**

unchanged but the DOE will have removed the federal regulations that apply to disposal of HLW. On DOE sites, the DOE can create, interpret (and ignore) its own regulations for disposal.

The DOE's proposed reclassification of HLW isn't about clearing up ambiguity of what is and is not HLW or correcting "artificial standards." The DOE's proposed reclassification of HLW is about the following:

- Eliminating NRC or other federal requirements pertaining to HLW disposal
- reclassifying **vast amounts of high-level waste**, not just a tiny fraction of waste remaining in tanks
- removing tank closure requirements of the Section 3116 law (which were already too lenient) that has applied to the Idaho National Laboratory (INL) and the Savannah River Site (SRS) but not Hanford
- allowing DOE to leave any and all tank waste behind in the HLW tanks at Hanford, INL and the SRS in order to save money

Terms with no technical definition like "low activity" are often used to imply a low hazard even though the hazard from disposal of this waste to human health and the environment continues over geologic time frames (over a million years) from the long-lived, so-called "low activity" radionuclides. High activity and corresponding higher levels of decay heat and shielding requirements do complicate waste storage, especially for the first few hundred years before the cesium-137 and strontium-90 largely decay away; but the easily shielded alpha and beta emitters of certain fission products and the transuranic radionuclides dominate the hazard of migrating contaminants.

Unlike the radioactive uranium bound up in rock before being mined and milled, in radioactive HLW, the highly concentrated and soluble forms of unfissioned uranium are more readily leached into groundwater, along with various long-lived fission products, activation products and transuranic radionuclides.

The DOE is already mixing the HLW with grout or concrete at the INL and SRS and claiming that it will provide reasonable assurance that the waste is adequately disposed of, when there isn't actually an adequate technical basis for understanding how the grouted mixtures will perform to limit leaching of radionuclides over time. The DOE is relying on technically unjustified assumptions in its performance assessments that artificially create the appearance of slow and low migration of radionuclides into the environment, when in reality, human health and the environment will not be protected.

Read more, including a discussion of the radionuclides that dominate the hazard to human health and the environments, on our website at www.environmental-defense-institute.org

Send your comments on DOE's Proposed Interpretation of High-Level Radioactive Waste to Thereas Kliczewski, U.S. Department of Energy, HLWnotice@em.doe.gov.¹ Comments are due January 9, 2019.

AMWTP Closure Announced at the Idaho Cleanup Project

The Department of Energy has announced that the Advanced Mixed Waste Treatment Facility (AMWTP) will close after it finishes its current mission. Hanford transuranic waste that the DOE had considered sending to the AMWTP will be treated at Hanford because it would cost more to send to the AMWTP for compacting.

The Post Register reported "According to the DOE official, they found much of the waste in Hanford could be shipped directly to the Waste Isolation Pilot Plant in New Mexico for permanent storage. Challenges with transporting the rest, the official said, would have included safety and technical issues with packaging and shipping the waste to Idaho, allocating funding from elsewhere in the DOE budget, working with the Western Governors Association, and complying with the 1995 Settlement Agreement between the state and the federal government, which says any new waste brought into Idaho must be processed and out of the state within a year."²

The report by the DOE concluded that bringing in waste from Hanford and elsewhere "will be challenging and will not be cost effective in the short-term nor likely cost-effective in the long term."

The report also said that there is "considerable uncertainty" about whether the waste could be successfully packaged for transport, and that it would take a year or two to solve this issue.

Earlier in the year, the DOE Idaho Field Office had maintained that transportation issues weren't a problem. DOE requirements didn't require the use of NRC-approved packaging, DOE stated to the Idaho Cleanup Project Citizens Advisory Board, and the oversized cargo containers could be put on trains and transported from Hanford to Idaho. This bizarre attitude ignored previous National Environmental Policy Act (NEPA) commitments to use NRC-approved packaging for transuranic waste shipments and ignored the risk of transporting poorly characterized waste.³ But it all fits with DOE Idaho's willful ignoring of DOE regulations as well as state and federal laws, which DOE Idaho was violating and resulted in the rupture of four waste drums in April at the Idaho Cleanup Project because of failure to conduct required chemical compatibility analyses.^{4 5}

¹ See the docket for the Department of Energy's Proposed Interpretation of High-Level Radioactive Waste ID: DOE_FRDOC_0001-3696, comments due January 9, 2019, on regulations.gov at https://www.regulations.gov/document?D=DOE_FRDOC_0001-3696

² Nathan Brown, *The Idaho Falls Post Register*, "DOE: Sending Hanford waste to Idaho would cost more," December 11, 2018.

