



Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social Justice • Economic Sustainability

April 25, 2018

Re: “Draft Environmental Assessment [EA] of Proposed Changes for Analytical Chemistry [AC] and Materials Characterization [MC] at the Radiological Laboratory/Utility/Office Building [RLUOB], Los Alamos National Laboratory [LANL], Los Alamos, New Mexico [NM]”

Emailed to: RLUOBEA@HQ.DOE.GOV at 16:00 EDT.

Comments

In this draft EA (DEA), the National Nuclear Security Administration (NNSA) continues, and brings to its penultimate point, a jigsaw puzzle of interconnected and partial National Environmental Policy Act (NEPA) analyses and Records of Decision (RODs) some two decades in the making, to support expanded industrial plutonium operations at LANL including a) expanded warhead core (“pit”) production and b) expanded pit disassembly and conversion (PDC) (to plutonium dioxide).

In the subject DEA, NNSA relies on or amends a variety of prior NEPA programmatic environmental impact statements (PEISs), EISs, EAs, supplemental PEISs (SPEISs), supplemental EISs (SEISs), Site-Wide EISs (SWEISs) and their annual updates (SWEIS “Yearbooks”), and supplement analyses (SAs) dating variously from 1996 to 2018.

It is a gigantic, long-running, adventitious segmentation of NEPA analyses. *This is the most important failure of this draft EA.*

While we can be sympathetic to these failings on a personal level given the complex way the subjects have evolved over the past two decades or so, as a genuine NEPA document it just won’t do.

The statutory purpose of NEPA analyses is to support prospective federal decisions for major federal actions having a significant impact on the environment. All reasonable alternatives to the proposed action must be analyzed in an EIS, not in a hodge-podge of miscellaneous NEPA documents of varying ages and contexts which do not clarify present federal alternatives and their respective impacts.

As a rule, and in this case, NNSA practices NEPA in such a way as to mostly avoid its stated purposes.

To some extent the present segmentation could be fixed, but not in this or any EA process. A programmatic plutonium EIS is needed, as several NNSA and Department of Energy (DOE) sites and programs are involved in the decisions inherent in this EA.

To be very clear, no Finding of No Significant Impact (FONSI) should be issued in this case, for reasons partially elaborated below.

A result of this segmentation is that there has been no EIS for industrial pit production (at LANL or anywhere else) and no EIS for industrial PDC (at LANL or anywhere else). The industrial pit production and PDC decisions are linked, and these are in turn linked to decisions about plutonium storage and disposal actions.

Our single most important comment is therefore to conduct a plutonium PEIS process and, subsequent to (a) comprehensive ROD(s) pursuant to that PEIS, EISs for specific projects such as the one in question here, EISs which are complete in themselves and which use real “no action” alternatives.

Needless to say, reliance on a labyrinth of by-now-ancient and faulty EISs which did not examine the whole suite of realistic alternatives at the time (as subsequent events have shown), and still less do so today, can hardly be said to comply with NEPA.

It has been NNSA’s practice – continued in this DEA – to posit “No Action” alternatives which are actually huge positive actions, often continued actions, and then to use extremely conservative “bounding analyses” for impacts such as waste production from these “No Action” alternatives, so that the apparent marginal impacts of proposed new programs or increases in programs are less than the artificially-constructed “bounding envelope” of “No Action” impacts. In this way the proposed new actions have (apparently) no new impacts and may even appear to be environmental “improvements,” on paper at least. This is fraudulent practice.

Rather than trying to improve this EA, we recommend halting the present process in favor of the approach outlined above.

