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Stop "Forever WIPP"

Statement of Don Hancock

before the

New Mexico Radioactive and Hazardous Materials Committee

October 21, 2020

Madam Chair and Members of the Committee:

Thank you for this opportunity to make a presentation and answer your questions. I greatly appreciate your attention to important issues regarding radioactive and hazardous wastes.

I am Don Hancock, Nuclear Waste Program Director at Southwest Research and Information Center (SRIC). The 49-year-old nonprofit organization has been involved in a variety of environmental health, environmental justice, and natural resources issues throughout its history. Involvement with the Waste Isolation Pilot Plant (WIPP) began in 1972 when the Atomic Energy Commission (AEC) announced in Carlsbad that it would develop a “pilot project” for waste from commercial nuclear power plants “by about 1979 or 1980.”¹ Since that time, SRIC has been involved in many aspects of WIPP, including research, public information, legislative testimony and lobbying, litigation, and active participation in all aspects of the WIPP Hazardous Waste Act Permit. For 40 years, SRIC also has responded to requests from citizen groups, tribes, and states regarding proposed consolidated storage and repository sites, as well as addressing Department of Energy (DOE) weapons and waste sites.

I last testified about WIPP before this Committee in Carlsbad on September 16, 2014.² That testimony included significant attention to “DOE and NWP [Nuclear Waste Partnership] not focusing on safety and the WIPP mission, but rather putting significant management attention, expertise, and money into promoting mission expansion.”

Unfortunately, rather than improving safety and focusing on the WIPP mission, DOE is focused on additional projects to expand WIPP, including current plans that would result in a “Forever WIPP.” For example, DOE is proposing to change the WIPP Permit so that there would be no end date for waste disposal operations and the legal limits on types and amounts of waste would be exceeded.

My comments today will focus on public opposition to “Forever WIPP” and some suggestions for what can be done to prevent such a result. The DOE plans are contrary to existing federal and state laws, the WIPP Permit, the New Mexico-DOE Consultation and Cooperation (C&C) Agreement, and decades of promises made to the public – a social contract. Those plans also are contrary to the nation’s need for a publicly accepted and technically sound program to store and dispose of commercial spent nuclear fuel and defense high-level and transuranic (TRU) waste. Those radioactive wastes pose significant threats to public health and the environment for literally thousands of generations.

¹ *Albuquerque Journal*, August 15, 1972, p. A-1.

² <https://www.nmlegis.gov/handouts/RHMC%20091614%20Item%205%20Southwest%20Research%20and%20Information%20Center%20Report.pdf>

WIPPs Mission

As already noted, WIPP's mission has changed since the original AEC announcement in 1972. Those changes and limitations have been driven by concerns of New Mexicans; actions by New Mexico officials, including litigation and the C&C Agreement; the WIPP Land Withdrawal Act (LWA); and the WIPP Permit, among other things.

WIPP's four-part mission is to:

- “Start Clean, Stay Clean” to dispose of up to 6.2 million cubic feet (175,564 cubic meters) of defense TRU waste
- Safely transport the waste by truck to WIPP through more than 20 states
- Safely remove TRU waste from more than 20 DOE sites
- Safely close, decontaminate, and decommission WIPP, beginning in 2024

The “Start Clean, Stay Clean” part of the mission is not achieved because of the radiation release. As will be discussed (but not in the powerpoint because of limited time), SRIC opposes additional radiation releases in a four-hour test and then continuing operation of the 700 C fan that before February 14, 2014 provided ventilation to the WIPP underground.

The 2014 Testimony showed that the legal capacity limits would not be achieved in the underground footprint design. Attached Chart 1 shows that in Panels 1-6, about 20 percent, more than 21,000 cubic meters, of permitted space was not used. With the loss of half or more of the capacity of Panel 7 and no waste in Panel 9, the shortfall will be more than 40,000 cubic meters so that about 30 percent of the legal capacity will not be used.

