IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
AIKEN DIVISION

Savannah River Site Watch; Tom Clements; The Gullah/Geechee Sea Island Coalition; Nuclear Watch New Mexico; and Tri-Valley Communities Against a Radioactive Environment, Plaintiffs, v. United States Department of Energy; Jennifer Granholm, in her official capacity as the Secretary, the National Nuclear Security Administration; and Jill Hruby, Administrator, Defendants.	Civil Action No. 1:21-1942-MGL

DECLARATION OF GREG MELLO,
LOS ALAMOS STUDY GROUP, AS AMICUS CURIAE

Now comes Greg Mello, who says on penalty of perjury as follows:

I am the Executive Director and co-founder of Los Alamos Study Group ("LASG" or "the Study Group").

LASG is a non-profit corporation first organized in 1989 and then incorporated as an independent organization under the laws of the State of New Mexico in 1996. The Study Group was created to protect the environment in and around the Los Alamos National Laboratory ("LANL") in New Mexico from adverse effects from nuclear weapons and to educate the general public, federal and contractor management, members of Congress, and others on a range of interrelated policy issues, including Department of Energy ("DOE") and National Nuclear Security Administration ("NNSA") missions, programs, and infrastructure.

The Study Group and many of its members have been intimately involved in analyses and education regarding LANL plutonium infrastructure and programs since October 1989. The Study Group has approximately 2,053 overall individual members and supporters, including some 150 organizations, businesses and religious groups within New Mexico.

The Study Group has also been closely involved in reviewing policies related to nuclear weapons "pit" production at the Savannah River Site via formal comment opportunities under the National Environmental Policy Act, travel to the site; discussions with federal and contractor officials from the site and with other federal officials involved in formulating and reviewing pit

production policy in Washington, DC, as well as with up-to-date archiving of current developments. LASG's archived information is relied upon daily by the public, journalists, and federal agencies. LASG leaders met with Savannah River Site officials in April of this year before and during a presentation to the South Carolina Governor's Nuclear Advisory Council.

LASG has considerable experience in NEPA litigation, having pursued, individually or jointly, five NEPA actions in the federal courts. Four of those cases bear materially on the decisions in question in this lawsuit and have contributed to the legal background of the matter presently before the Court. LASG's lawsuits include:

- *Los Alamos Study Group et al., Plaintiffs, v. O'Leary et al., Defendants*, Case No. 1:1994-cv-01306 (U.S.D.C. New Mexico)
- *Natural Resources Defense Council et al., Plaintiffs, v. Abraham et al., Defendants,* Case No. 1:1997-cv-00936 (U.S.D.C. New Mexico)
- *Los Alamos Study Group, Plaintiff, v. U.S. Department of Energy et al., Defendants,* Case No. 1:10-cv-00760-JCH-ACT (U.S.D.C. New Mexico)
- *Los Alamos Study Group, Appellant, v. U.S. Department of Energy, et al., Appellees,* Case 11-2141, (10th U.S. Circuit Court)
- *Los Alamos Study Group, Plaintiff, v. U.S. Department of Energy et al., Defendants*, Case 6:11-cv-00946 (U.S.D.C. New Mexico)

LASG maintains extensive files, many on-line, and a full program of activities regarding plutonium pit production.

In 2013, the Congressional Research Service solicited LASG's views about the role of NEPA in the decisions at stake in this lawsuit. *See* Congressional Research Service, "U.S. Nuclear Weapon "Pit" Production Options for Congress, Feb. 21, 2014, Jonathan Medalia, pp. 27-29, https://lasg.org/MPF2/CRS_Pit_Prod_21Feb2014.pdf.

The Study Group and its members have regularly participated in formal public comment processes for three decades with the National Nuclear Security Administration and its predecessor DOE defense programs regarding many of the very issues raised in this litigation. Study Group representatives have traveled numerous times to Washington, D.C. to meet with NNSA and other executive branch officials as well as members of Congress, their staffs, and congressional research, auditing, and oversight agencies regarding issues central to this litigation. The Study Group, organizationally and through many of its members, has repeatedly followed and engaged with the federal government on all pit production issues.

Status of this litigation

The Court has found that NNSA's decision to not undertake a proper National Environmental Policy Act (NEPA) alternatives analysis supporting NNSA's two-site strategy for

pit production was arbitrary, capricious, and unlawful.[1] NNSA has accepted the need for further NEPA analysis.[2]

Important issues remain to be decided, including whether or not to vacate the decisions made in 2020 under NEPA that authorize Defendants' program to prepare for continuous, reliable production of plutonium cores for nuclear warheads ("pits") at two production sites: at least 30 pits per year (ppy) at Los Alamos National Laboratory (LANL) and at least 50 ppy at the Savannah River Site (SRS).

The Court seeks "a third way, a sort of middle ground" that can "ameliorate" the apparent contradiction between providing good-faith, pre-decisional environmental analysis on the one hand, and avoiding the disruptive consequences of halting preparations for pit production at SRS that were presented by Defendants, on the other hand.[3]

We believe there is a "middle ground" available to the Court and the Parties in this case – in fact there are potential remedies which not just ameliorate these contradictions but eliminate them altogether. These potential remedies also have the merit of being fully supported by NNSA's prior technical analyses. In briefest terms, NNSA should revert to a single-site production strategy supported by its NEPA and as well as its technical analyses. Some of the reasons for this proposed choice follow below.

We warned the Defendants, starting more than five years ago, that they were proceeding outside the bounds of NEPA,[4] and we now offer the below observations and recommendations in the hopes that they will be useful to the Parties and the Court.