³ Environmental Defense Institute April 2018 newsletter article by Tami Thatcher "Idaho Cleanup Project Citizens Advisory Board Votes to Request More Information from the Department of Energy Work Regarding Details of Possible Continued Missions of the AMWTP," at <http://www.environmental-defense-institute.org/publications/News.18.April.pdf>

⁴ Idaho Cleanup Project Core, "Formal Cause Analysis for the ARP V (WFM-1617) Drum Event at the RWMC," October 2018. https://fluor-idaho.com/Portals/0/Documents/04_%20Community/8283498_RPT-1659.pdf

Recap of H.B. 3053 Wrangling Over Yucca Mountain and Consolidated Interim Storage

The House overwhelmingly passed H.R. 3053, the Nuclear Waste Policy Amendments Act of 2018, with 340 votes for and 72 votes against the bill. This terrifying bill would allow opening consolidated interim storage for the nation's spent nuclear fuel without knowing where the permanent disposal facility might be, steamroll Nevada State rights, fast-track the U.S. Nuclear Regulatory Commission licensing process, double Yucca Mountain's waste capacity, undermine the NEPA process, and make it easier for the facility to ignore radiation protection requirements.

The rationale for fast tracking the licensing process and increasing Yucca Mountain's waste capacity is not rooted in science, according to Nevada Governor Brian Sandoval.⁶ An publication full of mistruths was published about the bill.⁷

The U.S. Senate held off on passing H.R. 3053 to restart licensing of Yucca Mountain in order to help Nevada Senator Dean Heller in his re-election bid. Heller lost to democratic challenger Jacky Rosen. But backers supporting Yucca Mountain have been continuing to seek funding for Yucca Mountain and/or spent nuclear fuel consolidated interim storage during the lame duck session.⁸

On January 3, the unpassed 2018 legislation would have to start anew and many of the House supporters aren't returning in 2019. But there are efforts to include Yucca appropriations in lame duck session spending bills.⁹ House Energy-Water Appropriations Chairman Mike Simpson (R-Idaho) said in December that discussions with the Senate over Yucca continued in December.

Senator Dianne Feinstein (D-Calif.), the ranking member on the Senate Energy-Water Appropriations panel, is still pushing for consolidated interim storage but opposes funding for Yucca Mountain.

⁵ Environmental Defense Institute December 2018 newsletter article by Tami Thatcher "Following Regs Could Have Prevented Barrel Explosion Last April at the Idaho National Laboratory's Radioactive Waste Management Complex," at <http://www.environmental-defense-institute.org/publications/News.18.Dec.pdf>

⁶ Brian Sandoval, Nevada Governor, Press Release, "Sandoval Statement on H.R. 3053, The Nuclear Waste Policy Amendments Act of 2018," May 8, 2018. http://gov.nv.gov/News-and-Media/Press/2018/Sandoval-Statement-On-H_R_-3053.-The-Nuclear-Waste-Policy-Amendments-Act-Of-2018/

⁷ Nuclear Waste Policy Amendments Act 2018, Frequently Asked Questions About H.R. 3053 and Nuclear Waste, https://energycommerce.house.gov/wp-content/uploads/2018/05/NWPAA_FAQ_05072018.pdf For one thing, there have not been thousands of spent nuclear fuel shipments in the United States. There have been SNF shipments worldwide, often by ship, and there have been many shipments of radioactive low-level waste in the U.S. but the U.S. Nuclear Regulatory Commission is gaslighting the number of SNF shipments in the U.S. Another important issue in this FAQ concerns raising the cap of 70,000 tons of SNF allowed at Yucca Mountain. While there is currently 80,000 tons of SNF generated and more be generated, the technical capacity stated in the FAQ as up to 630,000 tons of SNF is based on fictional and biases performance assessments for YM.