If and when this EA is finalized and the expected FONSI issued, which the carefully limited (and therefore misleading) analysis presented would seem to support, NNSA will have the documents in place to –

- Press on with line item construction (in 04-D-125, the Chemistry and Metallurgy Research Replacement [CMRR] project) of the:
 - “RLUOB Equipment Installation Phase Two” (REI2) Subproject (total project cost [TPC], \$633 million [M]);
 - “Re-categorizing RLUOB to Hazard Category 3” (RC3) Subproject (TPC \$339 M), which together with the previous subproject and the two completed RLUOB subprojects (the original RLUOB construction and REI1, with TPCs \$199M and \$197M respectively) would make RLUOB a \$1.4 billion (B) building, the most expensive single construction project in the history of NM by far;
 - “PF-4 [LANL’s main plutonium facility] Equipment Installation Phase 1 (PEI1) Subproject” (\$394 M), and the
 - “PF-4 Equipment Installation Phase 2 (PEI2) Subproject” (\$674 M).

The first two of these go toward capabilities and missions at RLUOB which were never part of earlier NEPA analyses or representations to NM communities and to Indian tribes, and which, we believe, violate numerous Department of Energy (DOE) regulations and orders regarding construction of nuclear facilities.

- Continue with modifications to PF-4 under these two subprojects and other line items to support expanded industrial missions, “covered” (not) under other NEPA analyses.
- Issue an amended ROD selecting all or part of the “Expanded Operations” alternative in NNSA’s 2008 LANL SWEIS, a prospect mentioned in the 2018 LANL SWEIS SA issued earlier this month, enabling:

- NNSA's (already patent) decision to expand War Reserve (WR) pit production beyond the ROD-limited 20 pits per year (ppy), to 30 ppy at LANL, and
- a possible NNSA decision – which could come as early as next month (May 2018), or years from now – to increase pit production at LANL to 80 ppy (and quite possibly up to an implied circa 160 ppy in two shifts). We believe modification of RLUOB to an HC3 facility would provide adequate AC services for this large mission.
- Issue, if desired, a ROD based on NNSA's Plutonium Disposition Supplemental EIS (SPDSEIS) to support processing 35 metric tons (MT) of pits and other forms of plutonium into plutonium dioxide of greater or lesser purity at LANL depending on final disposition, involving greater or lesser AC services in RLUOB as needed. We believe a HC3 RLUOB could support this mission as well.
- Construct or upgrade whatever other facilities and infrastructure are necessary to support these expanded industrial missions. Once the big decisions were made – and making RLUOB a Hazard Category 3 (HC3) Nuclear Facility is one of them – it would then seem essential, efficient, and safer to fill in any facility “gaps.” The cumulative impacts of all these decisions would be captured only after they were made.

In other words, a decision to dramatically change the mission and functions of LANL is being taken in an entirely segmented fashion. A more opaque and confusing “NEPA” process could hardly be devised.

The second major failure of this DEA is that, as we believe, the “decision” to upgrade RLUOB, a Radiological Facility, to a HC3 Nuclear Facility has in fact already been made, funded, and is underway.

In many ways NNSA has been and remains the enabling passenger, not the driver, in this process. This DEA is a sort of legal “cleanup operation” aimed at “covering” de facto decisions already taken.

In that regard, conceptual design (Critical Decision Zero [CD-0]) for RC3 was completed in 2014, as was selection of a construction alternative and cost range (CD-1). We believe the core enabling structural and mechanical infrastructure for the HC3 “decision” was built a long time before this, prior to 2010. In the language of NEPA, NNSA has already irreversibly committed major federal resources to the goals of the RC3 subproject.

No separate cost ranges for the two alternatives were ever presented to Congress or the public. Congress has been funding the CMRR project with each active subproject configured assuming eventual completion of RC3 ever since RC3 was formally added to the CMRR project in the February 2016 CMRR Project Data Sheet, submitted to Congress for FY2017 funding, which Congress provided. Not continuing with RC3 does not appear to be a contemplated option at this point.

In this DEA, NNSA's preferred alternative – converting RLUOB to an HC3 facility – is generally described as having a *lower* environmental and worker health impact than operating RLUOB as a Radiological Facility (the “No Action Alternative”) because more of the (unquantified) AC and MC missions would need to be done in PF-4 in the misnamed “no action” case. This is misleading for several reasons.

