



# Los Alamos Study Group

*Nuclear Disarmament • Environmental Protection • Social Justice • Economic Sustainability*

## Memorandum

5 Feb 2019

**To:** **Hon. Lisa Gordon-Hagerty**, Under Secretary for Nuclear Security, Department of Energy (DOE) and Administrator, National Nuclear Security Administration (NNSA)

**Hon. Dan Brouillette**, Deputy Secretary, DOE

**Cc:** **Hon. Guy Roberts**, Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs

**Hon. Peter Fanta**, Deputy Assistant Secretary of Defense for Nuclear Matters

**Interested congressional and other parties**

**From:** Greg Mello, for the Los Alamos Study Group (LASG)

### **Legal concerns regarding NNSA's pit production plans**

#### **1. Introduction: environmental laws are important to national security.**

Our generation holds power in a moment of unique existential danger to humanity and to the United States. Even in semi-peacetime and with a (supposedly) growing economy, "business as usual" holds deadly danger for the U.S.

In particular, processes of climate and ecosystem collapse have begun worldwide, raising these and other dangers consequent to them to an emergency level of concern.

Our national security reference frames must change in this situation. They certainly will change whether we are willing or not, in ways more or less dangerous depending on our willingness to intelligently embrace our new realities.

I will be copying all of you on a companion memorandum to Congress that applies these realities in the particular context of plutonium warhead core ("pit") production, including its engineering realities as recognized by NNSA.

#### **Meanwhile we must face and decide issues within current law.**

We believe NNSA and DOE have already made pit production decisions in violation of the National Environmental Policy Act (NEPA). You may make more, and you could also contravene a court-supervised settlement.

We raised the first issue with you in paragraphs 15-18 of our memo of 6 Apr 2018 ("[Pit production recommendations & considerations](#)"), as well as in our comments of 25 Apr 2018 ("[LASG comments on the 'Draft Environmental Assessment \[EA\] of Proposed Changes for Analytical Chemistry \[AC\] and Materials Characterization \[MC\] at the Radiological Laboratory/Utility/Office Building \[RLUOB\], Los Alamos National Laboratory \[LANL\], Los Alamos, New Mexico \[NM\]](#),").

Subsequent to this three other organizations – Tri-Valley CAREs (TVC), Nuclear Watch of New Mexico (NWNM), and Savannah River Site Watch (SRSW) – [wrote](#) you and others raising some of the same issues as well as one other: a legal settlement<sup>1</sup> (in which LASG and TVC were parties) in which DOE agreed to

produce a supplemental programmatic environmental impact statement (SPEIS) prior to proceeding to "detailed engineering design, testing, [or] procurement" for any proposal to produce pits at a rate greater than 50 pits per year (ppy) at Los Alamos National Laboratory (LANL) under single-shift operations.

NNSA began such an SPEIS in 2003 [acknowledging](#) this requirement (p. S-2), but never completed it. The critical path analyses in NNSA's [Engineering Assessment](#) (EA) ([appendices I-L](#)) suggest these "detailed" and "procurement" activities could begin in the present fiscal year.

The analyses subsequently required by [Section 3120](#) of the National Defense Authorization Act (NDAA) for FY 2019 may have postponed any such commitments. We will see whether that is the case when the NNSA's Budget Request is submitted to Congress, presumably later this month.

## **2. A new PEIS or SPEIS for pit production may be needed.**

A decision to produce pits at multiple sites is inherently a programmatic decision requiring a programmatic environmental impact statement (PEIS) or SPEIS, as your attorneys will tell you. There is presumably no need to belabor this point.<sup>2</sup>

Proceeding to "detailed engineering design, testing, [or] procurement" for the purpose of producing pits at any site other than LANL, or in quantities greater than 50 ppy under single-shift operations at any site or combination of sites in the absence of an applicable SPEIS and Record of Decision (ROD) would place DOE and NNSA in a posture of contempt.

NNSA's 2017 [Pit Production Analysis of Alternatives](#) (AoA) assumes (p. 60) that

Under the current analysis, all alternatives are assumed to require a full EIS [Environmental Impact Statement], and National Environmental Policy Act (NEPA) activities are not expected to be on the critical path for any alternative.

In other words, there is no harm to national security involved in complying with NEPA in this case.