⁸ Las Vegas Review Journal: Sandoval Urges Officials to Gear Up to Fight Yucca Mountain in 2019, August 16, 2018. <https://nvdeems.com/press/sandoval-undercuts-heller-on-yucca-mountain-predicts-renewed-push-from-the-trump-administration-after-the-election/>

⁹ George Cahlink and others, E&E News reporters, *E&E News*, "Lawmakers delay lame-duck endgame," December 3, 2018. <https://www.eenews.net/stories/1060108445>

On November 30, 2018, Nevada Senator Catherine Cortez Masto and Senator-elect Jacky Rosen (who replaces Dean Heller) sent a letter urging Senate leader Charles Schumer to keep Yucca Mountain funding out of future funding bills in 2019.¹⁰

The State of Nevada has 218 contentions that have been admitted for adjudication in opposition to the licensing application for Yucca Mountain and expects to submit 30 to 50 new contentions.¹¹ New contentions include challenging the NRC's groundwater evaluation in Nureg-2184.¹² It is expected that hearings would take four or five years.

H.R. 3053 (Sec. 202 (b)) would have required the NRC to approve or disapprove DOE's Yucca Mountain application for construction authorization within 30 months of enactment (allowing a one-year extension). Other provisions in the bill are intended to expedite license amendments, environmental analyses and other actions.

H.R. 3053 (Sec. 601 (a)) involving Environmental Protection Agency that sets the radiation protection standards in 40 CFR 197 and the NRC who sets repository technical requirements and criteria to change their requirements after construction authorization but before NRC final licensing of Yucca Mountain. Basically, the EPA and NRC could revise the rules for deciding on a license amendment if doubts arise that the facility, while under construction, can meet the requirements. Robert Halstead, Nevada Agency for Nuclear Projects, explains the situation and writes that "a future Congress could repeal the site-specific standard requirement for Yucca Mountain," and if compliance of the facility is in doubt, "It could also conceivably result in the elimination of requirements for installation of engineered barriers, such as the very expensive titanium drip shields."¹³

NRC Fines Holtec for Its Unapproved Cask Change

The U.S. Nuclear Regulatory Commission has filed a complaint against Holtec International over a design change made by Holtec that was made without evaluating and documenting the design change in accordance with NRC regulations.^{14 15} The design change had not been properly approved.

¹⁰ Catherine Cortez Masto, United States Senator for Nevada, Press Release. "Cortez Mast, Rosen: Keep Yucca Mountain Funding Out of Future Funding Bills," November 30, 2018. <https://www.cortezmasto.senate.gov/news/press-releases/cortez-masto-rosen-keep-yucca-mountain-funding-out-of-future-funding-bills>

¹¹ Robert J. Halstead, Office of the Governor, "Update on Yucca Mountain Repository and Transportation Impacts," March 20, 2018. <https://www.leg.state.nv.us/App/InterimCommittee/REL/Document/11294>

¹² U.S. Nuclear Regulatory Commission, "Supplement to the U.S. Department of Energy's Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada Final Report," NUREG-2184, May 2016. <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2184/> This study assumes the installation of the as of yet undersigned titanium drip shields, which have been assumed to be robotically installed over 100 years after the waste is placed in tunnels in the Yucca Mountain facility. Without the titanium drip shields, water infiltration results in much higher groundwater contamination.

¹³ Robert J. Halstead, Office of the Governor, "Comments on Nuclear Waste Policy Amendments Act of 2017, H.R. 3053," January 19, 2018. <https://www.yuccamountain.org/pdf/nanp180119hr3053fc.pdf>

¹⁴ AP, *Idaho Statesman*, "Regulators file complaint against maker of nuclear fuel cask," December 28, 2018. <https://www.idahostatesman.com/news/business/article223666410.html>

The cask problem surfaced earlier this year at the San Onofre nuclear plant when loose parts were found in a cask.¹⁶ The loose bolts were supposed to support the basket that holds spent nuclear fuel. The original design, the only design that the San Onofre nuclear plant personnel knew of, had not used bolts but instead had solid metal with cutouts to enable gases to circulate within the sealed cask.

