



**Scoping Comments to the National Nuclear Security Administration
On the Los Alamos National Laboratory
Site-Wide Environmental Impact Statement**

October 18, 2022

LANL SWEIS COMMENTS
NNSA Los Alamos Field Office
3747 W. Jemez Road
Los Alamos, NM 87544

Via lanlsweis@nnsa.doe.gov

Dear National Nuclear Security Administration:

Nuclear Watch New Mexico hereby submits these scoping comments on the new Los Alamos National Laboratory (LANL) Site-Wide Environmental Impact Statement (SWEIS).

Executive Summary

First, NNSA should complete a new nation-wide programmatic environmental impact statement on expanded plutonium pit production. A new LANL Site-Wide Environmental Impact Statement should then be “tiered” off of that document and address all of these issues outlined in these scoping comments, and in particular the site-specific impacts of expanded plutonium pit production. In the event that NNSA continues its arguably illegal behavior in not completing a new PEIS, a new draft LANL SWEIS should nevertheless analyze the issues outlined in these scoping comments, particularly expanded plutonium pit production.

A Reduced Operations Alternative is not only a reasonable alternative but is in the actual best interests of the nation. Such an alternative would best preserve stockpile reliability by foregoing production of new pits that may deviate from tested designs; conservatively maintain the existing, extensively tested nuclear weapons stockpile; augment and accentuate nonproliferation programs, especially the development of monitoring and verification technologies that could help underpin a future world free of nuclear weapons; and augment and accentuate cleanup programs that are truly comprehensive, permanently eliminating the threat to groundwater.

The new LANL SWEIS should analyze:

- The need for expanded plutonium pit production to begin with, given the proven long serviceable lives of pits and the fact that the U.S. already has more than 15,000 pits.
- The Lab’s chronic history of nuclear safety incidences.
- Possible negative impacts of other major plutonium programs competing for infrastructure and adding to “Materials at Risk.”
- An Integrated Master Schedule for pit production.

- Surge pit production.
- Impacts of the 2021 LANL Campus Master Plan, including 8 million gross square feet of new construction and the need for “supporting the development of new weapons for future applications.”
- Impacts of the CHIPS and Science Act and Inflation Reduction Act.
- The disparity between NNSA and Defense Nuclear Facilities Safety Board calculated potential doses.
- Updated seismic data, a new Probabilistic Seismic Hazard Analysis and lack of completion of seismic upgrades at LANL’s main plutonium facility.
- Lack of adequate and/or up-to-date safety bases for nuclear facilities.
- Planned releases of up 100,000 curies of radioactive tritium.
- Increasing wildfire risk and climate change.
- Comprehensive cleanup that permanently protects scarce water resources instead of “cap and cover.”
- Per- and polyfluoroalkyl substances (PFAS) contamination.
- The lack of disposal capacity at the Waste Isolation Pilot Plant for future radioactive nuclear weapons production.
- Preservation of the Caja del Rio.
- Environmental justice issues, including return of land to the San Ildefonso and Santa Clara Pueblos.

Listed reference documents for the LANL SWEIS should be made available to the public via the internet.

Forward

It is oddly fitting to be submitting these LANL scoping comments during this anniversary of the Cuban Missile Crisis, commonly regarded as the closest that humanity has ever come to global nuclear annihilation. But now, 60 years later, even President Biden is invoking “Armageddon” to describe what could potentially occur in the crisis over Ukraine.

Robert McNamara, Defense Secretary under President Kennedy, said that we survived the Cuban Missile Crisis only by plain dumb luck. We still have not learned the essential lesson of the Cuban Missile Crisis, which is that the only way to eliminate the nuclear danger is through careful, universal, verifiable steps to eliminate nuclear weapons. It is the very nature of these weapons that the possession of any nuclear weapons is an existential danger to all.

That the nuclear weapons states have no intention to honor their pledge to eliminate nuclear weapons is made abundantly clear yet again by the failure of the recent Review Conference of the 1970 NonProliferation Treaty to make any progress whatsoever toward global nuclear disarmament. Yet the U.S. and other nuclear weapons powers sternly denounce the new Treaty on the Prohibition of Nuclear Weapons.

But what do the nuclear weapons powers have to offer as an alternative when they so intentionally ignore the NonProliferation Treaty’s 50 year old obligation to enter into serious negotiations leading to nuclear disarmament? Their answer is instead trillions of dollars invested in so-called “modernization” programs that will keep nuclear weapons forever, for which expanded plutonium “pit” bomb core production at LANL is key. This does more than just help fuel a new nuclear arms race. It also robs society of resources that could help humanity achieve

its full potential through better educational and health systems, wildfire protection, repair of critical infrastructure and addressing new climate change threats.

Background

The last Los Alamos National Laboratory (LANL) Site-Wide Environmental Impact Statement (SWEIS) was completed in 2008 and is badly outdated. Since 2018 the National Nuclear Security Administration (NNSA), the Department of Energy's semi-autonomous nuclear weapons agency, has been aggressively expanding the production of plutonium "pit" bomb cores for nuclear weapons at the Lab.