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[1] Memorandum Opinion and Order Granting Judgment in Favor of Plaintiffs as to Claim One and Dismissing Without Prejudice Claims Two, Three, Four, and Five for Lack of Standing, Docket No. 208. ("Memorandum Opinion and Order"), pp. 7-12.

[2] Ibid. p. 22.

[3] Ibid, p. 23.

[4] "Pit production recommendations & considerations," Memo to NNSA Administrator Lisa Gordon-Hagerty, Los Alamos Study Group, Apr 6, 2018, paragraphs 15-18. https://lasg.org/MPF2/LASG_pit-memo-LGH-V1_6Apr2018.pdf. In this memo, we attempted to prevent the legal problem this Court has highlighted, before a decision was made. See also "Legal concerns regarding NNSA's pit production plans, Memo to Lisa Gordon-Hagerty et. al." Feb 5, 2019, Los Alamos Study Group. https://lasg.org/MPF2/LASG_pit-memo-LGH_5Feb2019.pdf. The Study Group has also formally commented at every opportunity pertinent to pit production, reiterating and expanding these legal as well as practical concerns.

Recognizing the inapplicability of the 2008 CTSPEIS, which this Court now also recognizes, and in the absence of any PEIS or any other EIS process bearing on pit production at LANL, the Study Group conducted a "Citizens Scoping Hearing" to take public testimony on October 7, 2020, testimony from which was provided to NNSA. https://lasg.org/letters/2020/LASGltr-FederalStateOfficials_17Oct2020.html.

For convenience, our conclusions and recommendations are summarized in the final section of this memorandum.

Our contact information is on the first page and on every email.

Important misconceptions have been introduced into this case.

Erroneously, Plaintiffs have claimed that "*vacatur* [annulment of the decisions supporting the dual-site pit production mission] *would not disrupt activities at [LANL] because* even if the records of decision [RODs] and amended records of decision [ARODs] that relate to the dual site pit production plan are vacated, *the earlier decisions that allow some pit production at LANL will continue to be in effect, including the CT SPEIS [ROD] which contemplates producing up to 20 [ppy] at LANL.*"[5] (emphasis added)

We will show that not just pit production *per se* but also (and much more so) the preparations for pit production at roughly *twice* this 20 ppy level comprise the bulk of the pit production "activities" at LANL. These activities were not authorized by the 2008 CTSPEIS ROD.

Further, we will show that the 2008 CTSPEIS and its ROD are categorically flawed because they depended upon the completion of a major new plutonium facility at LANL, which was cancelled. This has practical implications for any remedy accepted by the Court in addition to the legal issues involved, which were not argued in this case.

Defendants, for their part, argue that "*Plaintiffs' NEPA claim challenges only the decision to produce pits at a second site*; thus, any remedy should be limited to the second production site RODs…Therefore, *this Court should not order relief that blocks previously authorized production at Los Alamos*"[6] (emphasis added). Again, we argue that it is not just pit production per se to which relief should apply, and certainly not pit production which is appropriately authorized under NEPA, but the extensive preparations for LANL's role in a dual-site pit production scheme which this court has found was not appropriately authorized under NEPA.

NNSA is not in fact implementing those "earlier decisions" to produce up to 20 ppy at LANL.[7] Instead NNSA is implementing *LANL's portion of its dual-site pit production plan*, which the Court has found rests on inadequate NEPA analysis.

Growth in the pit mission at LANL ("scope creep") occurred in two stages.

In the first change, in early 2013 NNSA announced it was seeking to install the capacity to produce a nominal 30 ppy at LANL in NNSA's "Plutonium Sustainment" program," not the previous "up to 20" ppy authorized under NEPA decisions to that date. NNSA requested $157

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[5] Joint Reply on Alternative Remedies, Docket No. 203, p. 3.

[6] Ibid, p. 6.

[7] For a list of those earlier decisions see "Legal concerns regarding NNSA's pit production plans, Memo to Lisa Gordon-Hagerty et. al." Feb 5, 2019, Los Alamos Study Group. https://lasg.org/MPF2/LASG_pit-memo-LGH_5Feb2019.pdf.

million in the coming year to support that larger capacity goal – in hindsight, a paltry sum in today's context.[8]

By 2017, NNSA's preparations to produce a nominal 30 ppy were said to require $3 billion in total further investment in order to achieve this capacity by 2026, still a small sum by today's standards as will be shortly seen, but much more than had been spent heretofore in the pit program, also indicating a significant change in mission.[9]

This 30 ppy production capacity was to be nominal ("on average") or "approximate." Production was not meant to reach or exceed 30 ppy in 9 out of 10 production years, as is the present aspiration, (defined as "high confidence" production, now called "reliable" production),[10] nor was it meant to be permanent. In its 2017 *Pit Production Analysis of Alternatives*, NNSA explicitly rejected use of PF-4 for enduring pit production: "after a new 80 WR [War Reserve] ppy capability is established, PF-4 can return to the research and development mission for which it was built." At the time NNSA concluded that PF-4 was capable of producing 30 ppy on average, *but not 30 ppy with "high confidence."*[11]

In 2017 and up to April 20, 2018, when NNSA received its *Pu Pit Production Engineering Analysis*,[12] LANL's nominal, temporary 30 ppy "Plutonium Sustainment" program was explicitly

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[8] NNSA, *Congressional Budget Request [CBR] for Fiscal Year [FY] 2014*, pp. 15, 58, 67 https://lasg.org/budget/FY2014/Volume1.pdf. See also NNSA, *Fiscal Year 2014 Stockpile Stewardship and Management Plan* [SSMP], June 2013 (goal of 30 ppy capacity by 2021, p. 31). https://lasg.org/documents/SSMP-FY2014.pdf.