While such a shortfall shows the incompetence of DOE and NWP and earlier contractors, there would be no legal violation, since the limit is up to 175,564 cubic meters. Of course, since there will be remaining legacy TRU waste at some sites, especially Hanford, WA, there is a need for additional repository(ies) or better long-term storage at the DOE sites. And there are tons of surplus plutonium from past nuclear weapons development that were never part of the WIPP mission that need safe storage and disposal.

WIPP's mission is not for defense high-level waste, commercial spent nuclear fuel, or any commercial waste. As summarized in the 2014 Testimony, DOE has had proposals for many years to bring some high-level tank waste to WIPP, as well as commercial waste from West Valley, NY and commercial Greater-Than-Class C (GTCC) waste and defense “GTCC-like” waste to WIPP. TRU waste from future nuclear weapons production was never part of the WIPP mission, so if there is such waste, additional repository(ies) are necessary.

Other Repositories are necessary for legal and technical reasons

As a “pilot plant,” WIPP was always supposed to be the first of multiple repositories. That’s what the 1979 WIPP Authorization required.³ That’s what the 1982 Nuclear Waste Policy Act (NWPA) required.⁴ Congress rejected using WIPP in the 1987 NWPA Amendments Act, which designated Yucca Mountain in Nevada as the repository.⁵ The 1992 LWA set WIPP capacity and Remote-Handled waste radiation limits and explicitly prohibited high-level waste and spent nuclear fuel.⁶ The 1996 LWA Amendments did not change those limits and prohibitions.⁷

In addition to the laws, scientific support for geologic disposal has always included multiple repositories in various rock formations in various parts of the country being viable.⁸

Since more than 90 percent of commercial spent nuclear fuel is stored east of the 100th meridian,⁹ at least one repository should be in the eastern half of the nation to reduce transportation risks and costs.

Of course, no state is willing to host the only disposal site. Since 1979, New Mexico law is:

74-4A-11.1. Condition.

No person shall store or dispose of radioactive materials, radioactive waste or spent fuel in a disposal facility until the state has concurred in the creation of the disposal facility, except as specifically preempted by federal law. As used in this section, "disposal facility" means an engineered facility designed primarily for the isolation of radioactive materials, radioactive waste or spent fuel other than tailings or other waste from the extraction, beneficiation or processing of ores and minerals.

³ Public Law 96-164, Section 213.

⁴ Public Law 97-425, Subtitle A.

⁵ Public Law 100-507, Title V.

⁶ Public Law 102-579, Sections 7 and 12.

⁷ Public Law 104-201.

⁸ National Research Council. *A Study of the Isolation System for Geologic Disposal of Radioactive Wastes*, 1983.

<https://www.nap.edu/catalog/19446/a-study-of-the-isolation-system-for-geologic-disposal-of-radioactive-wastes>

Office of Technology Assessment, *Managing the Nation’s Commercial High-Level Radioactive Waste*, 1985.

https://govinfo.library.unt.edu/ota/Ota_4/DATA/1985/8514.PDF. U.S. Nuclear Waste Technical Review Board, *Geologic Repositories: Performance Monitoring and Retrieval of Emplaced High-Level Radioactive Waste and Spent Nuclear Fuel*, 2018. https://www.nwtrb.gov/docs/default-source/reports/nwtrb_perfmonitoring.pdf?sfvrsn=6

⁹ Western Governors’ Association Policy Resolution 2014-06.

<https://www.leg.state.nv.us/App/InterimCommittee/REL/Document/4680>

DOE Wants “Forever WIPP”

In addition to the previous WIPP expansion proposals, DOE has made clear in numerous official documents over the past 14 months that it wants WIPP to operate for decades longer than previously proposed, including during the LWA debates in Congress and the WIPP Permit.

In August 2019, the DOE Carlsbad Field Office released the *Strategic Plan for 2019-2024, Draft A*.¹⁰ The Document explicitly states that the Plan is: “for successful operation of the WIPP through 2050, the estimated duration needed to emplace the existing defense TRU waste inventory.” Pg. 1. In addition to the extended timeframe, WIPP would be for the existing inventory, not the legacy waste inventory for which DOE was originally approved.

In March 2020, DOE released its *EM Vision 2020-2030: A Time of Transition and Transformation*.¹¹ The document states: “WIPP is currently anticipated to operate beyond 2050.” at 59.