On August 19, 2022, NNSA finally announced its intent to prepare a new LANL SWEIS, but apparently the agency will not address expanded plutonium pit production.¹ NNSA's legally dubious claim is that it performed the required NEPA analysis for expanded plutonium pit production in a 2008 Complex Transformation Programmatic Environmental Impact Statement, the 2008 LANL SWEIS and a woefully inadequate "Supplement Analysis" of the 2008 SWEIS completed in 2020. This last document concluded that a new SWEIS was not needed, after which NNSA issued an Amended Record of Decision expanding plutonium pit production at LANL to at least 30 pits per year.²

Under "Purpose and Need for Agency Action" NNSA's Notice of Intent states:

"The purpose of the continued operation of the Laboratory has not changed and continues to be to provide support for NNSA's core missions as directed by the Congress and the President. NNSA's need to continue operating the Laboratory is focused on its obligation to ensure a safe and reliable nuclear stockpile. For the foreseeable future, NNSA, on behalf of the U.S. Government, will need to continue its nuclear weapons research and development, surveillance, computational analysis, components manufacturing, and nonnuclear aboveground experimentation. Currently, many of these activities are conducted solely at the Laboratory. A curtailment or cessation of these activities would run counter to national security policy as established by the Congress and the President. The Laboratory plays vital roles in NNSA missions including: *enhancing U.S. national security through the military application of nuclear energy; maintaining and enhancing the safety, reliability, and effectiveness of the U.S. nuclear weapons stockpile*, including the ability to design, produce, and test, in order to meet national security requirements; *promoting international nuclear safety and nonproliferation; reducing global danger from weapons of mass destruction; supporting U.S. leadership in science and technology.*" (Emphases added.)

Elements of U.S. national security, future stockpile reliability and the promotion of international proliferation are addressed below with a perspective directly contrary to the way that NNSA

¹ See NNSA's August 19, 2022 *Notice of Intent To Prepare a Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory* at <https://www.federalregister.gov/documents/2022/08/19/2022-17901/notice-of-intent-to-prepare-a-site-wide-environmental-impact-statement-for-continued-operation-of>

It doesn't even mention expanded plutonium pit production.

² *Amended Record of Decision for the Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory, Los Alamos, NM, NNSA, Sept. 2, 2020, https://www.energy.gov/sites/default/files/2020/09/f78/amended-rod-eis-0380-LANL-SWEIS-2020-09-02.pdf*

presents them. First, speaking generally, the American public has always been sold the rationale that the purpose of the nuclear weapons stockpile is to deter others from using nuclear weapons against us. But then there is the inconvenient fact that the U.S. was the first and only nation to have used nuclear weapons in war (to which now Putin unfortunately refers to as precedence for the possible use of tactical nuclear weapons in Ukraine). The truth is that the U.S. has never had a policy of just deterrence but rather a hybrid of deterrence plus nuclear warfighting capabilities. This was made explicitly clear by the Department of Defense following Obama's 2010 Nuclear Posture Review:

“The new guidance requires the United States to maintain significant counterforce capabilities against potential adversaries. The new guidance does not rely on a “counter-value” or “minimum deterrence” strategy.”³

The Encyclopedia Britannica defines “counterforce” as:

“**counterforce doctrine**, in [nuclear strategy](#), the targeting of an opponent's military [infrastructure](#) with a nuclear strike. The counterforce doctrine is [differentiated](#) from the [countervalue doctrine](#), which targets the enemy's cities, destroying its civilian population and economic base. The counterforce doctrine asserts that a nuclear [war](#) can be limited and that it can be fought and won...

The Soviets ultimately rejected the idea of the counterforce doctrine. Many in the United States and in the U.S. Congress also had doubts about the possibility of a limited nuclear exchange and saw any such conflict inevitably degenerating into a major nuclear war.”⁴

Rather than “a limited nuclear exchange... inevitably degenerating into a major nuclear war”, DoD's actual plan was to go into all out nuclear war, as made clear by Daniel Ellsberg in “Confessions of a Nuclear War Planner.”⁵

In addition, NNSA is preparing to produce new-design nuclear weapons that will have plutonium pits newly manufactured at LANL. These future pits may be heavily modified from original designs.⁶ They cannot be tested because of the existing international nuclear weapons testing moratorium, thus perhaps undermining confidence in stockpile reliability. Or, arguably worse yet, they could prompt the U.S. to resume testing, which would have seriously negative impacts on global nuclear nonproliferation.

Thus, the following rationales for Continued Operations at LANL outlined in NNSA's Notice of Intent ring hollow: *enhancing U.S. national security; maintaining reliability of the U.S. nuclear weapons stockpile, promoting international nonproliferation; reducing global danger from*

³ *Report on Nuclear Employment Strategy of the United States Specified in Section 491 of 10. U.S.C.*, Department of Defense, June 2013, page 4 (quotation marks in the original) <https://www.globalsecurity.org/wmd/library/policy/dod/us-nuclear-employment-strategy.pdf>

⁴ <https://www.britannica.com/topic/counterforce-doctrine>

⁵ See *The Doomsday Machine, Confessions of Nuclear War Planner*, Daniel Ellsberg, 2017. This is further documented in *The Bomb: Presidents, Generals, and the Secret History of Nuclear War*, Fred Kaplan, 2020.

⁶ NNSA's FY 2020 Congressional Budget Request, PDF pages 128 – 132, has nine references to future “W87-like” pits, which leaves a lot of wiggle room for future modifications. Subsequent NNSA budgets were scrubbed of “W87-like.”

weapons of mass destruction. In fact, we contend that precisely the opposite is occurring, that expanding nuclear weapons programs at LANL are increasing the nuclear danger, may undermine stockpile reliability,⁷ and are harmful to promoting international nonproliferation.

We ask, exactly how does keeping nuclear weapons forever promote international nonproliferation? This question has particular salience after the complete failure of the recent Review Conference of the NonProliferation Treaty to make any progress whatsoever toward the universal nuclear disarmament pledged to more than a half-century ago. All this must have clear and thoughtful analysis under Purpose and Need. But to compound the irony, the initial indications are that NNSA does not intend to analyze the expanded production of plutonium “pit” bomb cores in this new Site-EIS, which makes a sham of the whole process.