[9] "Plutonium Pit Production Analysis of Alternatives (AoA) Results & Next Steps," Nov. 2017, slide 2. https://lasg.org/MPF2/documents/PlutoniumPitProductionAoA_Nov2017_9pg.pdf. NNSA's 30 ppy capacity goal had already slipped 5 years in the 4 years since 2013. That 30 ppy "on average" milestone has since shifted a further 4 years, to 2030. See NNSA, *FY2025 CBR*, p. 242. https://lasg.org/budget/FY2025/doe-fy-2025-budget-vol-1-v2.pdf.

[10] "Final Report for the Plutonium Pit Production Analysis of Alternatives" (AoA), Oct. 2017, p. 1; "average," p. 4. https://lasg.org/MPF2/documents/NNSA_PuPitAoA_Oct2017_redacted.pdf. For "reliable" with the same meaning, see NNSA, *FY2025 CBR*, p. 242. NNSA now expects LANL to achieve "reliable" 30 ppy production in FY2032 or FY2033. https://lasg.org/budget/FY2025/doe-fy-2025-budget-vol-1-v2.pdf.

[11] Ibid., p. 2. See also pp. 47-48, discussing some of the reasons why the NNSA officer with delegated authority from the Secretary of Energy chose to eliminate PF-4 as an enduring pit production facility in June, 2017. At that time NNSA also eliminated splitting pit production between PF-4 and any other facility (at various locations) – i.e. the current strategy -- as impractical, wasteful, and because it added "long-term production risk and surveillance costs" (pp. 45-46). That is, risks were understood to be increased, not decreased, by splitting production between PF-4 and another production site.

[12] *Pu Pit Production Engineering Assessment*, NNSA/Parsons, April 20, 2018, https://lasg.org/MPF2/documents/NNSA_PuPitEA_Rev2_20April2018-redacted.pdf.

not part of NNSA's by-then-statutory "at least 80" ppy mission.[13] It was a preliminary, and a parallel, mission.

The second major stage in LANL's mission was difficult for most observers to spot at first and may not be apparent to the Court.

The second major change came in May of 2018, when NNSA recommended a new mission to LANL and its PF-4 facility, namely to produce *at least* 30 ppy annually, *indefinitely*, as an integral part of NNSA's "at least 80 ppy" mission.[14] This new mission was for "high confidence" production, which NNSA had estimated would produce an average of 41 ppy,[15] roughly twice the "up to 20" ppy to which Plaintiffs referred in the "Joint Reply on Alternative Remedies."

This recommended production level at LANL acquired statutory authority on Aug. 13, 2018: "It is the policy of the United States that …Los Alamos National Laboratory will produce a minimum of 30 pits per year for the national pit production mission and will implement surge efforts to exceed 30 pits per year to meet Nuclear Posture Review and national policy."[16]

This new LANL mission, confirmed in NNSA's NEPA decisions of 2020, is a much larger mission than either the NEPA-sanctioned "up to 20" mission or the nominal, temporary "30" ppy mission that came between that first mission and this newest one, and as such it requires much larger federal investments and "activities."

For this much larger and more permanent mission NNSA has so far formally requested:

- As of this year, more than $1 billion per year in operational costs over the next five fiscal years;[17]
- A large new capital project (the Los Alamos Plutonium Pit Production Project, LAP4, 21-D-512), currently expected to cost $5.45 billion over the 2021-2032 period, which cost is likely to rise;[18] and

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[13] 50 U.S. Code § 2538a - Plutonium pit production capacity. https://www.law.cornell.edu/uscode/text/50/2538a

[14] NNSA, "Plutonium Pit Production Mission," fact sheet of May 10, 2018. https://lasg.org/MPF2/documents/PlutoniumPitProdMissionFactSheetMay2018.pdf. While couched as a "recommended alternative," (letter of Lisa-Gordon-Hagerty, May 10, https://lasg.org/MPF2/LGH-NNSA_D&D_10May2018.pdf), this was arguably a de facto agency decision and triggered project funding, preceding the 2020 NEPA decisions.

[15] AoA, p. 13. https://lasg.org/MPF2/documents/NNSA_PuPitAoA_Oct2017_redacted.pdf.

[16] 132 Stat. 2292, P.L. 115-232, Aug. 13, 2018, Section 3120. Mirrored in abridged form at https://lasg.org/budget/FY2019/NDAA-PLAW-115publ232-Sec3120_13Aug2018.pdf.

[17] NNSA, *FY2025 CBR*, pp. 129, 134. https://lasg.org/budget/FY2025/doe-fy-2025-budget-vol-1-v2.pdf).

[18] Ibid, pp. 231-257.

- Several other smaller capital projects.[19]

At no time between 2013 and 2018 did NNSA request or receive more than $200 million per year in its "Plutonium Sustainment" and predecessor budget lines, which reflects the relatively low level of effort thought needed to fulfill the *nominal* 30 ppy goal. LANL had *already* produced 30 pits over the years 2007-2012, with little program budget increase.[20] In fact, over the years 2005-2020, NNSA received an average of $226 million per year *across its entire complex* for *all* plutonium program activities, not just pit production.[21]

The main point, lest it be lost in these details, is that LANL is currently implementing very much more than the "less than 20" ppy mission allowed under pre-2020 NEPA decisions. That "very much more" is only authorized by NEPA decisions this Court has ruled inadequate.

