

**REPORT FROM LISSA WEINMANN
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FINDINGS FROM RADWASTE SUMMIT, JUNE 3-5 2024**

I attended the three day 'RadWaste Summit' in Louisville, KY June 3 - 5, 2024 on behalf of the NDCAP to learn more about how Vermont Yankee is situated and impacted by the national nuclear waste policy landscape and to make important connections with the people who devote their lives to this topic within and outside of government. I found attendance at this conference very useful and important for my continued work on the NDCAP panel.

The Conference, sponsored by Exchange Monitor publications, which publishes a variety of journal of radioactive waste and other topics, was attended by about 300 people from the Dept. of Energy (DOE) and its national laboratories, the NRC, and many private corporations (such as Holtec, Waste Control Specialists, trucking organizations etc) and contractors who are carrying out the work of nuclear waste cleanup from both civilian reactors like VY and from defense waste mainly from nuclear weapons production.

I believe this was the first time a member of NDCAP panel attended an educational conference like this and I found it highly informative for my work and panel participation. I was one of only a few civilian nuclear reactor community representatives. Please find a summary of presentations at: <https://www.exchangemonitor.com/go/radwaste-summit-2024/post-show-presentations/>
Viewing code is RWS24.

The conference raised my awareness about DOE's complicated and extremely broad portfolio on nuclear waste nationally.

The DOE's Kimberly Petry discussed the consent based siting process and the \$28 million that the DOE has budgeted over the next few years to contract with 13 groups like Good Energy Collective (also Nuclear Energy Institute, Holtec and others to the tune of about \$2 million each) to schedule meetings with communities around the country talking about what 'consent' to host a Consolidated Interim Storage Facility for high level nuclear waste would look like.

Petry shared an animated graphic of the consolidated interim storage facility. Before she showed the video, there was a disclaimer in the front of the video, which was basically 'the following is just planning at this point because in order to do any of this, we need a change of law.' The audience, which was several 300 people, chuckled at that. We know under current law, DOE can design and site such a facility, but really until we have a change of law, nothing can actually be built. I found the laughter an interesting shared response.

Petry also spoke of the newly approved Atlas rail car to carry dry casked waste made in cooperation with the navy which just got American association of railroads approval. (VT State Nuclear Engineer Tony Leshinskie was at the conference in Colorado where the DOE's Paul Murray unveiled Atlas.)

Silvia Saltzstein at Sandia National Lab in New Mexico talked about how several generations of employees over 50 years had looked at deep geologic disposal. I learned the US has 1/4 of the world's spent nuclear fuel: **Over 4000 canisters sitting around the country, in different climates aging and corroding over time. By 2075 we will have 10,000 canisters. I learned spent fuel pools are all full so when a new spent fuel rod goes in, one gets taken out. She said we are doing one a day in the US, putting one new rod in, taking one out. She said even if we start now, it will be 70 years before we will have disposal. She spoke of 30 different designs of casks in the US,** designs are not that different, but how that complicates disposal. She reiterated that the internationally agreed approach to ultimate disposition of nuclear waste is deep geologic disposal. Norway is opening this year a small disposal only for their waste, but it has taken 45 years to get there and lots of investment. France and England are still working toward one, but right now the law says we can only work on Yucca,

I learned that there are 17 'National Laboratories' such as Sandia, Los Alamos, Argonne, Savannah River, etc organized under the DOE. They do research on a variety of things, including space travel and materials science. They're well funded and spearhead work on all aspects of the US' "nuclear enterprise", which is the nuclear weapons complex as well as the civilian applications of nuclear power. One common denominator between those two mandates is radioactive waste.

There was a lot of overlap between discussions about the defense waste and the discussions of the civilian nuclear waste, which are treated as two separate streams. And for instance, when we talk about Yucca Mountain, which under current law is the designated (but unworkable in practice) deep geologic disposal facility for civilian nuclear waste. No deep geological disposal facility was discussed for high level defense waste.

Dwayne White from the NRC said the US currently has about 130 tons of high level nuclear waste (spent fuel) from civilian electricity generation, but Yucca was only licensed for 60 tons. So we've been talking about developing one geologic repository but in fact, even if Yucca was to open, it couldn't accommodate the waste we've generated so far.

The same holds true for the Consolidated Interim Storage Facility we know DOE is trying to get permission and consent to build. In our committee we have been talking about one facility but the reality is DOE foresees there being several such CISFs nationally.