Specific Scoping Comments

To remedy the potential inadequacy of the LANL SWEIS, Nuclear Watch New Mexico believes that the following is critically necessary:

- First, NNSA needs to complete a new nation-wide programmatic environmental impact statement on expanded plutonium pit production instead of relying upon the 2008 Complex Transformation Programmatic Environmental Impact Statement. In addition to being woefully outdated, this begins with the fact that the 2008 PEIS never contemplated simultaneous plutonium pit production at two sites, that is LANL and the Savannah River Site in South Carolina.
- In addition, a new programmatic environmental impact statement must analyze the need for expanded pit production to begin with, which is not clear. Independent experts have concluded that pits have serviceable lifetimes of at least 100 years (their average age is now around 40). The U.S. already has at least 15,000 existing pits stored at the Pantex Plant near Amarillo, TX. Crucially, no future pit production is to maintain the safety and reliability of the existing nuclear stockpile. Instead, it is all for speculative future nuclear weapons designs that can’t be tested because of the existing global testing moratorium, thereby potentially degrading confidence in stockpile reliability. Or, perhaps worse yet, it could prompt the U.S. to resume testing, which would have severe international proliferation consequences. Finally, expanded plutonium pit production will help fuel the new nuclear arms race. Thus, a new programmatic environmental impact statement should examine whether or not expanded plutonium pit production is the U.S.’ best national security interests to begin with.
- A new LANL Site-Wide Environmental Impact Statement should then be “tiered” off the new programmatic environmental impact statement as encouraged by the National Environmental Policy Act. The new SWEIS must address the site-specific impacts of expanded plutonium pit production at the Lab, when there is a strong indication that it will not. NNSA’s argument that it sufficiently made that analysis in the 2020 Supplement Analysis is simply

⁷ This is illustrated by NNSA’s admission that “The stockpile is inherently moving away from the nuclear explosive test database through aggregate influences of aging, modern manufacturing techniques, modern materials, and evolving design philosophies.” (NNSA FY 2023 Congressional Budget Request, PDF page 327, “Enhanced Capabilities for Subcritical Experiments”). “Evolving design philosophies” are elective and possibly detrimental to stockpile reliability as they drift from the legacy test database.

wrong. The planned expenditure of at least \$8 billion in plutonium facility upgrades, 2.4 million square feet of new construction over the next decade, and the unprecedented amount of offsite leasing for office space, all primarily driven by expanded plutonium pit production, need analysis in a new SWEIS. None of that was adequately analyzed (if at all) in the 2020 Supplement Analysis.

- NNSA has repeatedly refused to undertake a new programmatic environmental impact statement (PEIS) on expanded plutonium pit production, which is flat out wrong and the subject of existing citizen litigation.⁸ But irrespective of whether or not NNSA completes a new PEIS, the following issues should be analyzed in a new LANL SWEIS.
- As previously mentioned in “Background” for these comments, NNSA and the Labs are aggressively tooling up for production of new plutonium pits that may substantially deviate from tested legacy designs. Further, these new plutonium pits will be for speculative new-design nuclear weapons that can’t be tested because of the existing international nuclear weapons testing moratorium, thus perhaps undermining confidence in stockpile reliability. Or, arguably worse yet, they could prompt the U.S. to resume testing, which would have seriously negative impacts on global nuclear nonproliferation.
- NNSA’s Notice of Intent for the LANL SWEIS states:

For the foreseeable future, NNSA does not consider reducing operational or environmental remediation missions at LANL as reasonable. However, the timeframe for the SWEIS analysis is approximately 15 years into the future, and NNSA recognizes that requirements, needs, opportunities, and vision may change over such a long planning horizon. Consequently, NNSA has not made a final decision on whether to include a Reduced Operations Alternative in this SWEIS. NNSA welcomes input on this and any other alternative the public thinks are reasonable and should be analyzed in the SWEIS.

Nuclear Watch New Mexico definitely believes that a Reduced Operations Alternative is not only reasonable but is in the actual best interests of the nation. Such an alternative would:

- Best preserve stockpile reliability by foregoing production of new pits that may substantially deviate from tested legacy designs.
- Conservatively maintain the existing, extensively tested nuclear weapons stockpile while refraining from new-design nuclear weapons right down to the components level.⁹
- Augment and accentuate nonproliferation programs, especially the development of monitoring and verification technologies that could help underpin future arms control treaties and lead the way toward a future world free of nuclear weapons.
- In order to best protect New Mexico’s precious limited water resources, augment and accentuate cleanup programs that are truly comprehensive, eschewing “cap and cover” that will leave more than 200,000 cubic yards of radioactive and toxic wastes permanently buried in unlined pits and shafts as a permanent threat to groundwater.

⁸ See Savannah River Site Watch, Tom Clements, The Gullah/Geechee Sea Island Coalition, Nuclear Watch New Mexico and Tri-Valley Communities Against A Radioactive Environment vs. NNSA at https://uploads-ssl.webflow.com/5f2c352f324853b8b51c50db/60dc9b018b2e81089b39ebb7_Complaint%20as%20filed.pdf

⁹ As a negative example, new-design capacitors caused major delays and costly overruns for the B61-12 Life Extension Program and W88 Alteration.

Therefore, Nuclear Watch strongly argues for a Reduced Operations Alternative with the above attributes that would be in the best interests of the nation and world.

