



May 26, 2020

Ms. Terri Slack
P O Box 2050
Oak Ridge, TN 37831

Via USPS and email to NEPA.comments@npo.doe.gov

Dear Ms. Slack,

Nuclear Watch New Mexico respectfully submits these comments¹ for the National Nuclear Security Administration's (NNSA's) April 2020 *Draft Supplement Analysis for the Final Site-Wide Environmental Impact Statement for the Y-12 National Security Complex, Earthquake Accident Analysis*² ("hereinafter DSA"). These comments are complimentary to and supplement formal comments submitted by Nick Lawton of Eubanks and Associates, LLC, representing the Natural Resources Defense Council, the Oak Ridge Environmental Peace Alliance and Nuclear Watch New Mexico.³

Our mission statement: Through comprehensive research, public education, and effective citizen action, Nuclear Watch New Mexico seeks to promote safety and environmental protection at regional nuclear facilities; mission diversification away from nuclear weapons programs; greater accountability and cleanup in the nation-wide nuclear weapons complex; and consistent U.S. leadership toward a world free of nuclear weapons.

NNSA Does Not Meet the Required Purpose of this Supplement Analysis or the Court Order that Compelled It

NNSA states that the purpose of this Supplement Analysis is as follows:

In accordance with the Court Order, this Supplement Analysis (SA) presents an accident analysis of earthquake consequences at the Y-12 site, performed using updated seismic hazard analyses that have incorporated the 2014 USGS [United States Geological Service] seismic hazard/maps. The purpose of this SA is to determine whether the earthquake consequences constitute a substantial change that is relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on continued operations at Y-12 compared to the analysis in the [2011] Y-12 SWEIS [Site-Wide Environmental Impact Statement]. DSA Executive Summary.

¹ Available online at <https://nukewatch.org/nwnm-comments-on-draft-Y-12-2020-sa/>

² Available at <https://www.energy.gov/sites/prod/files/2020/04/f73/draft-supplement-analysis-eis-0387-sa-04-seismic-y-12-2020-04.pdf>

³ *Comments on the April 2020 Draft Supplement Analysis For the Final Site-Wide Environmental Impact Statement For the Y-12 National Security Complex, Earthquake Accident Analysis, DOE/EIS-0387-SA-04*, Nick Lawton, May 26, 2020, <https://nukewatch.org/comments-from-nrdc-orepa-and-nwnm-on-draft-2020-sa/>

The referenced court order states:

“This case is further REMANDED to NNSA, which shall conduct further NEPA analysis—including at minimum, a supplement analysis—that includes an unbounded accident analysis of earthquake consequences at the Y-12 site, performed using updated seismic hazard analyses that incorporate the 2014 USGS seismic hazard map.”⁴

Predictably NNSA chose the minimal path, this draft Supplement Analysis, which has:

“...preliminarily determined that: (1) the earthquake consequences and risks do not constitute a substantial change; (2) there are no significant new circumstances or information relevant to environmental concerns; and (3) no additional NEPA documentation is required at this time.” DSA Executive Summary.

However, although NNSA met the bare procedural requirement to conduct more NEPA analysis through publication of this DSA, it failed to meet the court’s order to conduct an analysis “that includes an unbounded accident analysis of earthquake consequences **at the Y-12 site**, performed using updated seismic hazard analyses that incorporate the 2014 USGS seismic hazard map.” (Bolded emphasis added)

First, contrary to the court’s order for site-wide analysis, this DSA analyzes only the buildings involved in enriched uranium operations, the Uranium Processing Facility (UPF) and the two facilities (9215 and 9204-2E) that are now called the Extended Life Program (EL) facilities. Completely omitted are the other facilities at Y-12 which would also be affected by a design-basis earthquake. This is particularly significant given that Y-12 has five of the top twelve “NNSA’s Highest-Risk Excess Facilities,” including Building 9201-05 (AKA “Alpha-5”).⁵

In 2015 these facilities were described by the DOE’s Inspector General as posing “ever-increasing levels of risk” to workers and the public. Specifically concerning Alpha-5 the DOE IG said:

The 9201-05 Alpha 5 Facility (Alpha 5 Facility) at the Y-12 National Security Complex (Y-12) has been described by NNSA as “the worst of the worst.” This facility was built in 1944 and supported a number of missions that used materials such as uranium, mercury and beryllium. Since it ceased operations in 2005, this highly contaminated facility has experienced significant degradation...