- Obviously installing 81 new “ventilated enclosures” (gloveboxes, open-front enclosures, and hoods, the quantity of each is not specified) in RLUOB, plus 43 new enclosures in PF-4 plus 30 modified enclosures in PF-4, a process which will take “seven to nine” years and hundreds of millions of dollars, is not “No Action.” (The Proposed Action involves 109 new enclosures in RLUOB and 30 new and 29 modified enclosures in PF-4, only 14 more than “No Action” and requires only one more year to complete.)
- The AC and MC missions support pit production, pit surveillance, and in the case of AC, PDC. Other factors being equal, the scale of the AC mission depends on the scale of these missions. A pit production mission of 80 ppy will require four times the AC equipment and space of a 20 ppy mission. AC to support PDC is also scale-dependent. The environmental impact of the AC & MC missions, from equipment installation to operation, is therefore dependent on factors which are not explored in this DEA and on two major federal decisions which yet to be made.

For a small total AC mission RLUOB could carry more of the AC load and PF-4 less, entailing different enclosures, capital costs, and environmental impacts. This is especially significant for the *relative* environmental impacts of the two alternatives. Regardless of the doubtful quality and interest-conflicted origin of the impact, the relative magnitude of the environmental impacts depends on decisions yet to be made which are nowhere discussed in the DEA.

We believe the extensive, heavily-equipped and -supported RLUOB laboratories are being configured to handle the AC needs of the industrial pit production mission, now requiring production of 80 ppy in single shift operations and double that in two-shift operations if needed, plus the industrial PDC mission of 35 MT, and the present DEA is part of that transformation.

The “decision” being made in this process and more so the irretrievable resource commitments involved may well prejudice NNSA’s larger decisions. That may be somebody’s idea – namely, the corporate entity that supplied the data and major analysis for this DEA.

The ability of RLUOB under the “No Action” Alternative to carry out the AC mission – whatever it is – is insufficiently described, as is the space in PF-4 which would be liberated for other uses by the Preferred Alternative. The EA omits environmental analysis of any activities which would or could, under the Preferred Alternative, occupy the liberated PF-4 space.

The entire purpose of the proposed action and of this EA is to liberate space inside PF-4 for more plutonium-intensive activities, but there is no current, accurate environmental analysis of the consequences of this industrialization – not in this draft EA and not anywhere else either. (Prior analyses, most of which are badly dated and all of which are segmented and thus opaque, also suffer from the bogus “No Action” problem described above.)

Since 2003, the RLUOB has been described to all concerned parties – including state regulators, Indian tribes, local governments, and public interest organizations – as a Radiological Facility. Concrete agreements, some of which were formal, were made involving some of these parties based on this representation. In the case of our own organization, NNSA filed documents in two federal lawsuits and in the 10th Circuit Court of Appeals alleging that RLUOB would be only a radiological facility.

NNSA now proposes to recategorize RLUOB so as to contain up to 311 times the mass of plutonium previously claimed (2,610 grams vs. 8.4 grams Pu-239 equivalent [Pu-239e]). Limiting the portion of the total material present which counts as material at risk (MAR) to 400 grams can be achieved by physically protecting samples better, so a “MAR-limited” inventory of “400 grams” could well mean a total inventory of 2,610 grams.

Once the HC3 barrier is breached as is proposed, the barriers to further increasing inventory beyond the upper HC3 threshold quantity, largely involve paperwork. Exceptions and temporary excursions can be made in cases of “national emergency” and indeed for much less compelling reasons as well. Emergency “backup” plans are already on the books, and have been briefed to Congress and others, for larger-scale pit production. Even security category threshold quantities might be suspended at RLUOB with compensatory measures.

Up to 16,000 grams of low-grade plutonium materials – dilute solutions, for example – can be stored in a Security Category II facility. Could RLUOB handle that much, in a pinch?