- LANL's chronic history of nuclear safety incidences need analysis and resolution before expanding plutonium pit production. These concerns are serious enough that major operations at LANL's main plutonium facility (PF-4) were halted for more than three years, yet nuclear safety incidences still occur. Further, a recent Defense Nuclear Facilities Safety Board report noted that approximately one third of Lab criticality evaluations reviewed were noncompliant with analysis and documentation requirements defined in DOE-STD-3007.¹⁰ The impacts of and rigorous avoidance of criticality accidents must be analyzed in the SWEIS.
- It is also not clear how expanded pit production can safely operate concurrently with other major plutonium programs at the aging PF-4 facility. This very much includes the emerging issue of pre-processing more than 40 metrics tons of excess plutonium for eventual disposal at the Waste Isolation Pilot Plant (WIPP). The Government Accountability Office (GAO) raised this issue years ago with no apparent resolution, saying:

However, plans for converting additional surplus plutonium into plutonium oxide are uncertain because of two issues. These issues include NNSA's still-developing plans for new pit production, which will also take place at LANL, and issues surrounding the agency's ability to ship newly produced plutonium oxide for dilution to DOE's Savannah River Site (SRS) in South Carolina. According to agency officials, NNSA and DOE are taking several actions that, if successfully implemented, are designed to allow NNSA to meet its long-term plutonium oxide production goals. These actions include continuing to review plutonium oxide and pit production plans, increasing plutonium storage at LANL, reducing the amount of SRS's surplus plutonium, and accelerating the shipment of diluted plutonium from SRS to WIPP.¹¹

This issue needs full analysis and disclosure in a new LANL SWEIS. In addition, adequate facility stack monitoring for all plutonium programs at the Lab must be analyzed given LANL's historic noncompliance with the National Emission Standards for Hazardous Air Pollutants under the Clean Air Act.

- Yet another issue is that NNSA must develop an Integrated Master Schedule for pit production that GAO has long advocated,¹² which in turn should help frame the LANL SWEIS. NNSA's original cost estimates in 2018 for expanded plutonium pit production over 30 years was \$43 billion. Since then the estimated costs for the Savannah River Plutonium Processing Facility have more than doubled to \$11.4 billion and NNSA Administrator Jill Hruby has already

¹⁰ See *Los Alamos Activity Report for Week Ending May 21, 2021*, DNFSB, <https://www.dnfsb.gov/sites/default/files/document/23486/Los%20Alamos%20Week%20Ending%20May%2021%202021.pdf>

¹¹ *SURPLUS PLUTONIUM DISPOSITION – NNSA's Long-Term Plutonium Oxide Production Plans Are Uncertain*, GAO, 2019, <https://www.gao.gov/assets/710/705783.pdf>

¹² See *Nuclear Weapons: NNSA Should Further Develop Cost, Schedule, and Risk Information for the W87-1 Warhead Program*, GAO, September 2020, at <https://www.gao.gov/products/gao-20-703> Interestingly the House passed a requirement for an Integrated Master Schedule in its FY 2023 Defense Authorization Act. Whether that survives conference with the Senate remains to be seen.

asked for an additional half-billion dollars. With typical costs overruns we are betting that pit production will cost at least \$60 billion over 30 years.

DOE Environmental Management and Defense Programs (now NNSA) have been on the GAO's High Risk List for project mismanagement ever since the list's inception in 1991. The lack of an Integrated Master Schedule between the two sites (LANL and the Savannah River Site) for such an exorbitantly expensive program is illustrative of why NNSA remains on GAO's High Risk List. The new LANL SWEIS should address an Integrated Master Schedule for expanded plutonium pit production.

- In addition, the new SWEIS needs to analyze PF-4's capacity to sustain so-called surge production at 80 pits per year. This may have increasing importance in the event that planned simultaneous pit production at the Savannah River Site is further delayed or perhaps even canceled.
- The LANL SWEIS needs to fully address the amount of planning and construction outlined in LANL's 2021 Campus Master Plan (CMP) and any subsequent versions, which was disclosed to the public only through a Freedom of Information Act request. First, the term "Campus" is a public relations spin for public consumption as the Lab becomes more and more a production site for plutonium pits. The Plan is described as the "first comprehensive site plan in more than 20 years" and "During the next three decades, reveals more than 4 million gross square feet of new space..."

- It also states that the "the CMP infrastructure scope, data, and associated context will be available for the development of future NEPA analyses, including a new SWEIS for the LANL site" (CMP p. 11-3). As such, we expect full disclosure and analysis of the planned new massive construction of new space contemplated in the Campus Master Plan.

- In particular, there should be full disclosure of "additional square footage in Santa Fe for light laboratory and possibly warehouse lease options" (CMP p. 4-3).

- In particular, there should be full disclosure of "eventual need for PF-4 upgrades or replacement" (CMP p. 10-4).

- The CMP states:

"The Laboratory publishes an annual Site Sustainability Plan (SSP) to document and describe programs and projects planned or underway to facilitate mission execution while maintaining the highest standards of environmental and economic sustainability. The SSP also provides transparent tracking of progress through various metrics." (CMP p. 5-7)

The Site Sustainability Plan should be listed as a reference document to the new LANL SWEIS and made electronically available to the public.

- The CMP states "In January 2020, EPA Region 6 made a final determination that storm water discharges from LANL property are contributing to violations of New Mexico water quality standards and require NPDES permit coverage under the Clean Water Act" (CMP. P. -6). The LANL SWEIS needs to analyze this and possible remedies.

- “The Laboratory has grown 14 percent during the past 5 years and anticipates employing more than 15,000 personnel by 2025” (CMP p. 4-1) The new LANL SWEIS needs to analyze all related socioeconomic impacts, such as limited housing, strain on infrastructure, net cost to surrounding county governments, use of increasingly limited water resources, induced rising cost of living and related environmental justice issues.