If NNSA decides to produce pits at multiple sites, or at any non-LANL site, or with average single-shift quantities greater than 50 ppy, the question of whether the required *project-specific* analyses can be included in the required *programmatic* analysis process is, at least for now, in your hands.

## **3. Mandated pit production plans for LANL already require new programmatic as well as new project-specific NEPA analysis.**

In late 2014, the new FY 2015 NDAA required NNSA to produce pits at a rate of least 30 ppy by 2026 and (summarizing) to demonstrate for a period 90 days, no later than in 2029, the capacity to produce at least 80 ppy ([50 U.S. Code § 2538a](#)).

Since then NNSA's plans have included this public law mandate. It is a final agency decision. It has been funded annually with hundreds of millions of dollars in the Plutonium Sustainment budget line of Weapons Activities, and construction, procurement, and installation at LANL have been long underway.

As a result of federal litigation by this organization under the Freedom of Information Act (FOIA) (New Mexico CIV No. 18-248 SCY/JHR), we received the AoA, EA, and related materials on June 2, 2018. The late-2017 briefing included in this package that communicated the AoA results to Congress made it clear that despite the work shutdown at LANL's main plutonium facility (PF-4) that began in June 2013 and was at that time (and may still be today) partially continuing, NNSA was proceeding to implement the FY15 NDAA mandate.

The AoA [estimated](#) (slide 2) that the ultimate cumulative cost of this decision, which entails investing in LANL's pit production capacity sufficient to produce an average of 30 ppy, to be \$3 billion.

This decision, the AoA made clear, was prior to and not a part of the decision process mandated in Section 3141 of the FY2018 NDAA, the source of the AoA, the subsequent 2018 NNSA [Engineering Assessment](#) (EA), and your 10 May 2018 [recommendation](#).

Subsequent to those two NNSA studies and your recommendation, a 30 ppy production capacity at LANL was made the *minimum* for LANL by [Sec. 3120](#) of the FY 2019 NDAA. In that law, by 11 Feb 2019 a detailed plan for LANL pit production is due from you for 30 ppy production as well as a contingency plan for post-2026 production of an annual average of at least 80 ppy.

Clearly, NNSA's final decision to make at least 30 ppy at LANL is in the past, not the future. As such it is highly problematic from the NEPA perspective, as we [warned](#) (paragraph 15) it could become, back in April when we thought your final decision was still pending.

In 2018 Congress, noting the growing scale of NNSA's pit production programs and desiring to foster accountability, [required](#) NNSA (pp. 165-166, 178) to create a new project for the former, the "Plutonium Pit Production Project," which Congress funded for FY2019 at \$75 million.

In February 2018 you estimated that you would request, for what has now been split into these two funding lines (the "Plutonium Sustainment" program and a "Plutonium Pit Production" project), \$691 million for FY2020.

The current and planned funding levels comprise irreversible commitments of federal resources for major federal projects with significant environmental impacts.

Over the past 20 years DOE and NNSA have issued four (4) Records of Decision (RODs) following programmatic EISs (PEISs and Site-Wide EISs [SEISs], both).

All four limit LANL pit production to 20 ppy or less, while affirming LANL's role in stewarding pit production technologies, knowledge, and embodied skills.

The decision to task LANL to produce pits beyond 20 ppy, or to use more than "[about 11,400 sq. ft.](#)" within PF-4, is itself a major federal action with significant impact on the environment which requires, at the earliest possible date, two kinds of programmatic analysis: a) a PEIS or SPEIS, and b) a new LANL SWEIS.

NNSA [estimates](#) (p. 19) that producing 30 ppy will require 26,600 sq. ft. within PF-4 – more than twice the allowable amount – not counting some portion of 94,300 sq. ft. in shared space within that facility.

Any decision to build new plutonium or pit-related facilities, or to use existing facilities for substantially different and more dangerous and impactful uses – as in the case of RLUOB, which NNSA now proposes to use as a Hazard Category 3 Nuclear Facility in support of pit production – requires a project-specific EIS, as we [explained](#) last April.

For a decade, throughout the CMRR NEPA process and litigation and in many public presentations, NNSA consistently told New Mexico communities, tribes, and agencies that RLUOB would never house more than 8.4 grams of Pu-239 equivalent (e). Now NNSA proposes to house up to 2,610 g Pu-239e in RLUOB, which was not built to nuclear facility standards and was designed prior to the 2007 LANL [Probabilistic Seismic Hazard Assessment](#) (PSHA).