In December 2019, the DOE National Nuclear Security Administration (NNSA) released a final environmental document that stated that WIPP would need to operate from 2030 to 2080 to accommodate waste from new plutonium pit production at Los Alamos and the Savannah River Site (SRS).¹² On September 2, 2020, DOE issued an Amended Record of Decision (ROD) to move forward with the proposed actions in that Environmental Impact Statement (EIS) analysis.¹³

Also in September 2020, DOE issued an SRS Pit Production Final EIS.¹⁴ That document also states that WIPP needs to operate until after 2080 to accommodate the TRU waste that will be generated from SRS pit production from 2030 to 2080.

Those formal documents, including legally required EIS’s and RODs, describe plans for WIPP to operate past 2080 to accommodate many metric tons of new TRU waste that will result from such new production activities. The only repository considered for that TRU waste is WIPP, so DOE is not even considering developing any other TRU waste repository. Thus, there can be no doubt about its plans for “Forever WIPP.”

¹⁰ https://wipp.energy.gov/pdfs/DOE-CBFO-19-3605_CBFO%20Strategic%20Plan%202019-2023-Rev%200-DRAFT%20A.pdf

¹¹ https://www.energy.gov/sites/prod/files/2020/03/f72/DOE_Strategic_Vision.pdf

¹² *Final Supplement Analysis of the Complex Transformation Supplemental Programmatic Environmental Impact Statement*, DOE/EIS-0236-S4-SA-02 (Dec. 2019). <https://www.energy.gov/sites/prod/files/2020/01/f70/final-supplement-analysis-eis-0236-s4-sa-02-complex-transformation-12-2019.pdf>

¹³ <https://www.govinfo.gov/content/pkg/FR-2020-09-02/pdf/2020-19348.pdf>

¹⁴ <https://www.energy.gov/nepa/downloads/doeeis-0541-final-environmental-impact-statement>

DOE Needs Bigger “Forever WIPP”

Not only do DOE documents clearly establish that “Forever WIPP” is the plan, but the amount of waste that DOE wants to dispose at WIPP also requires an expanded WIPP capacity beyond the 6.2 million cubic feet allowed by the C&C Agreement and the LWA.

The capacity limit was stated in the August 4, 1987 Second Modification to the C&C Agreement. Page 4. The LWA also incorporates that same limit. Section 7(a)(3).

In 2017, DOE and NWP proposed a class 2 modification to the WIPP Permit, to allow a second method to calculate the volume of waste in WIPP. That “Volume of Record” (VOR) was approved as a class 3 modification by the New Mexico Environment Department (NMED) on December 21, 2018.¹⁵ SRIC and other groups strenuously objected to the VOR, and SRIC and Nuclear Watch New Mexico have an appeal pending before the New Mexico Court of Appeals to overturn the modification. No. A-1-CA-37894. In addition, SRIC intends to advocate for the removal of the VOR during the upcoming WIPP Permit Renewal proceeding.

DOE wants the VOR to expand the capacity of WIPP by at least 30 percent. During the permit modification process, DOE refused to discuss what additional waste it intended to emplace at WIPP with the increased capacity. But subsequent documents clearly support SRIC’s testimony that the plans include waste not previously in the WIPP Inventory and not included in waste considered to be for WIPP during the LWA process.

Congress asked the National Academy of Sciences (NAS) to look at the proposed “dilute and dispose” method proposed for 34 metric tons or more of surplus plutonium from nuclear weapons. The final NAS Report was released on April 30, 2020.¹⁶ It includes Figure S-5 that shows that without the VOR, waste proposed for WIPP is more than 150 percent of the legal limit and that the waste will exceed the legal limit even with the VOR.

The NAS Report also includes several findings, conclusions, and recommendations regarding how DOE should proceed. Conclusion 5-3 states that the dilute and dispose program represents “a significant demonstrable change in the character of the Waste Isolation Pilot Plant repository and the social contract with the State of New Mexico, warrants a strategic approach to seeking its technical evaluation, regulatory review, safety analysis, and public engagement.”