- Under Purpose and Need for the new SWEIS there should be explanation of the need for “supporting the development of new weapons for future applications” (CMP p. 10-7).

- We further expect full NEPA coverage of the “potential project-known as the Matter and Radiation Interactions in Extreme (MaRIE)- [that] would be built in the 2030s” (CMP p. 10-9), that is within the time planning horizon of the new LANL SWEIS. This includes “a major upgrade to onsite power utilities, construction of the new electron accelerator and experimental facilities, and a visitor center and training facility.”

• Given that NNSA apparently refuses to complete appropriate NEPA processes for expanded plutonium pit production, either in a nation-wide programmatic environmental impact statement or this new LANL SWEIS, Nuclear Watch New Mexico speculates that a driving purpose of this new SWEIS is to procedurally clear the way for the 2.4 million gross square feet of new construction over the next decade that the Campus Master Plan contemplates. How much of that square footage is because of plutonium pit production? NNSA’s NEPA failure is particularly egregious given that its expanded plutonium pit production program is probably the agency’s biggest single program yet, and related pit production construction/upgrades would be the largest construction project ever in New Mexico, short of the federal interstate highway system.

• Related to all this new construction, what is the impact of the CHIPS and Science Act and Inflation Reduction Act, both of which will reportedly provide many billions of new dollars for national laboratories infrastructure? LANL pitches this new pot of money as being mostly non-weapons, as in:

“At Los Alamos, facilities that might benefit from infrastructure funding include the linear accelerator, which produces critical medical isotopes that are used to treat tens of thousands of patients each year, and the Center for Integrated Nanotechnologies, which is a joint nanoscience research facility with Sandia National Labs that has a footprint in both Los Alamos and Albuquerque, and can contribute to microelectronics needs.”¹³

It is convenient for LANL to tout medical isotope production. This is deceptive because the primary mission of LANL’s linear accelerator is nuclear weapons work, especially given the presence of the Weapons Neutron Research Facility at the Los Alamos Neutron Science Center (LANSCE). In fact, LANSCE is a prime example of LANL’s further entrenchment into nuclear weapons programs, as in the 1990’s it was 80% for basic science research and 20% nuclear weapons, which has been completely inverted today. Further, LANSCE has been the dirtiest point source for radioactive air emissions to the public in DOE’s entire nuclear weapons complex, which is one substantial reason why the public interest organization Concerned

¹³ *Press conference focuses on positive impact of CHIPS and Science Act, Los Alamos and Sandia National Laboratories’ directors join Sen. Luján to talk about funding potential for national laboratories*, LANL, August 12, 2022 <https://discover.lanl.gov/news/0812-chips-and-science-act>

Citizens for Nuclear Safety was able to successfully sue the Lab for major Clean Air Act violations in 1997. Similarly, Sandia's principal interest in nanoscience and microelectronics is for nuclear weapons applications.

How much taxpayers' money does LANL expect to get from this huge new pot of money? Given that Senator Ben Ray Lujan (D-NM) was a key proponent of these Acts, the answer is probably a lot. To what extent will this huge pot of money support nuclear weapons work, both directly and indirectly? To what extent is this huge pot of new money driving the new LANL SWEIS? We believe full disclosure is necessary in the new LANL SWEIS.

Moreover, it is well known that the cost of business at LANL is absurdly high, in part because of an internal tax for laboratory-directed research and development (LDRD) that has historically favored nuclear weapons work. The new LANL SWEIS should analyze whether work and infrastructure funded by the CHIPS and Science Act and Inflation Reduction Act would not be better done at other institutions in order to best conserve taxpayers' money. In addition, it is questionable that this work and infrastructure should occur under the auspices of the Department of Energy at all given its perennial listing on the Government Accountability Office's High Risk List for project mismanagement ever since GAO started the List in 1991.

- DOE's calculated potential doses to workers and the public in its 2020 Supplement Analysis are orders of magnitude lower than those calculated by the independent Defense Nuclear Facilities Safety Board (some of which are lethal doses).¹⁴

In a different case:

“NNSA Headquarters accepted an “exigent condition” where there is no viable control strategy to meet DOE's evaluation guideline for postulated consequences to the public. In this case, NNSA accepted bounding mitigated consequences to the public that range from 490 to 3,175 rem depending on the amount of radioactive material assumed to leak out of the building structure following a post-seismic fire. NNSA deemed the risk acceptable based on the conservatism in the analysis, the low likelihood that the accident occurs, and the limited number of shipments. The primary controls credited to protect the public are the shipping containers (which must be received by May 2024 before certifications expire) and the seismic power shutoff system (which has an acknowledged deficiency and cannot prevent all fire ignition sources following an earthquake). Work associated for this activity will be primarily performed in four gloveboxes where only one of the gloveboxes meets minimum seismic requirements.”¹⁵

It is generally acknowledged that risk analysis is at the heart of NEPA. This mismatch between the NNSA's and the Safety Board's potential dose calculations urgently needs to be reconciled in the new SWEIS.

¹⁴ See Table 1, page 10 of the Defense Nuclear Facilities Safety Board's report *Potential Energetic Chemical Reaction Events Involving Transuranic Waste at Los Alamos National Laboratory* at <https://www.dnfsb.gov/documents/reports/technical-reports/potential-energetic-chemical-reaction-events-involving>

It gives lethal potential occupational doses of 760 rem and public doses of up to 24 rem.

¹⁵ *Los Alamos Activity Report for Week Ending April 1, 2022*, DNFSB, <https://www.dnfsb.gov/sites/default/files/document/25541/Los%20Alamos%20Week%20Ending%20April%201%202022.pdf> Parentheses in the original.