As noted above, it may be possible to include project-specific analyses in the required programmatic analysis and process.

The 20 ppy and 11,400 sq. ft. constraints were set in DOE's 1999 ROD for the LANL SWEIS ([Fed. Reg. Vol. 64, No. 181, 20 Sep 1999](#), at p. 50803).

DOE will establish, over time, a pit production capability at LANL with a capacity of nominally 20 pits per year; this decision reflects an intent to establish a pit production capability at LANL within the existing floor space set aside for this operation (about 11,400 ft.<sup>2</sup> [1060 m<sup>2</sup>])....While this does not change the 50-pit-per-year mission assignment made in the [SSMPEIS] ROD, it does suspend full implementation of that decision until an undetermined time in the future.

The pit production demonstration and technology preservation mission was assigned to LANL in 1996, in DOE's ROD for the Stockpile Stewardship and Management PEIS (SSMPEIS) ([Fed. Reg. Vol. 61, No. 249, 26 Dec 1996](#), p. 68014ff). In this ROD DOE said, "The technological capability to manufacture all the pit designs in the enduring stockpile provides an inherent capacity to manufacture about 50 pits per year in single shift operations." (p. 68023) and "[w]ith regard to reestablishing pit manufacturing capability, DOE does not intend to establish a greater manufacturing capacity than is inherent in reestablishing the basic manufacturing capacity." (p. 68026).

Thus in 1996 DOE thought the minimum "capability-based capacity" for pit production was "about 50" ppy. The *actual* capability-based capacity appears, in subsequent experience, to be much less. The maximum number of war reserve pits LANL has been able to make in any year since 1996 is [11](#).

The 20-ppy limitation established in 1999 was reaffirmed 9 years later to New Mexico communities and tribes in DOE and NNSA's 2008 ROD for the subsequent LANL SWEIS ([Fed. Reg. Vol. 73, No. 188, 26 Sep 2008](#), pp. 55833ff).

In its 2008 Complex Transformation PEIS (CTSPEIS) ROD concerning operations involving plutonium (and other missions), DOE and NNSA wrote:

With respect to plutonium manufacturing, NNSA is not making any new decisions regarding production capacity until completion of a new Nuclear Posture Review in 2009 or later...the net production at LANL will be limited to a maximum of 20 pits per year.

([Fed. Reg. Vol. 73, No. 245, 19 Dec 2008](#), pp. 77648 and 77651; ROD begins on p. 77644).

The 20 ppy limitation was reaffirmed again to New Mexico communities and tribes the following year in DOE and NNSA's SWEIS ROD of 2009 ([Fed. Reg. Vol. 74, No. 131, 10 Jul 2009](#), pp 33232ff).

In its fifth and most recent Supplement Analysis (SA) of the 2008 LANL SWEIS (dated April 2018), DOE and NNSA [analyzed](#) current and expected LANL operations through 2022, including "a continued decision to produce up to 20 pits per year" (p. iii). No further analysis was deemed necessary for LANL projects and operations expected during this period. In particular,

Maintaining pit production at 20 pits annually at the Plutonium Facility is not expected to increase the risk from accidents at this facility because operations are governed by the safety basis, which provides reasonable assurance of safety operations. (p. 140)

**4. Prior analyses at LANL are inadequate and inapplicable: impacts of construction were grossly understated; a key assumed facility is not available; the alternatives analyzed are now unrealistic; the analyses are otherwise old, outdated.**

DOE and NNSA once foresaw the possibility of issuing additional or modified RODs to increase pit production at LANL without conducting additional environmental analysis under NEPA. These options are no longer available.

The 2008 CTSPEIS and 2008 SWEIS both analyzed alternatives with larger than 20 ppy at LANL.<sup>3,4</sup> Both analyses however assumed completion of the [Chemistry and Metallurgy Research Replacement Nuclear Facility](#) (CMRR-NF), using environmental impacts as estimated in the [CMRR EIS](#).

