March xxxx, 2023

Ms. Maxcine Maxted, NEPA Document Manager

National Nuclear Security Administration

Office of Material Management and Minimization

P.O. Box A, Aiken, SC 29802

*Via email to* [*SPDP-EIS@nnsa.doe.gov*](mailto:SPDP-EIS@nnsa.doe.gov)

**Comments on the Draft Environmental Impact Statement for NNSA’s**

**Surplus Plutonium Disposition Program (SPDP EIS) (DOE/EIS–0549:**

As its Proposed Action, the Department of Energy’s semi-autonomous nuclear weapons agency, the National Nuclear Security Administration (NNSA),

“... proposes to implement the dilute and dispose strategy for 34 MT [metric tons] of surplus plutonium to safely and securely disposition the surplus plutonium such that it could never again be readily used in a nuclear weapon. The dilute and dispose strategy includes processing surplus plutonium to plutonium oxide, diluting it with an adulterant to inhibit plutonium recovery, and disposing the resulting CH-TRU [contact-handled transuranic] waste at the WIPP [Waste Isolation Pilot Plant] facility. Studies conducted over the last several years have identified the dilute and dispose strategy as being a technically mature and cost-effective alternative for surplus plutonium disposition.” [[1]](#footnote-1)

Whereas I strongly support making plutonium unavailable for future use in nuclear weapons, NNSA’s dilute and dispose strategy is far from the best strategy, for reasons stated in these comments.

In 2002 DOE terminated the plutonium immobilization option, which was a monumental and costly mistake. DOE instead pursued its Mixed Oxide (MOX) program to fabricate fuel rods from excess plutonium for use in commercial nuclear power plants. This had its own proliferation concerns given that it would have introduced plutonium into the international commercial economy.

However, escalating costs, perhaps as much as $7-8 billion in misspent taxpayer dollars for which no one has been held accountable, caused DOE to terminate the MOX project at the Savannah River Site (SRS). NNSA is now “repurposing” the canceled MOX Fuel Fabrication Facility into the Savannah River Plutonium Processing Facility for unnecessary expanded plutonium pit production, which itself has more than doubled in estimated costs to $11 billion and is delayed from 2030 to 2036. All of this is indicative of why DOE and NNSA (and its predecessor DOE Defense Programs) have been on the independent Government Accountability Office’s “High Risk List” for project mismanagement and waste of taxpayer’s dollars since its inception in 1991.

NNSA’s current scheme under “dilute and dispose” is to transport excess plutonium pits from the Pantex Plant near Amarillo, TX, to the Los Alamos National Laboratory (LANL) for pre-processing into plutonium oxide. Pu oxide would then be shipped to the Savannah River Site (SRS) in South Carolina for dilution with a classified adulterant code named “stardust,” and then shipped back across the country for disposal at the Waste Isolation Pilot Plant (WIPP) in southern New Mexico. The problems with this are manifold:

• This scheme involves three legs of transportation, which increase expense and risk.

• Pre-processing into Pu oxide at LANL would take place at the Lab’s main plutonium facility known as “PF-4.” It is an aged facility that was built in the 1970’s for research, not production. PF-4 has had a long history of nuclear safety incidences, serious enough to result in the suspension of major plutonium operations for three years. It is still not fully seismically qualified. PF-4 also processes arguably the most dangerous plutonium isotope of all, gamma-emitting Pu-238. Finally, in an aggressive program of expansion, PF-4 is the facility planned to produce at least 30 plutonium pits per year by 2030. It is not clear that PF-4 can safely process Pu oxide and Pu-238 while at the same time engaging in expanded plutonium pit production, all in an aging facility with limited working floor space.

• Nor is it clear that WIPP has the capacity for all transuranic radioactive wastes that DOE has proposed to dump there, as the National Academy of Sciences has observed. Moreover, the New Mexico Environment Department is proposing the following new conditions on the state WIPP hazardous permit:

“1) Prioritizing the disposal of legacy DOE wastes at WIPP that are generated from New Mexico  
clean-up activities.  
2. Tying WIPP’s closure to the end of the permit term (i.e., 10 years after the new permit is issued)  
unless the permittees can provide an accurate inventory of all remaining wastes awaiting clean-up  
and emplacement in WIPP.  
3. Revoking the permittees state operating permit should the U.S. Congress change the federal Land  
Withdrawal Act to allow for increased waste emplacement at WIPP.  
4. Suspending any and all waste shipments to WIPP if there are allegations or evidence of a threat to  
human health or the environment.

5. Requiring the DOE to submit a new annual report detailing steps toward siting another geologic repository in a state other than New Mexico.”

• In addition, the NNSA claims that more than half of WIPP’s future capacity will be reserved until at least 2050 for new radioactive wastes from expanded plutonium pit production for increased nuclear weapons production. Concerning NMED’s fourth point, in February 2014 an improperly prepared waste drum from LANL ruptured, contaminating 21 workers and closing WIPP for just under three years, costing taxpayers ~$1.5 billion to reopen. The bottom line is that NNSA cannot count on WIPP for its ill-conceived “dilute and dispose” program.

**Another Alternative That Must Be Considered**

Again, I strongly support making excess plutonium unavailable for any future nuclear weapons use. In my opinion, the best way to do that is:

• Embed the excess plutonium in a ceramic matrix which can then be securely stored pending permanent disposal. This would eliminate Pu oxide processing at LANL’s overworked PF-4 and two legs of potentially dangerous transportation.

• Locate the necessary ceramic operations where the most plutonium is, that is at the Pantex Plant near Amarillo, TX. Ship excess plutonium at SRS to Pantex to consolidate operations.

• Excess plutonium embedded in a ceramic matrix would be stable, safe and secure until such time as the United States finally locates a permanent repository other than WIPP. This could include deep boreholes that would make any possible future “mining” of plutonium very difficult. In the meantime, do not increase the existing volume of transuranic wastes through unneeded plutonium pit production.

I expect NNSA to critically examine and discuss this alternative in its final Surplus Plutonium Disposition Program Environmental Impact Statement, with a complete justification if rejected.

These comments respectfully submitted,

[name]

City or town, State

1. SPDP EIS, p. S-5, https://www.energy.gov/sites/default/files/2022-12/draft-eis-0549-surplus-plutonium-disposition-summary-2022-12.pdf [↑](#footnote-ref-1)