Not only was the design improperly changed by Holtec, the manufacturing quality was such that the bolts did not stay in place and there was no formal inspection to assure that the redesigned configuration was properly installed.

Additional violations have been cited by the NRC following an inspection at the Holtec offices in Camden, New Jersey.

A similar cask design is used at Vermont Yankee, Dresden, Ill., Grand Gulf in Mississippi, Hatch in Georgia, Columbia in Washington, Watts Bar in Tennessee and Callaway in Missouri.

Concerns raised around the year 2000 regarding quality assurance in the material, welding and inspection of the Holtec casks were basically ignored by the NRC even though an NRC Region III inspector backed the charges made by the lead quality-assurance auditor in 1999 and 2000.¹⁷

Holtec has applied for an NRC license to open a spent nuclear fuel consolidated interim storage facility in New Mexico.

Interim Storage Partners/Waste Control Specialists has also applied for an NRC license to open a consolidated interim storage facility near the proposed Holtec facility, in Andrews County, Texas. Our public comment submittals on the Holtec and Interim Storage Partners facilities are available on our website.^{18 19}

The proposed Holtec spent fuel consolidated interim storage facility in New Mexico would expand to over 170,000 metric tons heavy metal (MTHM), while the Interim Storage Partners facility in Texas would hold 40,000 MTHM. The two facilities would be about 40 miles apart and are located near the Waste Isolation Pilot Plant (WIPP) which currently prohibits disposal of spent nuclear fuel.

¹⁵ Susan Smallheer, *Brattleboro Reformer*, "NRC files complaint against fuel cask maker," December 30, 2018. <https://www.reformer.com/stories/nrc-files-complaint-against-fuel-cask-maker,560101>

¹⁶ Environmental Defense Institute December 2018 newsletter article by Tami Thatcher "U.S. Nuclear Regulatory Commission Finds Problems at San Onofre's Dry Storage Spent Nuclear Fuel Facility," at <http://www.environmental-defense-institute.org/publications/News.18.Dec.pdf>

¹⁷ Kathryn Casa, *Vermont Guardian*, "Nuclear insider cites dangers of Vermont Yankee casks," March 24, 2005. Posted on Three Mile Island Alert at <http://www.tmia.com/node/310>

¹⁸ Tami Thatcher, "Public Comment Regarding Application to the U.S. Nuclear Regulatory Commission on the "Holtec International HI-STORE Consolidated Interim Storage Facility Project," Docket NRC-2018-0052-0058, July 30, 2018. <http://www.environmental-defense-institute.org/publications/NRCHoltec2018.pdf>

¹⁹ Tami Thatcher, "Public Comment Regarding Interim Storage Partners LLC's Consolidated Interim Storage Facility," Docket NRC-2016-0231, November 2018. <http://www.environmental-defense-institute.org/publications/CommentNRC2018Texas.pdf>

While the U.S. Nuclear Regulatory Commission is expected to rubber stamp approval of both interim storage facilities,²⁰ current law prohibits transfer of title of the commercial spent nuclear fuel to the Department of Energy allowing an interim storage facility unless there is an operating permanent repository. Efforts have been made by Congress to change the law, so that interim storage could be opened without knowing where the permanent disposal facility would be located.

It appears to me that placing these proposed interim storage facilities next to WIPP could ultimately force New Mexico to accept the nation's spent nuclear fuel for disposal.

DOE Awards Contract for Versatile Test Reactor Conceptual Design

The Department of Energy has awarded a subcontract to GE Hitachi to support the conceptual design for a proposed fast spectrum Versatile Test Reactor (VTR).²¹ Test reactors, such as the Advanced Test Reactor at the Idaho National Laboratory are used to test materials used for reactor fuel and other components. The test conditions are intended to simulate years of operation by exposing the materials to high neutron flux.

GE Hitachi's sodium-cooled fast reactor design, based on the Experimental Breeder Reactor (EBR-II) design has never been built but has been licensed by the U.S. Nuclear Regulatory Commission.

The Department of Energy's Office of Nuclear Energy established the Versatile Test Reactor program earlier this year.