... it was noted that the facility had substantial flooding, exterior piping and associated supports were corroding, and reinforced concrete roof panels had deteriorated. The assessment concluded that the combination of the large facility size, rapidly deteriorating conditions, and vast quantity of items requiring disposition made this facility one of the

⁴ Oak Ridge Environmental Peace Alliance and Nuclear Watch New Mexico v. USDOE, MEMORANDUM OPINION AND ORDER, 9/24/19, Eastern District of Tennessee No.: 3:18-cv-150 REEVES/POPLIN, <https://nukewatch.org/newsite/wp-content/uploads/2019/09/OREPA-NukeWatch-UPF-ruling.pdf>

⁵ NNSA FY 2021 Congressional Budget Request, Volume 1, page 327, https://www.energy.gov/sites/prod/files/2020/03/f72/doe-fy2021-budget-volume-1_2.pdf

greatest liabilities in the Department's complex. Further compounding the issue, the facility houses a hub of utilities that serves operational production facilities at the site, which could affect national security mission work as further degradation occurs.

...roof degradation continues to be widespread throughout the facility with varying levels of severity. This has resulted in significant water intrusion and the spread of radiological and toxicological contamination. Additionally, the assessment identified the potential for an explosion or reaction associated with remaining contaminants and personnel safety issues related to the degraded condition as high-risk areas. Overall, the assessment concluded that this facility presents a high risk to the workers and environment and should not be accepted. The assessment noted that demolition remains the only viable risk accepted standard. Further, it noted that funding will need to be diverted from mission work to prevent the realization of imminent risks and mitigate the consequences of realized risk events.⁶

Clearly Alpha-5 should be demolished at the earliest opportunity to eliminate “the potential for an explosion or reaction associated with remaining contaminants and personnel safety issues related to the degraded condition as high-risk areas.” But what appears to stand in the way is NNSA’s apparent prioritization of nuclear weapons programs *über alles* (slated for a 22% increase in FY 2021), including worker and public safety.

Alpha-5 and Y-12’s other excess high-risk facilities should be demolished in their own right to help ensure worker and public safety and environmental protection. We assert that to properly satisfy the court order, NNSA should have included updated seismic analysis in this DSA of those facilities as well. But the connection runs deeper as the Inspector General’s report notes “Alpha-5 houses a hub of utilities that serves operational facilities at the site, which could affect national security mission work as further degradation occurs.” Thus, the seismic risk at Alpha-5 could possibly directly impact even the narrow scope of what NNSA chose to analyze in this DSA, that is potentially cascading seismic impacts that impair the UPF and Buildings 9215 and 9204-2E as well.

In addition to NOT meeting the court’s order for a new site-wide seismic analysis, NNSA also fails in this DSA to complete a seismic analysis “that includes an unbounded accident analysis of earthquake consequences at the Y-12 site, **performed using updated seismic hazard analyses that incorporate the 2014 USGS seismic hazard map.**” (Emphasis added.) Instead of actually completing the new seismic analysis required by the court order, the NNSA merely punts it off in this DSA into the future, as follows:

“The ELP [Extended Life Program for Buildings 9215 and 9204-2E] includes a commitment to update the Y-12 site-specific PSHA [Probabilistic Seismic Hazard Analysis] and then perform new seismic facility evaluations for the ELP facilities. That work is underway, with the updated PSHA anticipated by the end of 2020 and the updated facility evaluations by the end of 2021. The updated PSHA will incorporate the 2014 USGS seismic hazard/maps, as well as the most recent nuclear industry seismic hazard information (2012 CEUS SSC and 2018 NGA-East) (CNS 2020a).”

⁶ AUDIT REPORT The Department of Energy's Management of High-Risk Excess Facilities DOE/IG-0931 January 2015, <https://www.energy.gov/sites/prod/files/2015/01/f19/DOE-IG-0931.pdf>

“With regard to the ELP facilities, the PSHA is used to evaluate the performance of those facilities under seismic hazard conditions. Among other things, the PSHA aids in understanding and defining the severity (and hence, the probability) of an earthquake capable of causing release of radioactive material. The ELP facilities (the 9215 Complex and the 9204-2E Facility) were designed and constructed before the establishment of modern nuclear safety standards. **Some portions of the facilities meet such standards and other portions do not.** The new seismic facility evaluations will provide an up-to-date evaluation of any remaining weaknesses and the potential for upgrades will be addressed. **Upgrading both structures to fully meet modern seismic standards or new facilities may not be feasible or practical.** However, the potential for structural upgrades will also be informed by an independent expert panel review that Y-12 contracted for in 2016 (Recommendations of the Seismic Expert Panel Review of Buildings 9204-2E and 9215 [RP 900000-0182]) (NNSA 2016b), which provided suggestions for practical approaches to structural upgrade initiatives in these two facilities (CNS 2020a).”

“It is important to recognize that the planned updated studies are intended to answer in more detail the capacity of the existing structures based on advanced analytical techniques (i.e., accounting for non-linear effects which typically demonstrate additional capacity to resist earthquake ground motion) not previously used. As a result, the potential for improvements will be better understood while reconciling the differences between the USGS data and the other relevant studies discussed earlier. The existing seismic studies for the ELP facilities, however, do provide a solid technical basis on which to judge the effects of the 2014 USGS seismic hazard/maps in support of determining potential consequences to the public.” DSA page 12, bolded emphasis added.