¹⁵ <https://www.env.nm.gov/wp-content/uploads/sites/12/2016/05/HWB-18-19-P-Secretarys-Order-Approving-Draft-Permit.pdf>

¹⁶ <https://www.nap.edu/catalog/25593/review-of-the-department-of-energys-plans-for-disposal-of-surplus-plutonium-in-the-waste-isolation-pilot-plan>

Recommendation 5-5 states that DOE should implement a new Programmatic EIS related to up to 48.2 metric tons of surplus plutonium. Recommendation 5-6 states that DOE should take additional actions beyond those defined by the National Environmental Policy Act toward transparency and stakeholder engagement on the whole of the potential scope of surplus plutonium activities. Recommendation 5-7 states that the Environmental Protection Agency, DOE, and the State of New Mexico should engage in developing a mutually agreed-upon strategy for vetting the effects of the dilute and dispose inventory, in its entirety, on WIPP.

DOE has yet to take any action to implement any of the NAS recommendations, nor has it even expressed its willingness to implement any of them.

DOE Needs More WIPP Permit Changes

In addition to the VOR, DOE needs other major changes in the WIPP Permit. The Permit repeatedly refers to the 25-year time of Disposal Operations, to be followed by 10 years of Decommissioning and Closure. The Permit has always explicitly stated that WIPP would end disposal operations in 2024.¹⁷

Thus, SRIC, and other members of the public, have presumed that the upcoming permit renewal would be the last one in which disposal operations would occur and the next renewal in 2031 would cover the final closure. However, in its renewal application, DOE and NWP specifically request eliminating the 25-year timeframe and the 2024 date. Instead, they propose that the Permit include no end date, because “a final waste emplacement date is unknown at this time,” and “The Disposal Phase will last until the disposal objectives of the DOE are reached.”¹⁸

That’s a clear description of “Forever WIPP” – as long as DOE wants!

What Have other States done?

In considering how New Mexicans can respond to “Forever WIPP,” how other states have interacted with DOE is instructive. In fact, WIPP resulted from other states – especially Colorado and Idaho – not agreeing that TRU waste could stay in those states and that instead a geologic repository should be developed in another state.

¹⁷<https://hwbdocuments.env.nm.gov/Waste%20Isolation%20Pilot%20Plant/200800/200800%20WIPP%20Permit%20PDF/Attachment%20G%2008-2020.pdf> at G-6.

¹⁸https://wipp.energy.gov/Library/Information_Repository_A/10_Year_Permit_Renewal/2020%20Renewal%20Application%202020-03-31_osof.pdf. Pages 102-3 and 105 of the PDF.

The vast majority of plutonium pit production was done at the Rocky Flats Plants in Colorado from 1954 to 1989. Thus, the vast majority of TRU waste intended for WIPP was generated at Rocky Flats. Because of a series of fires at that plant in the 1950s and 1960s, Colorado state officials insisted that waste be taken from the state and stored elsewhere. The waste was transported to the Idaho National Laboratory with the promise in 1970 from the AEC to then Senator Frank Church that the waste would start leaving the state “within the decade.”¹⁹

In 1981, when DOE decided to proceed with WIPP, the ROD specifically stated:

The WIPP facility will dispose of defense transuranic (TRU) stored retrievably at the Idaho National Engineering Laboratory (INEL). By approximately 1990 all existing waste stored at INEL will have been removed to WIPP, and the WIPP facility would be in a position to receive and dispose of TRU waste from other defense waste generating facilities.²⁰

Idaho officials advocated for WIPP to open, and they also sued DOE to enforce the requirement that all TRU waste be removed. In 1995, the State of Idaho and DOE settled a lawsuit with an agreement that required all TRU waste to be out of Idaho by 2015, “and in no event later than December 31, 2018.”²¹ After DOE disagreed that “all means all” in the Settlement Agreement, in 2008 an additional agreement was signed that provided more specificity about what waste would be removed.²² When WIPP shut down in 2014 because of the radiation release and DOE did not meet some of the interim milestones, Idaho took additional action and in 2019 signed a Supplemental Agreement²³ that provides that DOE will allocate “at least fifty-five percent (55%) of all transuranic waste received at WIPP for INL transuranic waste, including retrieved buried waste, each year until shipments from INL are complete.” Page 5 of 7.