The Advanced Test Reactor is a high neutron flux test reactor for slow neutron reactor operation and is not able to provide a fast neutron flux at high enough levels to simulate years of operation in a fast reactor in a shorter materials testing timeframe.

The recently restarted Transient Testing reactor at the Idaho National Laboratory, called TREAT, can simulate accident conditions with 20-megawatt bursts of energy.²² The exposed materials are then examined at the Hot Fuel Examination Facility at the Materials and Fuels Complex.

²⁰ Beyond Nuclear, "Advocates for CISFs hit back against Beyond Nuclear's resistance in NM and TX proceedings," October 29, 2018. <http://www.beyondnuclear.org/centralized-storage/2018/10/29/advocates-for-cisfs-hit-back-against-beyond-nuclears-resista.html>

²¹ *The Idaho Falls Post Register*, "Subcontract awarded versatile test reactor – GE Hitachi receives subcontract for work supporting proposed Versatile Test Reactor," November 14, 2018.

²² Keith Ridler, *The Idaho Falls Post Register*, "Idaho National Laboratory test reactor is pivotal in U.S. nuclear power strategy," December 16, 2018.

DOE Signs Deal to Use Some of the Power Generated by Proposed NuScale Small Modular Reactors

The Department of Energy has signed a memorandum of understanding with Battelle Energy Alliance and Utah Associated Municipal Power Systems (UAMPS) to use power from one of the 12 reactor modules and reserve a second module for research.

NuScale Power plans to build a facility that houses 12 small reactor modules at the Idaho National Laboratory. The design is undergoing Nuclear Regulatory Commission licensing. Construction is scheduled to start in the mid-2020s.²³

Bear Prairie has been named chairman of the Utah Associated Municipal Power Systems' Carbon Free Power Project. Prairie is the Idaho Falls Power's general manager. NuScale Power is hoping to build a facility that houses 12 small reactor modules, which could produce 720 megawatts if all 12 modules are operating.²⁴

The small modular reactor promoters don't know where the spent nuclear fuel from the proposed NuScale reactors will be disposed of, but they are paid to tell the public not to fear.^{25 26} The most vocal promoters probably haven't studied the accident risks nor the routine emissions from the plant. NuScale emissions will be difficult to distinguish from the emissions from the Advanced Test Reactor and other nuclear facilities at the Idaho National Laboratory. The costs facing ratepayers should the construction and operating costs expand and to future taxpayers for the storing the spent nuclear fuel don't seem to matter to these supporters. Well-negotiated deals to protect ratepayers were claimed to be in place for the aborted AP1000 Westinghouse reactors in South Carolina. The remaining two AP1000 Westinghouse reactors being built in Georgia continue to face construction cost overruns and are costing ratepayers despite no power being generated.

A lone voice of reason, Kurt Hamman, pointed out that "Since its inception, the commercial nuclear industry has been plagued with high construction costs, schedule delays, cost overruns, and expensive bailouts by taxpayers and ratepayers."²⁷ Prairie's editorial responded that Idaho Falls power will have the option to purchase 10 megawatts, not to exceed \$65 dollars per megawatt, at a leveled cost — but they are not finished with negotiation. Basically, the citizens in the cities powered by UAMPS don't know and won't know what deal they are getting stuck with.

Idaho LINE Meeting Transparency — or Lack Thereof

The meeting minutes of the Leadership in Nuclear Energy (LINE) Commission held May 24 in Arco, Idaho are still not available. While a later meeting's minutes in October are available,

²³ Nathan Brown, *The Idaho Falls Post Register*, "DOE inks deal to use reactors for INL research, power," December 22, 2018.

²⁴ Nathan Brown, *The Idaho Falls Post Register*, "Prairie to rep utilities in reactor project," December 29, 2018.

²⁵ Dana Kirkham, opinion editorial, *The Idaho Falls Post Register*, "Listen to facts, not fear," December 2, 2018.

²⁶ Bear Prairie, opinion editorial, *The Idaho Falls Post Register*, "Benefits of SMRs outweigh risks," December 1, 2018.