The impacts of CMRR-NF were grossly underestimated, as NNSA later discovered (see p. 16 [here](#): concrete and soil grout underestimated by a factor of 55; steel by a factor of 27; disturbed land by a factor of 7-10; long-term arterial road closures not previously considered, etc.). The 2011 [Supplemental CMRR EIS](#) further documented greatly-increased impacts, but it came well *after* the 2008 CTSPEIS, the 2008 SWEIS, and their RODs, which do not incorporate those more realistic impacts.

Tellingly, some of the reasons for far greater CMRR-NF impacts (e.g. increases in estimated seismic accelerations and observation of low subsurface cohesion and bearing capacity) apply to other possible pit production facilities analyzed in the CTSPEIS in particular, rendering that document wholly outdated for this reason alone.

It was also based overall on data that is more than 11 years old. Some site-wide resource requirements and impacts (e.g. Los Alamos County electrical load) have greatly increased beyond those foreseen in 2008, as documented in the [Supplemental CMRR EIS](#) in the case of electrical demand.

The CMRR-NF was assumed, in both the CTSPEIS and LANL SWEIS, to be available to play a crucial enabling role in all three expanded plutonium alternatives of the CTSPEIS (“Greenfield,” “Upgrade,” and “50/80” sub-alternatives of the Consolidated Plutonium Center Alternative) and also in the “Expanded Operations Alternative” of the LANL SWEIS.

The CMRR-NF was however canceled.

Subsequent NNSA analysis in the AoA and EA makes it clear that all “125 ppy” alternatives for LANL, which were analyzed in a quite summary fashion in the CTSPEIS, are unrealistic. Already by May of 2008 NNSA [had written](#) in its SWEIS (p. S-45) “The annual production rate of 80 pits analyzed in the Expanded Operations Alternative is the upper limit of the annual production rate at LANL.”

Of the CTSPEIS alternatives analyzed, NNSA is currently retaining only variations of the “50/80 Alternative” for further business-case and feasibility study – except the CTSPEIS version of this alternative *assumed the availability of CMRR-NF*. Alternatives to CMRR-NF are precisely what is being studied by contractors for DoD and NNSA right now as required by [Section 3120](#) of the FY2019 NDAA, from an engineering perspective only.

So the “50/80 Alternative” (CTSPEIS) and “Expanded Operations Alternative” (LANL SWEIS) were neither based on a realistic impact analysis at the time, nor are they functionally realistic today. DOE cannot make a decision based upon them (cf. [10 CFR 1021.210](#) and [40 CFR 1505.1\(e\)](#)).

No NEPA analysis of any “30 ppy” production level at LANL, let alone of anything greater, has been done.

The “No Action” alternatives in both the CTSPEIS and LANL SWEIS would continue pit production at 20 ppy or a lesser rate, and this is the rate which is supported by four RODs and an SA, spanning more than 20 years.

Thank you for your attention.

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**Endnotes:**

<sup>1</sup> Memorandum Opinion and Order, 19 Aug 1998, US District Court for the District of Columbia, Natural Resources Defense Council et. al., v. Federico Pena, et.al. Civil Action 97-0936, Judge Stanley Sporkin. Paragraph 5 is the relevant part:

Prior to taking any action that would commit DOE resources to detailed engineering design, testing, procurement, or installment of pit production capability for a capacity in excess of the level that has been analyzed in the SSM PEIS (the capacity analyzed in the SSM PEIS is the fabrication at LANL of 50 pits per year under routine conditions, and 80 pits per year under multiple shift operations), DOE shall prepare and circulate a Supplemental PEIS, in accordance with DOE NEPA Regulation 10 CFR 1021.314, analyzing the reasonably foreseeable environmental impacts of and alternatives to operating such an enhanced capacity, and shall issue a Record of Decision based thereon.

<sup>2</sup> See for example “[Memorandum for Heads of Federal Departments and Agencies: Effective Use of Programmatic NEPA Reviews](#),” Council on Environmental Quality, 18 Dec 2014.

<sup>3</sup> “[Final \[CTSPEIS\]](#),” *Summary*, p. S-39ff; *Volume 1*, p. 3-20 to 3-38.

<sup>4</sup> “[Final \[SWEIS\] for Continued Operation of Los Alamos National Laboratory, Los Alamos, NM:](#)” *Summary*, p. S-4, Table S-4 (pp. S-47ff); *Volume 1*, p. 3-61ff.