- The new draft SWEIS should contain updated seismic data and hazard analysis. New LANL seismic analyses must be completed to make the LANL SWEIS credible.

NNSA is proceeding with expanded plutonium pit production at LANL’s Technical Area-55 with a deficient understanding of seismic risks. This is not a mere academic exercise in that the Defense Nuclear Facilities Safety Board has postulated offsite radioactive doses in the few hundred rems in the event of a seismically-induced fire.

The DNFSB has been on LANL’s case to seismically upgrade PF-4 ever since the vastly overbudget Chemistry and Metallurgy Research Replacement Project-Nuclear Facility was cancelled in 2012. Seismic upgrades will not be completed before pit production is scheduled to start, as the Safety Board documents:

Safety Basis for the Plutonium Facility at Los Alamos National Laboratory¹⁶

Table 1: Changes in Estimated Completion Schedule[†] for Safety System Upgrades			
<i>Safety System</i>	<i>Safety System Upgrade Benefits</i>	<i>2011 Baseline [10]</i>	<i>2019 Update [11]</i>
Laboratory Fire Barriers	Limit fires from spreading between laboratory rooms.	2015	2021
Fire Suppression Seismic Upgrades	Limit fires from spreading between laboratory rooms, reduce the intensity of fire, and potentially reduce the LPF for the post-seismic fire event.	2013	2024
Active Confinement Ventilation	Reduce LPF and reliance on passive confinement during seismic event.	2020	2025
Remove Seismically Unqualified Buildings for Firewater Main	Ensure water supply to fire suppression system after a seismic event.	2022	2026

[†] Completion schedule is based on fiscal year

“Conclusion. Based on the findings detailed in this report, the Board’s staff team concludes that the approved PF-4 safety basis [5, 6] does not appropriately analyze the hazards at PF-4 and that the current safety control strategy does not adequately protect the public from the post-seismic fire accident scenario. In addition, the staff team concludes that inadequate documentation and limited software pedigree regarding the derivation of LPF values used in the DSA challenge the efficacy of the primary control that is credited to protect the public from the consequences of a seismic event (i.e., confinement by the building structure). NNSA and the Board have agreed for more than a decade on the need to improve the credited safety systems at PF-4; however, these improvements have been delayed. The concerns detailed in this report further emphasize the need for timely upgrades to PF-4’s deficient safety systems.”¹⁷

¹⁶ Staff Report August 16, 2019, *Safety Basis for the Plutonium Facility at Los Alamos National Laboratory*, DNFSB, [https://www.dnfsb.gov/sites/default/files/document/19376/PF-4%20Safety%20Basis%20\[2020-100-001\].pdf](https://www.dnfsb.gov/sites/default/files/document/19376/PF-4%20Safety%20Basis%20[2020-100-001].pdf)

¹⁷ Ibid.

- Reviews of Probabilistic Seismic Hazard Analysis (PSHA) are required every ten years.¹⁸ As the Defense Nuclear Facilities Safety Board (DNFSB) noted:

“The current PSHA for the LANL site was completed in 2009. Since then, LANL contractors have completed a number of studies, most notably they have obtained additional valuable geotechnical data associated with the LANL site. As a result, Triad concluded a PSHA update is necessary and noted that their current schedule calls for completion by the end of fiscal year 2025.”¹⁹

To the contrary, this new LANL Probabilistic Seismic Hazard Analysis should be sped up (without compromising its quality) for inclusion in the new LANL SWEIS. Without it the seismic section in the new LANL SWEIS will not be credible. Moreover, expanded plutonium pit production should be halted until PF-4’s seismic upgrades are complete to the satisfaction of the Defense Nuclear Facilities Safety Board.

- The draft LANL SWEIS should fully address the 2009 Defense Nuclear Facilities Safety Board Recommendation addressing seismic concerns. In the Safety Board’s words “This Recommendation identifies the need to execute both immediate and long term actions that can reduce the risk posed by a seismic event at the Plutonium Facility at Los Alamos National Laboratory.”

The Safety Board further noted:

“The Plutonium Facility has operated for more than a decade with a 1996 Final Safety Analysis Report as its safety basis. DOE issued Title 10, Code of Federal Regulations, Part 830, Nuclear Safety Management, in January 2001, requiring contractors for all its existing facilities to submit a Documented Safety Analysis (DSA). Ultimately, a DSA for the Plutonium Facility was submitted by LANL and approved by the National Nuclear Security Administration's (NNSA) Los Alamos Site Office (LASO) through a Safety Evaluation Report (SER) in December 2008. The DSA identifies an array of planned future upgrades to improve the safety posture of the facility. However, both the DSA and SER rely inappropriately on planned seismic upgrades to safety systems that (1) will not be implemented for many years and (2) are not sufficient to address adequately the bounding seismic accident scenarios. The only safety feature that can be credited for these accident scenarios is the passive confinement provided by the facility structure. Additionally, appropriate compensatory measures to protect public and worker health and safety have not been identified. As a result, a major deficiency in the facility's safety basis exists...