In 2021, after the 2020 pit production RODs which this Court has stated were based on inadequate analysis, plutonium activities at LANL radically increased. In that year, the "Plutonium Modernization" expenditures at LANL more than doubled over the previous year's level, from $516 million to $1.076 billion.

Investments in pit production capacity and associated operations at LANL have subsequently continued to rise rapidly, reaching $1.76 billion in fiscal year 2024. By 2028, Plutonium Modernization costs at LANL are expected to reach $2.033 billion annually.[22] NNSA's annual investments in pit production at LANL are expected to continue to exceed those at SRS through 2027.

NNSA has not estimated its pit production costs at either main site beyond FY2029. But through that date, NNSA estimates its investments in pit production expansion will total $17.8 billion at LANL and $13.6 billion at SRS, with $9.3 billion of those respective investments yet to

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[19] Ibid, various pages. Summarized in "Plutonium Modernization Spending, Actual, Proposed, and Estimated by Site and Fiscal Year," Los Alamos Study Group, Sep 24, 2024, https://lasg.org/MPF2/Mello-Pit-production-costs-using-FY25-CBR-1pg_25Sep2024.pdf. See also Government Accountability Office (GAO), "Nuclear Weapons: NNSA Does Not Have a Comprehensive Schedule or Cost Estimate for Pit Production Capability," GAO-23-104661, Jan 12, 2023, pp. 68, 76, https://www.gao.gov/products/gao-23-104661.

[20] LANL, Bradford G. Story, LA-UR-12-25400, "Pit Manufacturing Fiscal Year 2012 Program Report to the University of California. Los Alamos Study Group files.

[21] GAO, op. cit. p. 64. https://www.gao.gov/products/gao-23-104661.

[22] NNSA, *FY2025 CBR*, p. 134.. https://lasg.org/budget/FY2025/doe-fy-2025-budget-vol-1-v2.pdf).

be spent at each site.[23] Smaller investments in the aggregate tens of millions annually have occurred and will continue to occur at other sites as well.[24]

NNSA estimates that its "on average" 30 ppy capacity will be reached the following year (2030), after these investments, and the equipment for "reliable" 30 ppy production will only be installed by the end of 2032, eight years from now.[25] LANL's capacity expansion is less than half complete in terms of years and also in terms of dollars.

Extrapolating NNSA's estimates, the Los Alamos Study Group estimates the total acquisition cost for pit production at LANL to be $22.1 billion through 2032, including what actual pit production may be possible over the years FY2025-FY2032.

Little of this LANL activity is oriented to the production of "less than 20" ppy at LANL as Plaintiffs mistakenly aver in their Joint Reply on Alternative Remedies.[26] *That program was two policy iterations ago and roughly a factor of 10 less costly*, before correcting for inflation. This is "scope creep" on steroids, in the utter absence of alternatives review under NEPA.

This year, NNSA has selected an execution strategy which further distinguishes its present activities from the previous "less than 20 ppy" capacity goal, namely the adoption of a "30 Diamond" (30D) strategy which prioritizes the achievement of first producing 30 ppy, even once, as quickly as possible.[27]

Single-site production at SRS was examined in the CTSPEIS – and in terms of content, also in the 2020 EIS for pit production at SRS.

The 2008 Complex Transformation Supplemental Programmatic EIS (CTSPEIS), along with other analyses, examined variations of *a single-site pit production strategy* at LANL, the Nevada Test Site (now the Nevada National Security Site), Pantex, SRS, and Y-12,[28] not just single-site production at LANL as Plaintiffs apparently claimed and the Court repeats.[29] Production rates up to 125 ppy (using single-shift production) and 200 ppy (using multiple shifts) were examined.

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[23] Summarized in "Plutonium Modernization Spending, Actual, Proposed, and Estimated by Site and Fiscal Year," Los Alamos Study Group, Sep 24, 2024, https://lasg.org/MPF2/Mello-Pit-production-costs-using-FY25-CBR-1pg_25Sep2024.pdf.

[24] Ibid.

[25] NNSA, *FY2025 CBR*, p. 233.

[26] Docket No. 203, p. 3.

[27] Ibid. p. 231.

[28] "Record of Decision (ROD) for the CTSPEIS, Operations Involving Plutonium [etc.]", Fed. Reg.73, No. 245, Dec. 19, 2008, pp. 77644-77656.

[29] Memorandum Opinion and Order, p. 8.

The 2020 EIS for Plutonium Pit Production at SRS also examined variations of pit production at SRS, including alternatives at 50, 80, and 125 ppy.[30,31] As that EIS notes, importantly, "*if pit production at LANL were paused for some reason, overall pit production requirements could be satisfied at SRS*"[32] (emphasis added).

Thus, even if the 2020 CTSPEIS AROD were vacated, NNSA has already conducted two EISs, one programmatic (in 2008, under the single-site paradigm) and one project-specific (in 2020, under the dual-site paradigm), the content of both being applicable to single-site pit production strategies at SRS, should NNSA choose to proceed with a single-site strategy. As will shortly be seen, there is no comparable programmatic NEPA analysis of single-site production at LANL.

For pit production at LANL at even the lowest levels, the 2008 CTSPEIS heavily relied on the immediate construction of a major plutonium facility at LANL, which project was subsequently canceled.