I emphasize the repeated references to the future: “The ELP *includes a commitment* to update the Y-12 site-specific PSHA and then perform new seismic facility evaluations for the ELP facilities,” “*will incorporate,*” “new seismic facility evaluations *will provide,*” “the potential for structural upgrades *will* also be informed” and “the planned updated studies *are intended* to answer in more detail...”

Further, we regard the DSA’s statement “The ELP includes a commitment to update the Y-12 site-specific PSHA and then perform new seismic facility evaluations for the ELP facilities” as tacit admission of our earlier point. That is that this DSA did not meet the court’s order for site-wide seismic analysis instead of its narrow (but not sufficiently deep) focus on Buildings 9215 and 9204-2E.

The fact is that this DSA does not meet the court order to “conduct further NEPA analysis—including at minimum, a supplement analysis—that includes an unbounded accident analysis of earthquake consequences at the Y-12 site, performed using updated seismic hazard analyses that incorporate the 2014 USGS seismic hazard map.” In this DSA, NNSA only promises to do that in the future, with no guarantee that it will do so. Vague commitments are not good enough and carry no legal weight.

NNSA concludes with the claim that “The existing seismic studies for the ELP facilities, however, do provide a solid technical basis on which to judge the effects of the 2014 USGS seismic hazard/maps in support of determining potential consequences to the public.”

To address NNSA’s claim in these comments, we defer to Dr. David Jackson, Distinguished Professor Emeritus, University of California Los Angeles, consultant in seismology, statistics, and natural hazards. He declares:

“In my expert opinion, NNSA’s review is not an adequate scientifically based review of seismic risks. The agency’s review is defective in numerous regards. It falls far short of relevant professional and scientific standards, offers a simplistic analysis of risks that fails to disclose or properly analyze critical underlying data, fails to consider adequately some highly relevant new data from the USGS, fails to employ a modern set of tools for analyzing seismic risks, chooses an arbitrary measurement of risk, and fails to respond in any coherent manner to new information furnished by the USGS and the Defense Nuclear Facilities Safety Board (“DNFSB”).”

“... Of particular significance, the 2018 seismic hazard calculations indicate even greater hazard than that represented in the 2014 map. In particular, my review of the data indicates that, even within the “2 percent in 50 years” probability standard (which, again, is not the only standard NNSA should consider), the peak ground acceleration in the area of Y-12 could reach 0.6g. This is far greater than the levels that the aging buildings at Y-12 could likely withstand... The recently updated USGS seismic hazard estimates are important and constitute new information that NNSA should carefully consider. In my professional opinion NNSA has fallen far short of a professional, scientific consideration of the issues by neglecting the recent USGS studies.”

“... In my opinion, NNSA must give greater consideration to the possibility of a large earthquake in the vicinity of Y-12, because a focus on “capable faults” is inappropriate in light of the new seismological information. To ignore the empirical evidence in favor of an arbitrary definition and outdated observations is unjustifiable.”

“... The fact that the buildings at Y-12 have not been updated to meet modern standards—and in all likelihood cannot be upgraded to meet these standards—is not merely a failure on paper to meet a building code. The structures themselves lack the features that modern engineering analysis shows to be necessary to withstand earthquake shaking.”

“... In my professional opinion, NNSA has not provided any sufficient documentation of a professionally adequate, rigorous site-specific study for either the UPF or the existing buildings. This is an important deficiency because genuinely rigorous site-specific analysis can provide much greater information about the risks that facilities face and what measures may possibly be taken to reduce such risks.”

“... the fact that NNSA has chosen not to disclose any material information about these new studies is extremely troubling. Independent experts like myself cannot evaluate the seriousness of the risk and NNSA’s decision to proceed with construction before these studies are completed. In my expert opinion, NNSA must disclose the methods, scope, research plans, and results of these studies before the agency decides to continue to use

aging, vulnerable buildings. Committing to use these vulnerable facilities before quantifying their vulnerability given their planned use [is] highly risky and fails to fulfill the requirements of the National Environmental Policy Act. My concern about NNSA's decide-first, analyze-later approach is especially acute given the fact that the agency has already had years to prepare a professional, rigorous seismic analysis."

"NNSA's analysis of seismic risks is not well-founded scientifically. It suffers from numerous analytical defects, ignores or downplays important data, obfuscates the importance of the fact that existing buildings do not meet modern standards, and fails to employ modern tools for seismic risk analysis. NNSA has given only very cursory attention to important new information the agency obtained since 2011, including the USGS seismic hazard maps and input from the DNFSB. Moreover, NNSA has ignored altogether the most critical underlying data from the USGS's updated seismic hazard reports and has failed to even consider the USGS's 2016, 2017, and 2018 updated seismic hazard reports. As a result, in my professional opinion, NNSA's analysis is patently deficient, and a more thorough consideration of the seismic risks associated with the ongoing use of aging, vulnerable buildings at the Y-12 Complex is necessary, particularly in light of the hazardous and important work done at these facilities."