²⁷ Kurt Hamman, opinion editorial, *The Idaho Falls Post Register*, "Should Idaho Falls invest in nuclear power," November 25, 2018.

checking the LINE Commission website on December 31, there were still no meeting minutes for the May 24, 2018 meeting.²⁸

This is the meeting when LINE Commission Chair Brad Little stated that there wasn't enough money in the U.S. Treasury to treat the high-level waste (HLW) calcine stored at the Idaho National Laboratory. And this is also the meeting where the long-in-process draft brochure about the HLW calcine was noted as already including the Department of Energy's wished for policy changes that had not yet been approved by the state.

The public is being kept in the dark on the back-room discussions going on between the LINE Commission and the Department of Energy.

The DOE 2009 amended Record of Decision regarding the treatment of calcine in order to have it road-ready for a repository by 2035 selected Hot Isostatic Pressing.^{29 30} The high technological risk of Hot Isostatic Pressing has been questioned in an independent study of calcine treatment.³¹

Obviously, if the DOE intended on meeting its current commitments for the repackaging the calcine and having it road ready as agreed to in the 1995 Idaho Settlement Agreement, there would be no need for such secrecy.

This is partially what seems to be happening: With regard to new reactors, I overhear the DOE/DOE contractor tell the LINE Commission Chair not to worry about Yucca, waste will be shipped to it within 7 years of restart of licensing. But with regard to DOE's high-level waste,

²⁸ Idaho Leadership in Nuclear Energy Commission 3.0, Minutes webpage at <https://line.idaho.gov/minutes/> checked on December 31, 2018 and still no minutes posted for the May 24, 2018 meeting.

²⁹ In order to ship the calcine out of Idaho, it needs a repository to ship to. It needs to be packaged into canisters for shipping and disposal. Calcine retrieval must be performed regardless of the choice of repository or choice of canister packaging method such as Hot Isostatic Press (HIP) (see our June 2017 newsletter). The Department of Energy had formally announced in 2009 the decision to use HIP as the method of repackaging the calcine for shipping and disposal. The 2009 decision was actually amending previous decisions. Now it appears that the 2009 decision may be changed again because the Department of Energy recently issued a report by an independent review panel describing the possible treatment options for the calcine.

Both the CAB and DOE-ID both agree in 2017 that calcine retrieval needed to continue uninterrupted.

Environmental Defense Institute has previously submitted comments to the Idaho Department of Environmental Quality about the calcine. More background on the calcine can be found in the July 2017 EDI newsletter and in other reports listed.

Sec. Moniz: "At the Idaho National Laboratory, 4,400 cubic meters of calcine high-level waste, which exists as granular and powdered solids, is currently planned for treatment, but may be more safely and efficiently packaged without treatment and disposed in a borehole or in a defense waste repository. The same is true for granular solids resulting from fluidized bed stream reforming of 900,000 gallons of sodium-bearing liquid wastes that will be treated at the Idaho site."

DOE has now suspended its two repository approach and its borehole research.

³⁰ Department of Energy Press Release, Amended Record of Decision: Idaho high-Level Waste Facilities Disposition Final Environmental Impact Statement REVISED BY STATE 12/21/09. http://www.id.doe.gov/NEWS/PressReleases/PR100104-HIP/Calcine%20ROD%20final_SIGNED_PDF.pdf In 2009 DOE had decided to select hot isostatic pressing (HIP) to treat the calcine.

³¹ US DOE-EM, "Independent Analysis of Alternatives for Disposition of the Idaho Calcined High-Level Waste Inventory, Volume 1 – Summary Report," April 2016. https://energy.gov/sites/prod/files/2016/05/f31/Volume%201%20Calcine%20AoA%20Final%2004-19-16%20w_signatures.pdf

the DOE is making excuses about how the HLW calcine can't be shipped to Yucca Mountain, because there is no repository there and there won't be certainly won't be before 2048.

Newly elected Idaho Governor Brad Little who chaired the LINE Commission in 2018 needs to do more to protect Idaho citizens from the buildup of radionuclides. He can start by making sure the Idaho Department of Environmental Quality issues violations over the law breaking that caused four waste drums to rupture last April. And he can do more questioning of the Department of Energy and stop giving DOE his immediate approval of any hairbrained ideas DOE has to back out of its agreements with Idaho.

Tami Thatcher for January 2019.