Although the Parties apparently did not so inform the Court, the CTSPEIS bases its entire analysis of LANL pit production options, and its ROD, on the assumption that the Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF), a large Hazard Category II Nuclear Facility to be built at LANL's Technical Area 55 adjacent and connected to Building PF-4, LANL's main plutonium facility, would be completed and available prior to the advent of pit production at LANL. Throughout the CTSPEIS ROD, the CMRR-NF was said to be critically important to LANL's proposed pit mission, including for production of as few as 10 ppy. The actual pit production decision in that ROD reads: "Plutonium manufacturing and R&D will remain at LANL, and NNSA will construct and operate the CMRR-NF there to support these activities."[33]

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[30] "ROD for the Final EIS for Plutonium Pit Production at SRS in [SC]," Fed. Reg. 85, No. 215, Nov. 5, 2020, pp. 70601-70604. https://lasg.org/MPF2/documents/EIS-0541-ROD_5Nov2020.pdf.

[31] Final EIS for Plutonium Pit Production at SRS in [SC], Summary, pp. S-8, S-9.

[32] Ibid. In February 2023, NNSA Administrator Jill Hruby stated that due to delays at LANL and SRS, it would be necessary for SRS pit production to exceed its prior 50 ppy mandate ("80-plus pits needed annually in future; Savannah River to pick up the slack, NNSA admin says," *Exchange Monitor,* Feb 17, 2023), and the scope of the Savannah River Plutonium Processing Project (SRPPF) was later slightly expanded from the original scope (NNSA, Congressional Budget Request for Fiscal Year 2025, p. 271. https://lasg.org/budget/FY2025/doe-fy-2025-budget-vol-1-v2.pdf).

[33] CTSPEIS ROD, Fed. Reg. 73 No. 245, Dec. 19, 2008. p. 77647. https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/EIS-0236-S4-ROD-01-2008.pdf.

The CMRR-NF was instead indefinitely delayed in 2012 and fully canceled in 2014.[34]

All these investments in LANL pit production, and the resulting environmental impacts, are proceeding in the absence of any valid NEPA analysis.

Given a) the absence of an applicable CTSPEIS (as this court has ruled), and b) the cancellation of the crucial CMRR-NF facility, which makes the 2008 CTSPEIS categorically counterfactual, the most recent programmatic EIS that examines alternatives to pit production at LANL is the 28-year-old 1996 Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (SSMPEIS), the ROD for which assigned only an interim pit mission to LANL.[35] That decision reads:

> DOE's decision is to reestablish the pit fabrication capability, at a small capacity, at LANL. This is the environmentally preferable alternative, it exhibits the least technical risk, and is also the least-cost alternative. This decision limits the plutonium fabrication facility plans to a facility sized to meet expected programmatic requirements over the next ten or more years. It is not sized to have sufficient capacity to remanufacture new plutonium pits at the same production rate as that of their original manufacture. DOE will perform development and demonstration work at its operating plutonium facilities over the next several years to study alternative facility concepts for larger capacity. Environmental analysis of this larger capacity has not been performed at this time because of the uncertainty in the need for such capacity and the uncertainty in the facility technology that would be utilized. Should a larger pit fabrication capacity be required in the future, appropriate environmental and siting analysis would be performed at that time.[36]

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[34] See https://lasg.org/CMRR/open_page.htm. For a visual reference showing the leveled area where the CMRR-NF was supposed to be, now used for temporary storage structures and containers, see https://lasg.org/aerial-photos-2021/images-full-thumbnails/TA-55-all3.jpg.

[35] See "Record of Decision: Programmatic Environmental Impact Statement for Stockpile Stewardship and Management," Fed. Reg. 61 No. 249, Dec. 26, 1996. https://lasg.org/MPF2/documents/EIS-0236-ROD-1996.pdf. The "Draft Supplemental Programmatic Environmental Impact Statement for a Modern Pit Facility [MPF]" examined single-site alternative locations for an MPF, but the MPF SPEIS was never completed. The summary of the draft MPF SPEIS states, "While a small interim capacity is currently being established at the Los Alamos National Laboratory (LANL), classified analyses indicate that long-term support of the nuclear stockpile, which is a cornerstone of U.S. national security policy, will require a long-term pit production capability." Abstract, Summary, "Draft Supplemental Programmatic Environmental Impact Statement for a Modern Pit Facility," https://www.energy.gov/sites/default/files/EIS-0236-S2-DEIS-Summary-2003.pdf. Those two capabilities – "small interim" vs. "long-term support of the nuclear stockpile" are quite different, as we show above. No valid PEIS and ROD, per this Court, ever and ROD allow the latter at LANL.

[36] Ibid. p. 68024

That subsequent "appropriate environmental and siting analysis" was never performed as regards LANL. It *was* performed for single-site production facility at SRS, in the 2008 CTSPEIS and in more detail, albeit with a different cover page and introductory matter as it were, in the 2020 SRS pit EIS.

The 1996 SSMPEIS, among other obsolete assumptions, claimed that "[t]he technological capability to manufacture all of the pit designs in the enduring stockpile provides an inherent capacity to manufacture about 50 pits per year in single shift operations."[37] *Yet it was precisely on this basis that LANL was assigned the interim pit production mission, which subsequently morphed into today's long-term, larger-scale pit production mission at LANL in the absence of any subsequent valid programmatic analysis.*

For its part, the 25-year-old 1999 Site-Wide Environmental Impact Statement (SWEIS) for LANL examined the impacts of alternative pit production levels at LANL but did not analyze other locations for pit production.[38] The ROD for that SWEIS constrained pit production at LANL to no more than 20 ppy, to be made using no more than 11,400 sq. ft. within Building PF-4 in Technical Area 55 only:

> 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.2 [1060 m2]). This will eliminate the need to transfer several Technical Area-55 plutonium operations (to ''make room'' for pit production activities in Technical Area- 55) either to the CMR Building, or to newly constructed nuclear space, as contemplated in the Site-Wide Environmental Impact Statement. Thus, the Preferred Alternative for Pit Production can be implemented without an expansion of the plutonium operations floor space at LANL.[39]

In 2017, NNSA estimated it would need approximately 26,600 sq. ft. of nuclear facility space within PF-4 for the 30 ppy mission.[40] In addition, NNSA is already using all or part of the 10,000

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[37] Ibid. p. 68023

[38] DOE, EIS-0238: Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory, https://www.energy.gov/nepa/articles/eis-0238-site-wide-environmental-impact-statement.