"Because the agency clearly states that it has not generated updated probabilistic seismic hazard analysis for existing buildings that takes the 2014 USGS maps into consideration (much less the subsequent USGS evidence that shows an even greater level of seismic risk), in my professional opinion, NNSA has not met the plain requirements of the court's order and has failed to generate any analysis of seismic risks that comports with professional standards."

"Most troubling is the situation of the existing buildings 9204-2E and 9215, which NNSA confidently assumes can be safely used, despite the fact that they do not presently meet modern seismic standards... Seventeen years after the most detailed sites-specific study, its implications for the safety of the existing ELF is still in doubt. Engineering studies of the ELF buildings are also incomplete at this time. In my opinion completion of engineering and seismological studies should be a prerequisite to an informed assessment of environmental consequences."⁷

I believe that Dr. Jackson's comments destroy NNSA's claim that "The existing seismic studies for the ELP facilities, however, do provide a solid technical basis on which to judge the effects of the 2014 USGS seismic hazard/maps in support of determining potential consequences to the public."

Bounding Analysis

Nuclear Watch New Mexico and the Oak Ridge Environmental Peace Alliance offered extensive comment against NNSA's use of bounding analysis in its 2018 Supplement Analysis.⁸

⁷ See seismologist Dr. David Jackson's expert comments at <https://nukewatch.org/final-comments-from-david-jackson/>

⁸ See <https://nukewatch.org/newsite/wp-content/uploads/2018/08/Y-12-SA-Comments-July-2018.pdf>
Nuclear Watch New Mexico • Comments on Y-12 Draft Seismic Supplement Analysis
May 26, 2020

Related, the court noted in its 2019 order:

“DOE’s own internal guidance suggests that a bounding analysis would be inappropriate if it obscures differences among alternatives or fails to address concerns the public has expressed... In affirming the sufficiency of the prior bounding analysis, Defendants have blatantly disregarded DOE’s own guidance against using bounding analyses when a more detailed analysis would help to decide among alternatives or to address concerns the public has expressed... Defendants have missed the point—the issue is not whether the public has an opportunity to comment. The concern presented by a bounding analysis is that by using it, the agency may obscure differences in impacts among alternatives. And that is exactly what happened here... It does not matter whether the accident consequences are in fact reduced; what matters is that NNSA adequately discloses the potential environmental impacts of any decision it makes, and that it does so in a timely fashion... the mere assertion that overall environmental consequences may be reduced if all goes according to plan does not allow it to avoid conducting a transparent and complete analysis in a timely fashion. To hold otherwise would turn NEPA into a dead letter.”

“NNSA’s treatment of the concerns regarding seismic hazards, discussed extensively above, disregards NEPA’s requirement for full and timely public disclosure. Further, its refusal to prepare an updated, and unbounded, accident analysis that would help the public fully comprehend the differences in earthquake hazards between the various buildings at Y-12 is arbitrary and capricious in light of the new information. For these reasons, the Court concludes that Defendants have violated NEPA by failing to consider the information presented in the USGS’s 2014 seismic hazard map in a NEPA document, and by failing provide a more transparent analysis of the environmental consequences of seismic hazards at Y-12.”

This DSA notes that:

“The court order requested “unbounded accident analysis of earthquake consequences,” consistent with its criticism of bounding analysis, as described in Sect. 2.1. To address this topic, this report compares facility-specific earthquake consequences between specific relevant facilities/alternatives. This comparison was accomplished by comparing the consequences that are reported in the respective facility safety basis documents...”

“The UPF safety basis document was approved in July 2017 (and updated in 2019), which enables comparisons that were previously not possible... ELP facilities represent the upgrade-in-place alternative for those facilities. **New safety basis documents are planned for these facilities in 2025.**” DSA App. B, page 9, emphases added.

This is another vague commitment to future work instead of concrete measures completed now. NNSA states that while the Uranium Processing Facility (UPF) has an operative safety basis, currently valid ones do not exist for the aged Buildings 9215 and 9204-2E. It is difficult to

believe NNSA's repeated assurances of the ELP's facilities' seismic safety until those safety bases are completed, or even that they will ever be satisfactorily completed.⁹

Given the lack of current safety bases for Buildings 9215 and 9204-2E and the many deficiencies described by seismologist Dr. David Jackson, I assert that NNSA has not met the court's order for "full and timely public disclosure" with "unbounded accident analysis of earthquake consequences."