If national security depended on it – in the collective counsel of the Nuclear Weapons Council and congressional defense committees, for example – and if most of the hardware were already in place, suspension of the normal DOE orders would be relatively trivial. Even on a good day compliance with DOE orders – essentially, memos-to-file – is spotty. No external regulatory body has jurisdiction over worker and public safety at NNSA facilities except as regards some effluents and waste streams. Or, as the Congressional Research Service has suggested in the case of RLUOB, Congress could simply suspend rules found to be onerous by fiat.

Contrary to vague representations in this draft EA, RLUOB was not designed and built as a nuclear facility. The procedures and quality standards of 10 CFR 830 for nuclear facilities were not followed. Its structural design, for example, was completed prior to publication of LANL’s 2007 probabilistic seismic hazard assessment and did not incorporate its findings. *Limited, voluntary, unaudited* compliance with *some* NQA-1 requirements is non-compliance. *A long list of presumptive NQA-1 violations at RLUOB could be prepared.* Even after completion International Building Code (IBC) violations were discovered at RLUOB. Only parts of RLUOB meet PC-2 standards for seismic performance, for example.

We know of no external review of these issues.

Significant quality problems dogged RLUOB construction, as LANS officials later explained to an industry audience. Repeated structural changes were made, sometimes literally on restaurant napkins, leading to subcontractor litigation.

As originally described, with a 8.4 g Pu-239e limit as was necessary for a radiological laboratory, RLUOB could not have had any viable AC or MC mission. Wasn’t the decision to “convert” RLUOB to a nuclear facility someday actually taken prior to construction, or at the very latest during construction?

- At 8.4 g Pu-239e, what were the missions of RLUOB’s 26 laboratories, each 750 sq. ft., totaling 19,500 sq. ft.? Again, there could not be many, or perhaps even *any* AC or MC mission. Divided evenly across 26 labs that’s 323 milligrams per laboratory. Surely the heavy equipment installed years ago (as shown in public presentations and publications) is not for such small quantities of plutonium.

- With such a low limit on plutonium, why did LANS attempt to meet some nuclear facility standards during design and construction, at an extra cost of tens of millions?
- After “completion” and (partial) occupancy of RLUOB (CD-4) in 2010, why were most of the RLUOB laboratories empty, with purposes “TBD,” as project officials explained? Upon information and belief this situation continued even after “completion” (CD-4) of RLUOB equipment installation (REI1) in 2013 and may still be the case today. Why were all these labs built? We posed this question to project managers but received no convincing answers. We would pose the question differently today: “Why were all 26 labs built, if many of them they had no real purpose until REI2 and now RC3?”
- Why precisely were such massive and elaborate air handling and other mechanical systems needed for an 8.4 gram mission? Look at the heavy gloveboxes and other fixtures already installed, which by 2013 had cost \$197 million (M) (REI1) over and above the cost of the facility itself (\$199 M). Other radiological facilities at LANL, as far as we know fully compliant with radiological standards, have nowhere near such equipment.
- NNSA changed the threshold quantity of plutonium allowable in RLUOB to 38.6 grams only in 2014. Why did NNSA wait seven years to do that, when DOE had promulgated new regulations for the higher limit in 2007 and had already put them into practice at other DOE sites? No one told the interested parties in NM that NNSA could and would raise the threshold quantity of plutonium in RLUOB by a factor of 4.6 until 2014. This date was long after an air quality permit had been obtained and stipulated sign-offs from the appealing parties had been arranged (on the basis of 8.4 g).
- LANL’s public plans and budgets for RLUOB began to involve upgrading the facility to a HC3 Nuclear Facility as early as 2012, six years ago.

For all these reasons and others, we believe NNSA has already irreversibly committed large resources to transform RLUOB into a HC3 nuclear facility. The present EA process is just a deceptive formality. It is an elaborate lie that stands NEPA’s hope for “analysis first, decisions second” on its head. Bureaucratically, it is a “CYA” exercise.