[39] "Record of Decision: Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory in the State of New Mexico," Fed. Reg. 64, No. 181, Sept. 20, 1999, p. 50803.

[40] AoA, p. 19. https://lasg.org/MPF2/documents/NNSA_PuPitAoA_Oct2017_redacted.pdf.

sq. ft. of nuclear facility space within Building PF-400, which was converted post-construction into a nuclear facility primarily to support the pit mission.[41]

The 2008 LANL SWEIS, which like the 2008 CTSPEIS assumed the completion of the CMRR-NF, likewise did not analyze other locations for pit production.[42]

Most if not essentially all of NNSA's pit investments at LANL are reliant on the 2020 CTSPEIS SA and its associated AROD, now declared inadequate by this Court. Certainly most if not all of the Los Alamos Plutonium Pit Production Project (LAP4) mission serves the new mission.

As a benchmark, expenditures for the equipment necessary to produce up to 10 ppy lie within plutonium operating budget.[43] That was also the capacity level at which LANL was able to make pits in the 2007-2012 period, with a small fraction of today's operating budget.

The upshot of all this is that *there has never been what can be described at this point as a factual, legally-valid PEIS, or SWEIS, or project-specific EIS reviewing NNSA's current pit production program and projects at LANL. Most if not all of NNSA's ongoing pit production investments at LANL lack valid NEPA alternative analyses of any kind.*

Absent adequate programmatic and site-wide NEPA analysis at a minimum, NNSA should halt further investment in pit production capacity at LANL.

The LANL portion of the dual-site production plan is also proceeding in the absence of any supportive Analysis of Alternatives (AoA), in violation of DOE Order 413.3B.

As noted above, the AoA – prepared by NNSA after extensive review, and approved by the highest NNSA Defense Programs officials – formally rejected dual-site production, did not believe PF-4 could produce 30 ppy with high confidence, and rejected any enduring pit production role for PF-4.

DOE Order 413.3B ("Program and Project Management for the Acquisition of Capital Assets")[44] requires a (presumably supportive) AoA for projects costing more than $50 million

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[41] LANL, LA-UR-23-23025, "TA-55 building entrusted with more plutonium capability: What does it mean for the mission?", p.9, https://www.osti.gov/servlets/purl/1963626.

[42] DOE, EIS-0380: "Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory," https://www.energy.gov/nepa/doeeis-0380-site-wide-environmental-impact-statement-continued-operation-los-alamos-national.

[43] NNSA, FY2025 CBR, p. 257. https://lasg.org/budget/FY2025/doe-fy-2025-budget-vol-1-v2.pdf.

[44] https://www.directives.doe.gov/directives-documents/400-series/0413.3-BOrder-B-chg7-ltdchg.

prior to Critical Decision 1 (preliminary design), which in the case of the LAP4 occurred on April 27, 2021.[45]

By contrast an "at least 80 ppy" version of the SRPPF, i.e. single-site production at SRS, was one of the two preferred pit production strategies in the 2017 AoA; indeed it was thought to be the cheapest and quickest option to achieve an "at least 80" ppy capacity with high confidence.[46]

NNSA's 2018 Engineering Assessment (EA) also did not analyze or recommend either a dual-site pit production strategy, or the present NNSA strategy at LANL.

The EA also the examined single-site production at what is now the SRPPF, rating it the least-risky alternative examined and the one with the greatest "opportunities." There was no analysis of an enduring 30 ppy mission at LANL, although one was now assumed, nor of two-site production, in the EA. The EA did analyze three options for producing pits at LANL, all of which had been rejected in the AoA and none of which are being implemented today.[47]

Between the writing of the EA in April of 2018 and its presentation the next month, a brand-new strategy of a) maximizing the b) assumed "enduring" production in PF-4 and c) potentially increasing it beyond 30 ppy using multiple shifts, plus d) creating what is now SRPPF, was recommended in the briefing slides,[48] misrepresenting the actual EA.

The forthcoming Site-Wide EIS (SWEIS) for LANL should include a "no action" alternative which is not reliant on the discredited 2020 CTSPEIS SA and its associated AROD.

The Notice of Intent (NOI) for the forthcoming LANL SWEIS proposes a "No Action" alternative which incorporates the pit production mission approved in the 2020 AROD for the CTSPEIS, now declared invalid by this Court.[49]

The Parties should agree, and the Court require, that the forthcoming SWEIS include a "No Action" alternative which does not include pit production beyond, at most, the "less than 20 ppy"

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[45] NNSA FY2025 CBR, p. 233. https://lasg.org/budget/FY2025/doe-fy-2025-budget-vol-1-v2.pdf.

[46] "Plutonium Pit Production Analysis of Alternatives (AoA) Results & Next Steps," Nov. 2017, slide 2. https://lasg.org/MPF2/documents/PlutoniumPitProductionAoA_Nov2017_9pg.pdf.

[47] *Pu Pit Production Engineering Assessment*, NNSA/Parsons, April 20, 2018, https://lasg.org/MPF2/documents/NNSA_PuPitEA_Rev2_20April2018-redacted.pdf.