NNSA's Amended Record of Decision

All of the above is a good segue into NNSA's 9/21/19 Amended Record of Decision (AROD), which NNSA quickly implemented a mere three days after the court's ruling. In NNSA's words, the AROD:

"... reflect[s] its decision to continue to implement on an interim basis a revised approach for meeting enriched uranium requirements (while addressing issues related to seismic analysis), by upgrading existing enriched uranium (EU) processing buildings and constructing a new Uranium Processing Facility (UPF). Additionally, NNSA has decided to separate the single-structure UPF design concept into a new design consisting of multiple buildings, with each constructed to safety and security requirements appropriate to the building's function... in accordance with the court's determination that additional NEPA analysis of new information pertaining to seismic risks at Y-12 is needed, further NEPA documentation will be developed on an expedited basis that includes an unbounded accident analysis of earthquake consequences at Y-12, using updated seismic hazard analyses that incorporate the 2014 United States Geological Survey maps."¹⁰

The AROD further states under "Amended Decision":

"NNSA has decided to continue to operate Y-12 to meet the stockpile stewardship mission critical activities assigned to the site on an interim basis, pending further review of seismic risks at Y-12... Once further seismic analysis has been performed, NNSA will issue a new ROD describing, what, if any, changes it has decided to make in light of that analysis."

⁹ We note systemic problems with safety bases across NNSA's nuclear weapons complex, especially when it pertains to its most critical and sensitive nuclear facilities. LANL's Plutonium Facility-4 has a long track record of insufficient safety bases. See, for example, the Defense Nuclear Facilities Safety Board's 8/16/19 *Safety Basis for the Plutonium Facility at Los Alamos National Laboratory*. "Based on its review, the staff review team identified safety concerns related to the accident progression for the post-seismic fire, methodology used to derive LPF, dose conversion factors for heat source plutonium oxides, assumptions related to the confinement doors, and compensatory measures for deficient safety systems. Collectively, these concerns call into question the overall adequacy of the current set of safety controls to protect the public and workers and reinforce the need to complete upgrades to the deficient safety systems." <https://www.dnfsb.gov/sites/default/files/document/19376/PF-4%20Safety%20Basis%20%5B2020-100-001%5D.pdf>

¹⁰ Amended Record of Decision for the Continued Interim Operation of the Y-12 National Security Complex, NNSA, September 21, 2019, (parentheses in the original), <https://www.federalregister.gov/documents/2019/10/04/2019-21660/amended-record-of-decision-for-the-continued-interim-operation-of-the-y-12-national-security-complex>

As previously noted in these comments, NNSA failed to comply with the court order in that it did not complete a “review of seismic risks at Y-12” but instead only completed a cursory seismic analysis of Building 9215 and 9204-2E, which DOE admits can never be brought up to modern seismic standards. And even that limited cursory review is grossly deficient, as found by the well-credentialed seismologist Dr. David Jackson.

We note the AROD’s peculiar job “to implement on an **interim** basis” its decision to build the UPF and upgrade Buildings 9215 and 92304-2E. We know of no other “interim basis” decisions under NEPA, and surmise that the AROD was NNSA’s hasty attempt to provide for any legal basis at all to proceed with UPF construction. Further, the DSA has no description or analysis of what those 9215 and 9204-2E upgrades will be. As previously stated, instead of meeting the court’s order for new seismic analysis, NNSA instead punts it off into the future with no guarantee that it will ever be done.

NNSA’s Unseemly Rush

In response to requests for an extension of the public comment period because of the COVID-19 pandemic NNSA granted a mere 15-day extension to May 26. This smacks of being a carefully calibrated decision to give the least amount possible while still being able to claim that the agency gave something.

This is despite the fact that 14 House committee chairs and 22 Senators wrote to the Office of Management and Budget requesting that all public comment periods be indefinitely extended because of the COVID-19 pandemic. This further smacks of a double standard given that even in normal times NNSA and its parent Department of Energy routinely ask other government agencies for major time extensions when it comes to cleanup and independent oversight. For example, DOE routinely asks for time extensions to respond to nuclear safety recommendations by the independent Defense Nuclear Facilities Safety Board.¹¹ The Los Alamos National Laboratory (LANL) asked the New Mexico Environment Department for more than 150 time extensions for legally required cleanup milestones, which NMED granted.

It is also a double standard given that construction of the Uranium Processing Facility was paused for ~3 years after NNSA completely blew its original budget estimate of \$6.5 billion. During that time NNSA formulated its UPF hybrid alternative while circumventing the NEPA process and shutting the public out. Therefore, it is hypocritical for NNSA to grant only a 15-day extension to on this Supplement Analysis public comment period when it so frequently blows project budgets and schedules and routinely asks other government agencies for extensions.

¹¹ For DOE’s latest request, see Secretary Dan Brouillette to DNFSB Chairman Bruce Hamilton, April 27, 2020, <https://nukewatch.org/doe-secretary-brouillette-request-for-extension-to-respond-to-recommendation-2020/>

The Safety Board has long reported on chronic nuclear safety problems at the Los Alamos National Laboratory (LANL), but DOE sought to kill the messenger by restricting Safety Board access to NNSA nuclear weapons facilities.