Attending a conference like this and talking to the people who are actually subcontractors of DOE that are responsible for building these facilities and taking care of the waste is was very important for me to understand the role of these small to mid sized companies all across the US that that are benefiting from this business the DOE is subcontracting out.

One thing that was reiterated by the DOE employees and leaders was that even though they're trying to get the smaller CISFs off the ground, work is continuing to identify sites for permanent disposal facilities. The above-ground CISFs they're trying to change the law to create would be holding facilities for the high level spent fuel rods until actual disposal.

The French US subsidiary Orano had a large contingent there as did Holtec. Both are enthusiastic about the possibilities of reprocessing and recycling nuclear waste. They spoke of different reprocessing options and about reviving the West Valley facility even in northern New York, which was closed, and is a Superfund site, as well as other places across the United States where reprocessing could potentially occur.

There was discussion about having a reprocessing facility near a CISF which could be a sort of a reciprocal relationship between reprocessing and the above ground storage facility, which I think is sort of the dream of many in the industry. But the DOE people were not very optimistic about the prospects for reprocessing. DOE Reps said every few years this idea of reprocessing comes up and it's dispelled because it's just so costly as to not make sense.

The thing that really impressed me most was the discussion about the waste implications of the new generation of nuclear weapons and how much new defense waste would be produced by these efforts.

There were several officials from the National Nuclear Security Administration (NNSA) which is a semi autonomous agency within DOE responsible for securing and disposal of all of these dangerous waste across the country. I sat through a lot of different presentations about clean up efforts and the staggering costs associated with them.

Plutonium pit production (bowling ball size balls of highly radioactive plutonium key for nuclear weapons production) is starting in Los Alamos and Savannah River lab sites. The 2018 Nuclear Posture Review announced that the United States will pursue initiatives to ensure the necessary capability, capacity, and responsiveness of the nuclear weapons infrastructure and the needed skill of the workforce, including providing the enduring capability and capacity to produce no fewer than 80 plutonium pits per year by 2030.

Billions of dollars are being spent annually on defense waste cleanup from bomb making activities since the 1940s. There was a long discussion on cleanup at Hanford in Washington and many other sites throughout the US.

I learned that the Navy's nuclear waste generated from nuclear submarines all goes to Idaho. Idaho will not accept any additional waste apart from the Navy's waste.

We also discussed the WIPP facility, which is the waste isolation pilot project in Carlsbad around Carlsbad in Southern New Mexico, a deep geologic formation for low level transuranic waste from the Defense Department. WIPP is the only purpose-built deep geological repository licensed for disposal of nuclear material in the world, but it does not have a licence for disposal of high level waste. WIPP was meant to be a sort of a test facility for a deep geological disposal but an explosion due to human error occurred several years ago but it is now once again accepting waste. And again in that area people are saying that they don't want WIPP expanded.

Carlsbad and WIPP are not far from the proposed HOLTEC CISF that has been licensed by the NRC. Right across the border from that is the Waste Control Specialists low level waste site where NorthStar has been shipping all those rail cars of irradiated materials from VY decommissioning thanks to Vermont's compact with Texas. The NRC has issued a **license** to Interim Storage Partners for a **WCS CISF adjacent to the low level facility** in Andrews County.

When considering consent based siting, it's interesting to note that the places that are already hosting this waste in their communities, from what I've heard at the conference, don't really want more.

Matt Lafarge of WCS commented at the conference that the last TEXAS governor supported expansion into accepting high level nuclear waste for a CISF, but present Governor Abbot doesn't want it. This abiding by agreements made in the past is a big consent conundrum.

There was also a lot of concern about workforce issues. People with expertise are aging out and young people are not as interested, especially women not as interested. There was much talk about getting youth interested, ad campaigns, scholarships etc.

There were discussions about decommissioning models changing and how the new approach is for decommissioning to take about eight years from shutdown to ISFSI.

I spoke with a person who was very instrumental in building Yucca Mountain who made the case that, since the Nevada test site is near Yucca, that whole area is already highly contaminated so why not put the deep geologic facility someplace that's already been a sacrifice zone? He felt strongly that, despite native American tribal opposition and concerns raised by people like former NRC Chair Allison MacFarlane (a geologist) and others about the geologic unsuitability of Yucca, it should still be finished, licensed and used as the the repository, even though now we know we'll probably need a second one anyway. Others seemed to accept that Yucca would never open due to concerns waged by scientists regarding its earthquake potential and presence of water as well as political opposition and that work should be done to identify a new site.

I hope the presentation will prove useful to anyone wanting more information about the conference. I think attending these types of events is important for NDCAP members.