[48] EA results, briefing slides, May 14, 2018, slide 12. https://lasg.org/MPF2/documents/NNSA_PuPitEA_results_14May2018_briefing-slides.pdf. These slides are dated four days after the NNSA announcement endorsing split production. Unsurprisingly they also recommend the split production strategy even though the underlying Engineering Assessment of April 20, 2018 neither examined nor endorsed this strategy.

[49] NNSA, "Notice of Intent to Prepare a Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory," Fed. Reg. 87 No. 160, Aug.19, 2022, pp. 51083-51086. https://lasg.org/MPF2/documents/noi-eis-0552-lanl-site-wide-2022-08.pdf.

level established in 1996 and subsequently reaffirmed in successive RODs until it was changed in September of 2020.

SRPPF construction has few environmental impacts during the construction phase. LANL's new pit production mission, which is not authorized under valid NEPA analyses and decisions, already has major impacts.

One way to ascertain which if any parts of NNSA's dual-site production plan should be paused is to look at the environmental impacts that would be avoided by a pause.

SRPPF, which is being built on a brownfield site 6 miles from the site boundary, has few environmental impacts during the design and construction phase.[50]

Also, there are essentially no differences in construction impacts for differing SRPPF capacities. "Construction requirements for the SRPPF would be essentially the same regardless of production capacity."[51]

At LANL, severe environmental impacts are already occurring, from nuclear and hazardous waste generation, shipping, and disposal to increased traffic accidents including fatalities,[52] a doubling in local housing prices which has driven even more middle- and lower-income households from Los Alamos County, to interference with site cleanup in certain cases, to regional housing and labor market impacts, and more. LANL is a remote site, served by a limited road network that cannot be expanded because of very steep topography, tribal land ownership, and the extensive Native American ruins and sacred sites that dot the landscape. There are far more impacts than we can properly document here on short notice. These impacts would properly be the subject of a new SWEIS, if one was available.

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[50] SRS EIS pp. S-9 to S-15. https://lasg.org/MPF2/documents/final-eis-0541-srs-pit-production-summary-2020-09.pdf.

[51] Ibid. p. S-15.

[52] One letter to the editor must suffice for now: "With regards to the front-page headline ("LANL landmark: 1st plutonium pit," Oct. 1), I would like to add that Los Alamos celebrated the success with two additional vehicular crashes during that same morning's commuter rush, according to the alerts from Los Alamos National Laboratory. We experience aggressive driving at excessive speeds at every turn with little to no traffic enforcement. I am doubtful that a workforce this disdainful of traffic rules is going to create a safe workplace and protect us from harms of LANL's industrial weapons work. We are literally dying here, and LANL just pushes onward with diamonds and dollar signs in its eyes." Los Alamos resident Laura Walton. https://www.santafenewmexican.com/opinion/letters_to_editor/los-alamos-life-pit-production-and-continuing-crashes/article_4d5645ec-804f-11ef-bfbe-af2f780916a0.html. NNSA describes the journey to work for its own Los Alamos employees as "a terror part of their day" (Los Alamos Field Office Manager Ted Wyka, to Los Alamos County Council, March 2024).

Summary and recommendations

We believe there is a "middle ground" available to the Court and the Parties in this case.

1. **Overall**

   a. The 2008 CTSPEIS examined alternatives for pit production at several *single* sites, at various production levels up to 125 ppy (single-shift) and 200 ppy (multiple shifts), including at LANL and SRS. The December 2019 CTSPEIS SA evaluated whether the environmental impacts of a very different, new *two-site* production strategy required further evaluation under NEPA, and determined it did not. This Court has ruled otherwise.

   b. We believe that, at a minimum, the Sept. 2, 2020 CTSPEIS AROD and the Nov. 5, 2020 CTSPEIS AROD must therefore be vacated. As will be seen, this need not create the "parade of horribles" advanced by Defendants. It will prevent some "horribles" that are already under way. Absent a change from the dual-site paradigm back to the single-site paradigm that was properly analyzed for the SRS option (but not for LANL given the CMRR-NF debacle), vacatur would seemingly require halting preparations for pit production at LANL, SRS, and at all the other sites preparing for pit production.

   c. The present dual-site strategy is not just flawed under NEPA, but flawed from the business perspective as well. In 2017, after a year-long expert analysis in its AoA, DOE and NNSA formally found that what was to become its program of record in 2018 was impractical, wasteful, and risky – indeed impossible, in the case of "high confidence" 30 ppy production at LANL. A subsequent Engineering Assessment did not even analyze what is now NNSA's program of record at LANL.

   d. *Nota bene*, a two-site strategy that produces at least 30 ppy at LANL and at least 50 ppy at SRS, both with high (90%) confidence, will result in a total mean production of about 125 ppy, 21% greater than production from a single site producing 80 ppy with high confidence.[53]

2. **At SRS**

   a. The Sept. 2020 EIS for pit production at SRS examined the environmental impacts of various production levels up to 125 ppy. NNSA found no difference in construction requirements and hence environmental impacts during construction between the acquisition of production capacities of 50, 80, and 125 ppy.

   b. There is very little if any difference between the SRPPF project that is the SRS component of the present dual-site program of record, which NNSA has said is being configured to produce *more than* "at least 50" ppy, and an SRPPF project which would produce "at least 80 ppy" with high confidence at a single site.