The Tangible Value of Public Comments under NEPA

The lack of sufficient time for formal public comment can be detrimental to both the agency and the public given that public comment has time and again proved to be good for both. One dramatic illustration is that the now-Executive Director of Nuclear Watch New Mexico commented on the lack of wildfire prevention in a draft 1999 LANL Site-Wide Environmental Impact Statement (SWEIS). In response, the final LANL SWEIS included a detailed hypothetical wildfire that became all too real a half year later during the Cerro Grande Fire. That hypothetical scenario aided Lab leadership in their decision to order evacuation of all but essential personnel. Mitigation provisions in the final LANL SWEIS included fire prevention measures that helped to keep the Cerro Grande Fire a half-mile away from above ground plutonium-contaminated transuranic wastes stored at the Lab's Area G, which could have been catastrophic had their drums ruptured due to high heat. Even LANL recognized that public comment helped to avert potential catastrophe, writing:

“It is a story of an EIS process, of helpful public comments, of a timely response ... then a great fire, called Cerro Grande, that proves the value of outsiders' ideas... When the Cerro Grande Fire swept down from the mountains this spring, these extra defensive steps, taken in response to the public comments, paid for themselves many times over. The savings were in the form of the harm to facilities that was reduced or avoided and reduced risk to the public that might have resulted.”¹²

That lesson on the value of public comment under NEPA can be extended to this Y-12 draft Supplement Analysis. Here NNSA proposes to indefinitely conduct risky operations involving special nuclear materials at two aging, contaminated facilities previously slated for decontamination and decommissioning. NNSA would be wise to heed warnings expressed in formal public comments.

UPF Costs

In May 2019 NNSA Administrator Lisa E. Gordon-Hagerty testified, “NNSA commenced construction of the main buildings of the Uranium Processing Facility (UPF) at the Y-12 National Security Complex (Y-12). UPF remains on budget and on schedule for delivery by the end of 2025 for no more than \$6.5 billion.”¹³ What she omitted in her testimony to Congress is that her claim follows NNSA having moved the goal posts by many miles for the UPF, and even following that not all true costs are captured.

NNSA had been telling Congress that the Total Project Cost for the UPF would be \$6.5 billion. But in 2013 the Department of Defense Office of Cost Assessment and Project Evaluation came out with an independent cost estimate that construction of the UPF would cost \$19-21 billion. Of note, part of that cost overrun was caused by a simple, rudimentary half-billion dollar design

¹² <https://hwbdocuments.env.nm.gov/Los%20Alamos%20National%20Labs/General/13435.pdf>

¹³ Testimony Statement of The Honorable Lisa E. Gordon-Hagerty, Under Secretary for Nuclear Security and Administrator of the National Nuclear Security Administration, U.S. Department of Energy, Before the Subcommittee on Strategic Forces Senate Committee on Armed Services, May 8, 2019, (https://www.armed-services.senate.gov/imo/media/doc/Gordon-Hagerty_05-08-19.pdf)

mistake in which the designed “big box” UPF could not fit all of the processing equipment planned for it.

As NNSA acknowledges:

“On January 15, 2014, as a result of concerns about UPF cost and schedule growth, the Acting Administrator of the NNSA requested that the Director of the Oak Ridge National Laboratory (ORNL) lead a “project peer review” of the UPF (NNSA 2014a). Twenty-five reviewers from across the DOE and NNSA enterprise as well as the Atomic Weapons Establishment in the United Kingdom conducted the study. The result of that review, the “Final Report of the Committee to Recommend Alternatives to the Uranium Processing Facility Plan in Meeting the Nation’s Enriched Uranium Strategy” (the Red Team Report) was released in April 2014 (ORNL 2014). The Red Team Report emphasized the importance of UPF in the context of a broader set of uranium mission requirements: sustaining and modernizing EU manufacturing capabilities; reducing material at risk (MAR) from Y-12’s EU processing facilities; making investments in older, enduring buildings; and constructing new floor space; and enabling transition of critical Building 9212 capabilities into the UPF no later than 2025 (DOE 2015a).”¹⁴

That Red Team Report led to NNSA’s Amended Record of Decision to construct a modified, radically downscoped Uranium Processing Facility¹⁵ and continue to operate Buildings 9215 and 9204-2E, previously slated for decontamination and decommissioning. Sen. Lamar Alexander (R-TN), chair of Senate Energy and Water Appropriations, and NNSA have repeatedly claimed that the construction of the UPF would continue to cost no more than \$6.5 billion.

