



Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social Justice • Economic Sustainability

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sent by email to SPDP-EIS@NNSA.DOE.GOV

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Dear Mr. Galan:

Thank you for the opportunity to comment.

NNSA's surplus plutonium disposition (SPD) program, which concerns most but not all of DOE's remaining ~57.2 metric tons (MT) of DOE's undisposed surplus plutonium (Pu), is in disarray. Over 25 years, DOE has disposed or has in process only about 4.3 MT out of 61.5 MT of surplus Pu (GAO 2019, "[Surplus Plutonium Disposition - NNSA's Long-Term Plutonium Oxide Production Plans Are Uncertain](#)").

Many billions have been spent on this program over this long period, much of it wasted.

Over this quarter-century period, the Federal Register notice above lists 3 programmatic environmental impact statements (PEISs), plus a supplement analysis (SA), 3 records of decision (RODs) and one amended ROD (AROD), and 3 other important decisions. There have been at least two lawsuits, the most recent of which was resolved with a stipulated penalty of \$600 million to the State of South Carolina.

The above GAO report makes clear that as of October 2019, NNSA had no signed, clear, or realistic plan to oxidize most of its surplus Pu metal, as we have discussed ("[GAO: Surplus Plutonium Disposition: Processing of surplus plutonium warhead cores \("pits"\) at Los Alamos is uncertain, may conflict with production of new pits](#)," press note, Oct 28, 2019).

The present EIS process is the inheritor of these prior National Environmental Policy Act (NEPA) processes and the several changes and reversals of policy that preceded it.

It is not clear from the Federal Register notice whether this is actually a PEIS or "EIS" of a program. If the latter, why? Don't programs require programmatic EISs, inherently? We will call this a PEIS in these comments.

The materials provided with this scoping comment opportunity are insufficiently clear as to the history and various subcategories of surplus Pu. Even experts will find it difficult to understand this program. As a result, we are uncertain whether a complex bureaucracy such as DOE can understand or successfully implement its SPD programs.

The reason we are summarizing this history is that we can have no confidence that the analysis and decision(s) flowing from this PEIS will endure or be accurate. **It follows that this PEIS must**

consider the risks that the SPD processes NNSA (and DOE) ultimately select will fail in one way or another, and the environmental analyses should therefore reflect the risks of different degrees and modes of failure.

The above Federal Register notice says “There is a need for NNSA to implement a disposition process and strategy that can be safely executed in a reasonable time at a cost consistent with fiscal realities.”

We agree but believe **none of the preferred alternative options can meet these three criteria (safety, a reasonable schedule, and an affordable cost).** The record supports our doubts.

A further issue is that the Waste Isolation Pilot Plant (WIPP), which the preferred alternative depends upon heavily, is oversubscribed.

The proposed “dilute and dispose” (D&D) alternative for all NNSA surplus Pu is inefficient as to WIPP space and transportation to WIPP, as well as having a dilatory schedule and high cost. It relies on facilities which are either oversubscribed (e.g. PF-4, as discussed by GAO in 2019 and summarized in the press note above), or which do not exist at all at any of three locations – a potentially expansive category that obscures rather than illuminates the decision to be made.

For example, there are no Pu processing facilities at Pantex (included in Option 3). Creating this capability at Pantex would be a dramatic alteration of mission for that site with tremendous short- and long-term environmental and worker safety consequences.

All three options of the preferred alternative suffer from these defects and therefore they should all be withdrawn.

Further, we believe NNSA should clarify its preferred and no action alternatives prior to conducting this PEIS. The scope of this PEIS is at this point far too broad. There is no clear federal action in mind that gives rise to this PEIS. It appears that this PEIS is being conducted to “cover all the bases” with some kind of bounding analysis, rather than to illuminate the environmental impacts of an actual programmatic *decision*. What that decision might be is not yet visible. This uncertainty bodes ill for success.

NNSA should pursue engineering and business case analyses to clarify the best choices prior to this PEIS.

As GAO and congressional committees have noted, there are strong conflicts between the Pu oxidation mission, the pit production mission, and the age and condition of Building PF-4 and its supporting facilities at LANL. At a minimum, NNSA cannot pursue these two industrial Pu missions simultaneously in PF-4 – as we believe NNSA already recognizes. The reality is that PF-4 cannot undertake the oxidation mission at all for any relevant length of time or intensity of production.

All of the preferred alternative options rely on PF-4 for all or part of the oxidation mission. Within the overall lack of realism that characterizes the D&D option for all this Pu metal, the use of PF-4 for oxidation (and even possibly oxide dilution) is a particularly unrealistic expectation.

Oxidation of non-pit Pu metal controlled by DOE and NNSA is probably the best path forward, as is planned, provided it does not depend significantly on facilities which are already overcommitted to

other missions (PF-4), too old and as yet unsafe (PF-4), or other unnamed facilities at unknown locations which don't exist.

Additional alternatives should be considered in the business and engineering analyses that are needed. These alternatives include:

- **Disposal of surplus pit Pu, which is the bulk of the material in question, in the form of demilitarized pits which are *not* opened and the metal is *not* oxidized or processed in any way, but which are permanently unusable in nuclear weapons.** This option was discussed in the [Final Report of the Plutonium Disposition Red Team](#) (Oak Ridge National Laboratory, Aug 13, 2015) and found to meet nonproliferation requirements. We believe this alternative, if culminating in disposal at WIPP, would add little or no marginal environmental or security risks, provided that engineered containers and a disposal strategy providing robust criticality control were arranged. These should be studied. There are many methods for demilitarizing pits (physical, chemical and mechanical). The underlying problem is the so-called "spent fuel standard" for surplus Pu disposal, which is in our view obsolete and has been proven impractical over the past 25 years. We believe a demilitarization and direct disposal alternative would have schedule, cost, infrastructure, transportation, and safety impacts an order of magnitude less than the D&D alternative for surplus pits. Pits could be demilitarized at Pantex safely, without a glovebox line, packaged for disposal, and shipped by Safe Secure Transport to WIPP.
- **Deep borehole disposal technology has matured significantly since 1996, which may be when DOE last seriously considered it for the SPD program. This too merits a second look at this time, given the space limitations at WIPP.**
- The former Mixed Oxide Fuel Fabrication Facility (MFFF), which is now the Savannah River Plutonium Processing Facility (SRPPF), may have excess space relative to the needs of the pit production program. **Some SPD functions could potentially be conducted there.** We aren't sure as the space disposition within SRPPF is not available. We believe SRPPF should be the only pit production site, if pits must be made, so enough space should be kept for that purpose and associated support functions.

To reiterate, we have no confidence in NNSA's SPD program. We believe NNSA should "go back to the drawing board," and use its talented staff to come up with realistic, practical solutions that cost much less, take much less time, and have a much higher probability of success than the preferred alternative proposed.

Thank you for your attention,

Greg Mello, Executive Director, gmello@lasg.org