In 2018, DOE secretly, without notice to the State of Nevada, shipped ½ metric ton of plutonium from SRS to the Nevada National Security Site. The State of Nevada filed suit and the congressional delegation demanded that DOE remove the waste and not send more plutonium. In 2020, DOE agreed to those demands, including that the plutonium be removed by 2026.²⁴

¹⁹ [https://www.energy.gov/sites/prod/files/2013/04/f0/Gosling%20and%20Fehner%20-%20Closing%20the%20Circle%20\(complete\).pdf](https://www.energy.gov/sites/prod/files/2013/04/f0/Gosling%20and%20Fehner%20-%20Closing%20the%20Circle%20(complete).pdf). Pages 15-16.

²⁰ <https://www.energy.gov/sites/prod/files/2016/12/f34/EIS-0026-ROD-1981.pdf>

²¹ <https://www.deq.idaho.gov/inl-oversight/oversight-agreements/1995-settlement-agreement/>

²² https://www.deq.idaho.gov/media/550373-implementation_agreement_2008.pdf

²³ <https://www.deq.idaho.gov/media/60183733/2019-supplemental-agreement-1219.pdf>

²⁴ https://ag.nv.gov/News/PR/2020/State_of_Nevada_Strikes_Settlement_With_Department_of_Energy_Over_Plutonium_Shipments/

That plutonium was shipped from South Carolina to Nevada because of a federal law that required plutonium to be removed from South Carolina if the Mixed Oxide Fuel Facility was not constructed.²⁵ When DOE cancelled the facility, South Carolina sued. Since DOE will not meet the legal milestones and some amount of plutonium would stay in the state, on August 31, 2020 the state and DOE agreed to a settlement in which the federal government immediately paid \$600 million in damages and agreed that the plutonium would be removed by 2037 or that additional legal action and payments could occur.²⁶

What to do?

New Mexicans have already begun registering their opposition to WIPP expansion and “Forever WIPP.” In comments in 2019 on the permit modification for a new fifth shaft at WIPP, more than 97 percent of commenters opposed the shaft and WIPP expansion, many specifically objecting to “Forever WIPP.”²⁷ In comments in 2020 on the draft permit for the new shaft, again more than 97 percent of commenters opposed the new shaft. Many people also opposed the Temporary Authorization that allowed construction to begin before the required public hearing,²⁸ an approval that SRIC is challenging in the Court of Appeals and for which the New Mexico Supreme Court overturned the dismissal of the appeal.²⁹ On January 23, 2020, at a public meeting in Santa Fe regarding the permit renewal application, there was very significant opposition to eliminating the 2024 date in the permit and to “Forever WIPP.” When there is a comment period on the permit renewal, SRIC again expects that many people will oppose eliminating the 2024 date and will oppose “Forever WIPP.”

The overwhelming majority of public comment is clear that NMED should reverse the VOR decision, not approve the new shaft (and Temporary Authorization), and not change the permit to allow for “Forever WIPP.”

The legal limits that exist for WIPP are largely because of legal and congressional action to set such limits. To a significant extent, WIPP is the result of actions of other states to provide a disposal site for TRU wastes that would otherwise remain in those states. A clear lesson is that if there are to be additional repositories, New Mexico must enforce time and volume limits on WIPP and demand DOE and congressional action to ensure that other repositories are

²⁵ 50 U.S.C. § 2566(c).

²⁶ <https://www.energy.gov/articles/secretary-brouillette-and-south-carolina-officials-announce-historic-agreement-between>

²⁷ <https://hwbdocuments.env.nm.gov/Waste%20Isolation%20Pilot%20Plant/191019.pdf>

²⁸ <https://hwbdocuments.env.nm.gov/Waste%20Isolation%20Pilot%20Plant/200805.pdf>

²⁹ No. S-1-SC-38373. Order of September 17, 2020.

developed. Since it will take years to open another repository, New Mexico should take necessary action now to get the process started!