For starters, while NNSA’s FY 2021 budget request still claims a UPF Total Project Cost of \$6.5 billion, it also has a 12% contingency fund of \$822.2 million that appears to be outside that budget cap.¹⁶ But the upgrade costs of Buildings 9215 and 9204-2E are also outside the UPF’s \$6.5 billion budget cap, which are necessitated by UPF’s radical downscoping. As the Government Accountability Office put it, “NNSA estimated that, in addition to completing the UPF project for \$6.5 billion, the uranium program will spend over \$850 million from fiscal years 2016 through 2026 to support modernizing other needed uranium processing capabilities and transitioning out of Building 9212.”¹⁷

Given the above, it appears that the true cost of the UPF will be at least 25% above what NNSA claims to Congress, and this is before the typical cost overruns. Given NNSA’s history of cost overruns at the National Ignition Facility at the Lawrence Livermore National Laboratory, the

¹⁴ Supplement Analysis for the Site-Wide Environmental Impact Statement for the Y-12 National Security Complex, NNSA April 2016, p. 2

¹⁵ Among other things, UPF downscoping involved the immediate jettisoning on non-nuclear weapons production missions, such as dismantling secondary components (which put the “H” in H-bomb) and downblending of highly enriched uranium, both of which would have lowered security risks and resulted in long-term savings of taxpayers’ money.

¹⁶ NNSA FY 2021 Congressional Budget Request (CBR), Volume 1, p. 485.

¹⁷ GAO 20-293, March 2020, Modernizing the Nuclear Security Enterprise: Uranium Processing Facility Is on Schedule and Budget, and NNSA Identified Additional Uranium Program Costs, <https://www.gao.gov/assets/710/705270.pdf>

MOX Fuel Fabrication Facility at the Savannah River Site, the Chemistry and Metallurgy Research Replacement Project at LANL, etc., we predict UPF's cost overrun will be far more. As part of a commitment to conserving "irretrievable resources," NNSA should address facility construction costs in its NEPA processes, including in the final Y-12 Supplement Analysis. This is particularly germane as NNSA has explicitly acknowledged that upgrades to modern seismic standards may be cost prohibitive for Buildings 9215 and 9204-2E.

A Selected History of DOE/NNSA NEPA Compliance

My first involvement in NEPA litigation against the Department of Energy was in 1995 over the Dual-Axis Radiographic Hydrodynamic Testing Facility (DARHT) at the Los Alamos National Laboratory (LANL). DOE proposed to build DARHT, designed for explosive open-air hydrotests involving plutonium or surrogates, without an environmental impact statement, instead relying upon a Categorical Exclusion to NEPA.¹⁸

In pre-litigation developments DOE agreed to complete the Stockpile Stewardship and Management programmatic environmental impact statement (PEIS) and an EIS for DARHT. But DOE refused to halt construction of DARHT, implausibly claiming that it would not prejudice the outcome of the EIS, hence we sued. Ultimately NM District Judge Edwin Mechem ruled in our favor, enjoining DOE from construction for 16 months until it completed an EIS.

Some quotes from Judge Mechem's 1/26/95 Opinion and Preliminary Injunction are perhaps applicable to this DSA and existing litigation over the UPF:

"The [LANL] site-wide EIS, begun in 1979 and completed in 1981, hardly qualifies as a currently valid assessment consistent with the purpose of NEPA." At the time the 1981 LANL SWEIS was 14 years old. The Y-12 SWEIS is now 9 years old and counting.

"Bias toward one alternative or another may already exist as construction was allowed to start and progress without public input. Public Service, 825 F. Supp. At 1505 (NEPA process enables agency to review reasonable alternatives before its actions proceed so far that its decisions regarding the program become "cast in stone")."

"Case law has recognized the unique characteristics of environmental harm. NEPA is a purely procedural statute in that it sets forth procedures decision makers must follow, but it is substantive as well in that it demands that "a decisionmaker [sic] consider all significant environmental impacts before choosing a course of action. *Sierra Club v. Marsh*, 872 F. 2nd at 502."

"Violations under NEPA are not purely procedural violations. The harm ensuing from a NEPA violation is intrinsic to the statute's discrete objective. The harm at stake is a harm to the environment, but the harm consists of "the added risk to the environment" that occurs when government decision makers make up their minds without having before

¹⁸ *Los Alamos Study Group and Concerned Citizens for Nuclear Safety v. Hazel O'Leary, Secretary of Energy, and Department of Energy*, District of New Mexico, No. 94-1306-M Civil. Opinion 1/26/95, Preliminary Injunction 1/26/95, Opinion lifting injunction 4/16/96.

them an analysis of the likely effects of their decision upon the environment. Sierra Club v. Marsh, 872 F. 2nd at 500 (citing Commonwealth of Mass. V. Watt, 716 F.2nd 946 (1st Cir. 1983)). When a decision to which NEPA obligations attach is made without the informed environmental consideration that NEPA requires, the very harm that NEPA intends to prevent has been suffered.”

A tangible benefit from that litigation and resulting NEPA process was that DOE formally decided to contain all open-air explosive tests involving plutonium, thus reducing public risk.

My next involvement in DOE NEPA processes was with the 1998 LANL Site-Wide Environmental Impact Statement. DOE had dragged its feet on preparing a new SWEIS after the first 1979 SWEIS. One reason that compelled DOE to do so was because through a Freedom of Information Act request I obtained an internal Lab memo that explicitly stated that the 1979 LANL SWEIS was woefully obsolete for the purpose of “tiering” other NEPA processes off of it. The very positive benefit of the 1998 LANL SWEIS in helping to prevent an even more catastrophic wildfire is already discussed above.