Given the magnitude of the potential consequences to the public, the Board believes DOE must develop expeditiously a defensible safety strategy for seismically induced events at the Plutonium Facility and a credible plan for implementing this strategy. DOE's response must include definite, measurable, and immediate means to substantially reduce the potential

¹⁸ <https://www.osti.gov/biblio/1261041-proposed-risk-informed-seismic-hazard-periodic-reevaluation-methodology-complying-doe-order>

¹⁹ *Los Alamos Activity Report for Week Ending March 4, 2022*, DNFSB, <https://www.dnfsb.gov/sites/default/files/document/25386/Los%20Alamos%20Week%20Ending%20March%204%202022.pdf>

consequences at the site boundary. Implementation of a sound safety strategy must be pursued on an urgent basis.”²⁰

Given planned massive upgrades to PF-4, including many more glove boxes for plutonium work, and the length of time passed since the Board made these recommendations in 2009, we expect the draft LANL SWEIS to give a full accounting of how PF-4 has been brought up to current seismic standards for a Hazard Category 2 nuclear facility with an expanded plutonium pit production mission.

- The 2009 DNFSB recommendation also stated:

“Consistent with the Board's Recommendation 2004-2, Active Confinement Systems, one long-term strategy that could provide effective mitigation for seismic events involves upgrading the facility's confinement ventilation system to meet seismic performance category 3 criteria. This strategy would allow the confinement ventilation system to reduce reliably the consequences of a seismically induced event by many orders of magnitude to acceptably low values.”

In March 2022, NNSA stated that they are no longer pursuing a safety class active confinement system at PF-4.²¹ Basically, active confinement systems would automatically close doors and turn off, or on, exhaust fans during an accident. This would contain the radiologic materials, such as plutonium, in PF-4. This discussion between the DNFSB and DOE has been going on for over a decade. The SWEIS must analyze the potential impacts of the Lab not installing active confinement at PF-4.

- The SWEIS must analyze the impacts of LANL not having adequate and/or up-to-date safety bases for its facilities.²² For instance, the DNFSB has found that safety bases for both NNSA and Environmental Management (EM) facilities at LANL do not consistently or appropriately consider a potential energetic chemical reaction involving transuranic waste. The DNFSB reported that hazard analyses lack systematic evaluations of the chemical compatibility of transuranic waste streams. Additional safety controls may be necessary to protect workers and the public. And facilities store transuranic waste without any engineered controls beyond the waste container. The report concluded “While some LANL safety bases currently identify the hazards posed by a specific chemical reaction, LANL safety bases do not systematically evaluate the waste streams to identify a wider spectrum of possible reactions.”²³

²⁰ *RECOMMENDATION 2009-2 TO THE SECRETARY OF ENERGY Los Alamos National Laboratory Plutonium Facility Seismic Safety*, DNFSB, October 2009, <https://ehss.energy.gov/deprep/2009/FB09O26A.PDF>

²¹ See *Los Alamos Activity Report for Week Ending April 1, 2022*, DNFSB, <https://www.dnfsb.gov/sites/default/files/document/25541/Los%20Alamos%20Week%20Ending%20April%201%202022.pdf>

²² “Definition: The documented safety analysis and hazard controls that provide reasonable assurance that the DOE nuclear facility can be operated safely in a manner that adequately protects workers, the public, and the environment. (10 CFR 830)”, Department of Energy, https://www.directives.doe.gov/terms_definitions/safety-basis

²³ DNFSB/TECH-46, <https://www.dnfsb.gov/sites/default/files/document/22156/Tech-46%2C%20Potential%20Energetic%20Chemical%20Reaction%20Events%20Involving%20Transuranic%20Waste%20at%20LANL%20%5B2020-100-055%5D.pdf>

In the past, LANL has been extremely slow in creating safety bases for facilities. These reports used to be publicly available online, but in a sign of increasing opaqueness have since been removed from the public domain. All safety bases documents must be up to date and made available online. Otherwise, the constant assurances by Lab officials that safety is paramount are hollow. The LANL SWEIS should document whether or not all safety bases are complete and up-to-date.

- DOE/NNSA attempts to throttle DNFSB access to nuclear facilities are well-known and sparked outrage both among the public and Congress. That attempt was arguably illegal given that DOE's internal Order 140.1 *Interface with the Defense Nuclear Facilities Safety Board* conflicted with Congress's enabling legislation that explicitly gave the prerogative of choice of access to the DNFSB, not DOE. This issue has reportedly been resolved in writing between the DNFSB and DOE but should be restated in the LANL SWEIS as public record.
- LANL plans to intentionally vent up to 100,000 curies of gaseous radioactive tritium and possibly more over time. That deserves disclosure and analysis in a new draft SWEIS. Special attention must be devoted to the fact that human fetuses could be particularly affected by these releases given that tritium can cross the placenta as tritiated water.
- The wildfire risk at the Laboratory is increasing due to climate change, occurring at rates that were not credited by DOE in the 2008 SWEIS. The effects of this accelerated change for human health and the environment require analysis in a new or supplemental SWEIS. DOE must also analyze the risks to health and the environment of its demonstrated and systematic failure to implement wildfire mitigation and protection measures which DOE had previously relied upon to support its conclusion in the 2008 SWEIS that it could adequately manage the risks of wildfires.
- What were the effects of (including any post-fire flooding) and lessons learned from the 2011 Las Conchas Fire?
- The legal framework and timetable for cleanup of "legacy" hazardous and mixed waste pollution from LANL operations has drastically changed, with most contaminated areas' cleanup times going from no later than 2016 to no mandated deadline at all, and with DOE estimates for actual cleanup extending beyond 2036. Yet no analysis has been performed of the additional health risks and environmental consequences of ignoring these contaminants for an additional 20+ years.
- Further, the 2008 LANL SWEIS heavily relied upon the 2005 Consent Order negotiated with the New Mexico Environment Department (NMED). However, NMED has since sued DOE to terminate the revised 2016 Consent Order, thereby putting DOE's reliance upon it in serious jeopardy. In addition, the 2008 SWEIS did not substantively address what has since become recognized as the most serious and immediate environmental threat, which is hexavalent chromium contamination of the regional aquifer. The new SWEIS must address all of these cleanup issues.
- "Cleanup" itself needs to be defined. LANL plans to "cap and cover" some 200,000 cubic yards of radioactive and toxic wastes in unlined pits and trenches and call it cleaned up. The permanent threat to groundwater must be analyzed. Comprehensive cleanup, including waste exhumation and proper treatment, must be analyzed as a more than reasonable alternative.