DOE action will result in more WIPP radiation releases

As a result of the February 14, 2014 radiation release, ventilation air going through the contaminated and uncontaminated parts of the underground and coming to the surface through the contaminated exhaust shaft must be filtered to protect workers and the public before being released into the environment. Because the ventilation system was not designed to operate at full capacity in filtration mode, the 700 A, 700 B, and 700 C main ventilation fans were shut down and have not been used since 2014. While there had been previous discussions about restarting one of the fans, they have not been refurbished to be used. However, in recent months, DOE has decided to conduct a four-hour test of the 700 C fan and then operate the fan more frequently.

On December 6, 2019, the Defense Nuclear Facility Safety Board (DNFSB) Monthly Report noted that the planned October 31, 2019 restart was delayed.³⁰ On June 5, 2020, the DNFSB Monthly Report stated that an independent assessment concluded that there is “a potential for a release of radioactive contamination during operation of this unfiltered mode of ventilation,” and recommended “releasing to the public a report” and taking other actions before the test occurs.³¹

SRIC opposes the restart of the 700 C fan and future radiation releases. SRIC also believes that detailed information should be released to the public before any restart test is conducted, including the range of possible releases in the underground and on the surface, how the actual releases would be monitored in both the underground and on the surface, what measures will be taken to prevent exposures to workers in the underground and on the surface and to the public, what are the metrics for whether the test is successful, what are the costs of both the test and further operation of the fan, why using the 700 C fan after more than six years of non-use is necessary, among other things.

Use of the 700 C fan is unnecessary. Almost \$300 million is being spent on Safety Significant Confinement Ventilation System, which is to provide filtered ventilation in excess of the amount of ventilation throughout WIPP’s operations before 2014. In the Fiscal Year 2019

³⁰ <https://www.dnfsb.gov/sites/default/files/document/19606/WIPP%20Monthly%20Ending%20November%202019.pdf>

³¹ <https://www.dnfsb.gov/sites/default/files/document/21061/WIPP%20Monthly%20Ending%20May%202020.pdf>

Budget Request, Congress and the public were told that the new ventilation system would be operational by March 2021.³² More recently, the project is behind schedule and over budget, and the subcontractor doing the work has been terminated.

DOE and NWP continued incompetence in providing adequate ventilation is no excuse for further costly, dangerous, and unnecessary renewed radiation releases.

Again, thank you for the opportunity to make this presentation. I will be pleased to respond to your questions.

Attachments:

Chart 1 – WIPP Permitted vs. Actual Capacity

IVS Surface Fans Schematic

³² https://www.energy.gov/sites/prod/files/2018/03/f49/DOE-FY2019-Budget-Volume-5_0.pdf. Page 131.

WIPP PERMITTED VS. ACTUAL CAPACITY

Chart 1

(in cubic meters) - As of September 30, 2020

	<u>CH-Permitted</u>	<u>Actual</u>	<u>% Used</u>	<u>RH-Permitted</u>	<u>Actual</u>	<u>% Used</u>
Panel 1	18,000	10,497	58.32%	0		
Panel 2	18,000	17,998	99.99%	0		
Panel 3	18,750	17,092	91.16%	0		
Panel 4	18,750	14,258	76.04%	356	176	49.44%
Panel 5	18,750	15,927	84.94%	445	235	52.81%
Panel 6	18,750	14,467	77.16%	534	214	40.07%
Panels 1-6	111,000	90,239	81.30%	1,335	625	46.82%
Shortfall		20,761			710	
Panel 7	18,750	7,589 1,500		650	26	
Panel 8	18,750	18,750		650	650	
Panels 1-8	148,500	118,078		2,635	1,301	
Panel 10		5,000				
Legal Capacity	168,485	123,078 ~ 73%		7,079	1,301 ~19%	
VOR		84,250 ~50%			700 ~10%	

Notes:

"CH" is Contact-Handled waste; "RH" is Remote-Handled

"Permitted" refers to the capacity limits in the New Mexico WIPP permit

Volume is by outer container volume

Green amounts are estimates

"VOR" is Volume of Record that calculates by inner container volume

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IVS Surface Fans