During roughly the same period I initiated litigation over DOE’s failure to have ever completed a programmatic environmental impact statement (PEIS) on its national cleanup program, which the Natural Resources Defense Council took on as lead counsel. A 1997 settlement resulted in a \$6.25 million fund for citizen and tribal studies of DOE environmental management programs. But to this date DOE has never completed a programmatic environmental impact statement for the largest cleanup program in human history even as projected “environmental liabilities” across the nuclear weapons complex outpace the money spent on cleanup. I remain of the opinion that DOE’s national cleanup program could have been more efficient, productive and a better steward of taxpayer’s money had there been a programmatic environmental impact statement.¹⁹

Throughout my career I have offered substantial formal comment on the Department of Energy’s various NEPA processes to reconfigure its nuclear weapons complex. This includes (but is not limited to) the 1992 Complex Reconfiguration proposal, 1993 Nonnuclear Consolidation Environmental Assessment, 1996 Stockpile Stewardship and Management PEIS, 2003 Modern Pit Facility SPEIS (which never went beyond draft), 2006 Complex 2030 PEIS (which never went beyond draft), the 2008 Complex Transformation SPEIS, 2008 LANL SWEIS, 2011 Y-12 SWEIS, 2018 LANL “Rad Lab” Environmental Assessment, 2018 Y-12 Supplement Analysis, 2020 LANL Supplement Analysis, 2020 SRS EIS for plutonium pit production and now this 2020 Y-12 Supplement Analysis. Finally, Nuclear Watch New Mexico is a co-plaintiff with the Oak Ridge Environmental Peace Alliance and the Natural Resources Defense Council in the existing litigation over the Uranium Processing Facility, which has compelled these last two Y-12 Supplement Analyses.

I want to make a few overall points. First, DOE and/or NNSA have often had to be compelled by citizen action to comply with NEPA. Second, I have observed a consistent pattern by DOE and/or NNSA to improperly segment connected actions that should be properly analyzed in a programmatic environmental impact statement or site-wide environmental impact statement. One

¹⁹ The latest poster child for DOE’s problem plagued cleanup programs is the Waste Treatment Facility at Hanford, which has climbed from an original cost estimate of ~\$3 billion to ~\$18 billion, with growing doubts that it will ever work.

of my favorite examples is the 2018 LANL Environmental Assessment which NNSA used to sanction a 10-fold increase in the plutonium inventory at the Rad Lab for analytical chemistry and materials characterization in direct support of expanded pit production.²⁰ Yet throughout that EA NNSA studiously avoided the subject of expanded pit production, even omitting it as a potential future mission for LANL while listing others, even though expanded pit production was already a legislated requirement under the 2015 Defense Authorization Act.

Although it would seemingly be outside the scope of this draft Y-12 Supplement Analysis and will fall on deaf ears, I want to state for the record that NNSA should complete a nation-wide programmatic environmental impact statement for nuclear weapons complex reconfiguration under the 2 trillion dollar nuclear weapons “modernization” program (of which the NNSA’s portion is approximately 1/3 the cost). That PEIS should capture both the Uranium Processing and Extended Life Program Facilities (9215 and 9204-2E) and expanded plutonium pit production, which are essentially two sides of the same coin of resumed industrial-scale nuclear weapons production by the U.S. That PEIS would be particularly apt as our nation faces a real national security crisis in the COVID-19 pandemic, but instead the federal government is trashing international arms control treaties, fueling a new nuclear arms race and even contemplating a return to full-scale nuclear weapons testing.

Conclusion: The 2020 Y-12 SA Plainly Reveals That a New or Supplemental EIS is Needed

Nuclear Watch New Mexico concludes these comments by repeating the conclusion articulated by Nick Lawton of Eubanks and Associates, who is representing the Natural Resources Defense Council, Oak Ridge Environmental Peace Alliance and our organization:

“NNSA is in flagrant violation of NEPA and the ruling in *OREPA v. Perry*. The draft 2020 SA does not correct the deficiencies the Court identified, does not accurately or adequately consider the consequences of an earthquake striking the Y-12 Complex, and does not justify NNSA’s continued refusal to prepare a new or supplemental EIS. Under these circumstances, a new or supplemental EIS is plainly necessary.”

“To come into compliance with NEPA and the Court’s order in *OREPA v. Perry*, NNSA must immediately withdraw its unlawful 2019 AROD, must immediately cease implementing the activities for which it has failed to provide any lawful analysis under NEPA, and must complete a new or supplemental EIS before taking any further actions.”

These comments respectfully submitted,

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Nuclear Watch New Mexico

²⁰ LANL’s Rad Lab is next door to PF-4, the facility for expanded plutonium pit production, and linked to it via underground tunnel.