Many of the critical judgments in this draft EA derive from analyses (not just data) in a “data call” conducted by Los Alamos National Security (LANS), a materially-interested party. The LANL M&O contractor cannot legally conduct NEPA analyses that affect its business interests (see: Council on Environmental Quality, NEPA “40 Questions”). Although the LANS contract is ending on September 30 of this year, about 99.8% of the staff will become employees of the next interest-conflicted management and operating (M&O) contractor, which also may include one or more of the present LANS corporate partners. The universe of NNSA M&O contractors is comprised of a relatively small number of cooperating corporate entities, executives in which not infrequently move from company to company. For these reasons the change in LANL M&O contractor does not provide much insulation from conflict of interest concerns. The present DEA does not meet the conflict of interest “smell test.”

For example, it is LANS, we are told in this DEA, which has estimated that with an inventory limit of 400 grams PuE, “none of the current safety systems [at RLUOB], such as building ventilation, would require designation as safety class or safety significant to meet DOE requirements.” That is a highly-consequential judgment. This DEA cannot rely on LANS for it.

In this case and elsewhere, this DEA elides the distinction between 400 g MAR and 400 g total inventory.

Impact comparisons with activities now occurring in the old Chemistry and Metallurgy Research (CMR) building are irrelevant and bogus because NNSA has committed to ending those activities regardless of any decision made regarding RLUOB's HC or this EA – and long prior to completion of either alternative described here. All references to the CMR building are merely rhetorical and have no place here.

LANS has prepared a preliminary outline of the potential tasks required for RLUOB to become a HC3 facility (LA-UR-13-27404 R1, Don Shoemaker and Amy Wong). How many of these tasks and analyses have been done, in support of this decision? This DEA should have referenced those tasks.

The DEA states (p. 10) that

Continued examination indicated that RLUOB could be safely recategorized as a Hazard Category 3 Nuclear Facility with a limiting PuE quantity of 400 grams, so that additional AC and MC work could be performed in RLUOB compared to that evaluated in the 2015 CMRR SA (DOE 2015a), with less AC and MC work performed in PF-4.

“Continued examination” *by whom?* Isn't this (foregone) conclusion precisely what is supposedly being analyzed in the DEA?

Contrary to the DEA, we do not believe that inventories greater than 400 g Pu-29e in RLUOB need trigger criticality controls if limits are imposed on each separate laboratory.

Exemplary of the lack of objectivity in the document is the table on p. 27 showing background radiation doses to the public near LANL, said to range from 740-880 mrem/year. Why so high? Because everyone is assigned doses from radon, diagnostic and nuclear medicine, and consumer products of 300, 300, and 10 mrem respectively for these sources. In fact, many people do *not* receive these doses. The table should therefore give a grand total of something closer to 130-880 mrem/year, just using the DEA data presented, not 740-880 mrem/year.

The accident scenarios in the DEA require closer review than we have done. We note that they suffer from the overall problem of being small in comparison to releases from PF-4. But what programs in PF-4 involve large plutonium inventories? Why, the same programs that are enabled by RLUOB and its transformation into a HC3 facility. Again the issue is not RLUOB's labs per se but rather a larger set of decisions, with larger consequent risks and impacts, that are nowhere to be seen in their entirety in this or any NEPA analysis, let alone seen the context of all reasonable alternatives, which is the NEPA standard.

Another besetting error, likewise stemming from fragmentation of analysis, is to assume, as the DEA does (p. 53), that “TRU waste from AC and MC operations would not be generated without the assurance of adequate and safe TRU waste management capacity.” A wag might ask, why start now? When has that capacity ever really been present at LANL?

On its face, the DEA describes what appears to be a wonderful set of environmental and worker safety improvements at LANL. Why would any federal decisionmaker not suspend or override existing safety regulations, setting a rather alarming precedent, in order to bring about these terrific improvements, which seem only the logical next links in a chain of decisions already taken?

The reality of the situation is quite different than portrayed in this DEA. An EA is the narrowest type of NEPA analysis, with few standards. Of NEPA analyses it is also the most closed to outside parties, having no requirement for scoping hearings for example. It is not adequate to the present NEPA task.