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[53] NNSA AoA, p. 13. https://lasg.org/MPF2/documents/NNSA_PuPitAoA_Oct2017_redacted.pdf.

c. NNSA's SRS EIS found that no significant environmental impacts would occur at or around SRS as a result of preparations for pit production at the SRPPF brownfield site. Serial ("rate") pit production is not scheduled to occur until 2035 at the earliest, which is the earliest date at which differences in the environmental impact of differing pit production rates at SRS could appear. The first nuclear waste would not be created at SRPPF until sometime after construction is complete, currently expected in 2032.

d. NNSA: "If pit production at LANL were paused for some reason, overall pit production requirements could be satisfied at SRS."[54]

3. **At LANL**

a. The environmental impacts from NNSA's legally-flawed strategy are already beginning to accrue in a major way at and around LANL and also at the Waste Isolation Pilot Plant (WIPP), where transuranic waste (TRU) from LANL's extensive pit production activities is already being taken for disposal. NNSA estimates that TRU waste production at LANL will double due to pit production, straining safety limits in the near future.[55]

b. In the CTSPEIS, all LANL alternatives, even at the lowest *de minimis* production level, assumed and relied upon successful completion of the CMRR-NF. This did not occur, a fatal flaw in the applicability of the CTSPEIS analysis to pit production at LANL.

c. In the 2008 LANL SWEIS, completion of the CMRR-NF – then-deemed essential to plutonium programs at LANL -- was likewise assumed. That SWEIS is now 16 years old and quite obsolete given LANL's enormous growth in staff, contractors, budget, and facilities.

d. In 2013 NNSA adopted a nominal 30 ppy capacity goal at LANL, in contravention of standing NEPA decisions.

e. The Aug. 2020 LANL SWEIS AROD depended upon i) the categorically flawed analysis in the 2008 LANL SWEIS as well as ii) the flawed programmatic analysis in the 2019 CTSPEIS, now rejected by this Court.

f. Although it was not part of this case, we urge NNSA to set aside and not rely on the Aug. 2020 LANL SWEIS AROD pending fresh, more accurate SWEIS analysis.

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[54] SRS pit EIS, p. 23. https://lasg.org/MPF2/documents/final-eis-0541-srs-pit-production-summary-2020-09.pdf.

[55] NNSA, "Assessment of the Pit Production at [LANL], Report to Congress" May 2021, p. 11. https://lasg.org/MPF2/documents/NNSA-AssessmentPitProductionLANLPlan_May2021.pdf. NNSA's Office of Cost Estimating and Program Evaluation estimates LANL will produce 416 m3 of TRU waste once pit production is underway. LANL produced a total of just 157 m3 of TRU waste in 2018 (2020 LANL SWEIS SA, p. 67, https://lasg.org/MPF2/documents/LANL-SWEIS-SA-final-0380-SA-06_Aug2020.pdf).

g. A new draft LANL SWEIS may be nearing completion. The No Action alternative in that new SWEIS must not include or depend upon the determinations and decisions this Court has found to be invalid, including preparations for "at least 30" ppy at high confidence under the flawed dual-production-site mandate.

4. Our recommended path forward, overall

NNSA should eliminate the two-site pit production strategy adopted on May 10, 2018 and revert to the single-site strategy that prevailed for many decades and several prior studies (at least through October, 2017 if not through April 20, 2018, 20 days before NNSA's dual-site decision was announced).

The core problem identified by plaintiffs and the Court is that NNSA changed its overall strategy from single-site production to dual-site production. For both technical and legal reasons, it should be changed back.

By doing this, NNSA could:

a. Base a new CTSPEIS AROD (and a new SRS pit EIS AROD if necessary) on the analyses in the 2008 CTSPEIS, the 2019 CTSPEIS SA (with its determination vacated), and 2020 SRS pit EIS, *choosing single-site production at SRS*, vacating the 2020 CTSPEIS AROD.

b. It would be neither necessary nor equitable to halt SRPPF activities during the very short pendency of this new AROD, as SRS activities and impacts during pendency would the same no matter what capacity was chosen for production there. There would be no conflict with NEPA's requirement for pre-decisional analysis because the programmatic and indeed the project-specific analyses have already been done.

c. This AROD would specify the pit production *capacity* desired, but not the actual pit production rate to be *implemented* in the post-2035 period, which would depend on policies made at that time. That is, the decision we propose is neutral as to post-2035 pit production and nuclear weapons policies.

d. Recommit to the less-than-20 ppy production rate at LANL supported by prior NEPA RODs, emphasizing technology preservation and development, as well as training, over quantity production as was the case until 2013 and in many respects until 2018, when the flawed dual-site decision was made.

e. Wind down and bring to a rational conclusion LANL's LAP4 project in the coming fiscal year (FY2026), expressing the intent to do so immediately and starting as soon as possible.

Such an outcome would resolve the contradictory mandates in this case, quickly bring NNSA into NEPA compliance, save tens of billions of dollars, eliminate a tremendous amount of environmental impact in New Mexico, align NNSA's pit production strategy with its own Analysis of Alternatives, and eliminate the present competition for specialized skilled labor and production equipment between the two sites. It would retain all presently-sought pit production capacity for the post-2035 period without prejudicing future policy. NNSA would not meet statutory deadlines

for pit production, but that is already the case as these requirements were highly unrealistic to begin with and remain so today – especially if compliance with NEPA matters. It does.

NNSA would however have to forego most of the pits currently expected from LANL, and adjust its Life Extension Program schedule accordingly. While this topic is beyond the scope of this memo to say so, loss of these pits would not affect any current or planned nuclear weapon deployments.

Pursuant to and in accordance with 28 U.S.C. Section 1746, I declare under penalty of perjury that the foregoing is true and correct.

Respectfully submitted,

gregory mello

Greg Mello, on behalf of the Los Alamos Study Group