- The environmental and public health dangers of per- and polyfluoroalkyl substances, or PFAS, are being increasingly recognized and may be subject to future regulation. The draft SWEIS should analyze and disclose what is likely extensive PFAS contamination at the Lab.
- In the 2008 SWEIS and 2020 Supplement Analysis DOE specifically relied upon the assertion that the Waste Isolation Pilot Plant will be available as a disposal site for all of the Laboratory's radioactive transuranic wastes, including the greatly increased plutonium waste streams that expanded pit production will inevitably produce. This assumption is inconsistent with existing facts (for example, as reported by the National Academy of Sciences), therefore DOE's reliance upon it lacks a legal foundation. Further, LANL's poor waste management practices led to a ruptured drum that closed WIPP for nearly three years, costing the American taxpayer some \$2 billion dollars to reopen in a still constrained fashion. The new SWEIS must address these and other radioactive and hazardous waste issues, including the impacts of prioritizing newly-generated plutonium waste from pit production over cleaning up legacy wastes in WIPP shipments from LANL.
- The new LANL SWEIS should include a crosswalk between estimated wastes in 2008 and 2022. The Volatile Organic Compound monitoring plans for Material Disposal Areas L, G, C, T and A must be analyzed. Impacts of transportation of radiological and hazardous materials to and from Los Alamos must be analyzed.
- LANL's online Intellus database of environmental sampling has thousands of contaminant "non-detects" which are still not zero, some at considerable depth from soil surface, perhaps indicating vertical contaminant migration. This, of course, is a vital issue concerning more potential groundwater contamination. The LANL SWEIS should discuss these non-detects and related quality assurance that verifies that they are indeed non-detects. For example, are the size of samples large enough and counting times with alpha spectrometry long enough to get valid results?
- The environmental effects of the contaminated runoff from Laboratory properties to the Rio Grande, and the increasing contamination of the regional aquifer, most notably with hexavalent chromium, were either inadequately considered or completely ignored in the 2008 SWEIS. Those facts, standing alone, would require a new or supplemental SWEIS, but the need is exacerbated by the fact the Buckman Direct Diversion Project (BDD) now diverts water from the Rio Grande to supply the City of Santa Fe and Santa Fe County. DOE has simply failed to consider the consequences of expanded Laboratory operations on that essential water supply and how LANL could minimize the intake of Laboratory contaminants at the BDD, particularly in time of low flow, or alternately during high-flow events that can transport contaminants.
- A new SWEIS must analyze the planned demolition of the ~550,000 square feet Chemistry and Metallurgy Research Building. What is the schedule and where will the contaminated rubble go?
- The draft SWEIS must include analysis of the preservation of the Caja del Rio immediately to the east and south of the Lab. This includes any possible new electrical transmission lines and the idea of a new massive bridge spanning White Rock Canyon that has been floated a few times.

- The new draft SWEIS should address possible changes to allowable inventory limits for radionuclides, in particular the revised supplemental guidance to DOE Technical Standard.
- What are the impacts of the Jemez Mountains Salamander and Spotted Owl as federally designated endangered species?
- Environmental justice issues stemming from increased pit production have been inadequately considered. As NNSA’s 2020 LANL SWEIS Supplement Analysis documents, the population within the Laboratory’s 50-mile radius “Region of Influence” is 68% minority. NNSA’s plan to expand production both in total number of plutonium pits and increased radioactive and hazardous wastes along with significant safety and health concerns will saddle already-burdened communities with increased risks, which is in complete contravention to the President’s Executive Order on Environmental Justice.
- Further, the new SWEIS should analyze the return of land to the San Ildefonso and Santa Clara Pueblos, and in general any ongoing and/or planned ongoing land conveyances and transfers.

The 2021 LANL Campus Master Plan states:

“Under Public Law 105-119, most of the land within Rendija Canyon owned by the federal government was deemed eligible for conveyance. All regulatory due diligence has been completed (e.g., NEPA) for transferring Rendija Canyon. The real estate transaction is pending; it is currently scheduled to be transferred to LAC [Los Alamos County] in 2023.” (2021 LANL CMP p. 10-21)

Rendija Canyon is either contiguous to or very near both the San Ildefonso and Santa Clara Pueblos. Why is this imminent land transfer about to occur for Los Alamos County, more than 87% Caucasian and the fourth richest county in the USA, and not to the less-affluent Pueblos? Is this not a quintessential environmental justice issue, the return of seized lands to the original indigenous population instead of wealthy, transplanted Caucasians?

- All reference documents for the LANL SWEIS should be made electronically available to the public on the internet.

Conclusion

First NNSA should complete a new nation-wide programmatic environmental impact statement on expanded plutonium pit production. A new LANL Site-Wide Environmental Impact Statement should then be “tiered” off of that document and address all of these issues outlined in these scoping comments, and in particular the site-specific impacts of expanded plutonium pit production. In the event that NNSA continues its arguably illegal behavior in not completing a new PEIS, a new draft LANL SWEIS should nevertheless analyze the issues outlined in these scoping comments, particularly expanded plutonium pit production.

Sincerely,

Jay Coghlan
Executive Director

Scott Kovac
Research Director

