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Nuclear Watch of New Mexico (NWNM) respectfully submits these comments to the Department of Energy Office of Nuclear Energy, Science and Technology on the *Draft Environmental Impact Statement for the Proposed Consolidation of Nuclear Operations Related to the Production of Radioisotope Power Systems*. NWNM is a nonprofit organization with specific interests in virtually all issues pertaining to Los Alamos National Laboratory and generally for the nuclear weapons complex. Quotes from the draft EIS are italicized below.

General Comments

We find that this EIS fails to answer two critical questions that should be at the heart of any decision to proceed with DOE's proposal to consolidate Pu-238 operations at the Idaho National Laboratory (INL). First, there is no current legal and regulatory path to dispose of non-defense transuranic wastes. Given Idaho's long and contentious history with DOE radioactive wastes issues, it is not enough to simply assert that those wastes will be someday be disposed of at the Waste Isolation Pilot Plant (WIPP). By legislation, non-defense transuranic wastes are barred from WIPP. Second, we question the need for renewed virgin production of Pu-238 to begin with. Los Alamos National Laboratory (LANL) has a large inventory of Pu-238 scrap materials, and a scrap recovery line is due to start operations this fall, with a professed capability to recover 2 - 8 kilograms per year. That would seem to obviate the need for new virgin production of Pu-238 to begin with. We request an explanation of why 100 million dollars of taxpayers' money was spent on a scrap recovery line that either: 1) now seems unneeded, or 2) will be redundant, meaning that no true consolidation of Pu-238 activities will be completed. To us, to omit consideration of LANL's potential recovery capabilities smacks of pre-determination to "consolidate" PU-238 activities at INL.

Specific Comments

1.1 Purpose and Need for Agency Action

DOE has determined that consolidating plutonium-238 nuclear production operations at a single, highly-secure site would better protect these materials, eliminate the need for interstate transportation, and avoid the unnecessary costs of implementing security upgrades at multiple sites.

The Plutonium Facility at TA-55, where LANL's scrap recovery line is located, is clearly one of the topmost sensitive and secure facilities in the DOE complex. Therefore, security considerations alone are not enough to justify Pu-238 consolidation at INL. With respect to eliminating interstate

transportation, the one thing that would argue against retaining existing recovering and encapsulating capabilities at the Lab is DOE's proclaimed need for renewed Pu-238 virgin production in a nuclear reactor since LANL has no operating reactors. However, to our mind the EIS has not adequately justified why virgin production is needed.

For example, in EIS §2-1 a total current DOE inventory of 39.51 kilograms is given, with unspecified national security requirements of <25 kilograms anticipated through the year 2010. The anticipated need of 8 kilograms for NASA through 2010 can be dismissed since the U.S. can purchase Pu-238 from Russia for non-national security purposes, a transaction we applaud for helping to internationally secure materials that could be otherwise be used for "dirty bombs."

In footnotes to the relevant table it is stated that of the 39.51 available kilograms 16.5 is of Russian origin, hence not available for national security needs. This leaves 23 kilograms. The footnotes also state that some 20 kilograms are available from RTGs from old warheads disassembled at Pantex, but that its purity level is too low for direct reuse." However, we argue that "direct reuse" is not completely relevant and definitely should not be a criterion that could falsely propel the need for virgin Pu-238 production. That inventory should and could be purified to the necessary level by existing or pending capabilities at LANL. The same is also true of Pu-238 that could be recovered from "sealed sources" being delivered from around the country to LANL as part of an ambitious program that is in implementation. By definition, that program is also clearly part of established DOE transportation. Thus, a genuine argument for eliminating or greatly reducing the need for Pu-238 transportation would decide against consolidation at INL, and to the contrary argue for preserving and augmenting LANL's capabilities. This is underscored by the fact that the Moscow Treaty should be accelerating dismantlements, thus perhaps resulting in dramatically more Pu-238 that could be recovered from retired warheads. Dismantlements occur at the Pantex Plant near Amarillo, TX. Thus, for the purposes of reducing PU-238 transportation needs, it makes geographical sense to retain and augment recycling capabilities at Los Alamos.

In whole, this draft EIS failed to survey all possible Pu-238 inventories that could be recovered, a deficiency that the final EIS should rectify. As the draft EIS notes at p. S-7 "... a production rate of 5 kilograms (11 pounds) of plutonium-238 is expected to meet estimated long-term requirements and [that decision] will not be revisited." We think that LANL could easily be capable of recycling that amount annually, should DOE crack the whip and compel LANL to actually produce something (which neither entity appears capable of within that contractual relationship). The draft EIS at p. S-5 states, "DOE will use available and usable plutonium-238 inventory to met the space mission and national security needs of Federal agencies. This inventory would be augmented by plutonium-238 produced from neptunium-237 targets." We don't believe that the latter is truly necessary for decades, if ever. Additionally, we don't believe that DOE is making a sincere effort to "use available and usable plutonium-238 inventory," which the Department would do if it was serious about saving taxpayers' money.

1.2 Background

DOE's role in these missions reflects established ongoing cooperation between DOE and NASA to ensure that RPS production capabilities are maintained and coordinated to meet NASA mission requirements. The DOE RPS production infrastructure represents the sole national capability to produce RPSs.

Please explain in the final EIS why the RPS (Radioisotope Power Systems) capabilities at LANL (a highly secure site, at least in theory) that include recovering, recycling and encapsulating Pu-238 do not meet NASA mission requirements. Given that Pu-238 can be purchased from Russia for non-national security missions, we contend that NASA requirements are not what are truly driving DOE's proposal for consolidating activities at INL. Instead, the driving force are the unspecified national security missions.

Due to its classified nature, a national security application can be characterized by what it is not, as delineated below.

- *It is not used in any nuclear weapons.*
- *It is not used in any nonnuclear weapons.*
- *It is not used in any military satellites or in space.*
- *It is not used in any missile defense systems.*

The assurances above for the future use of Pu-238 in national security missions can only at best be characterized as applicable for now in the present. DOE has been known to go back on promises. Since DOE has used these assurances in order to promote greater public acceptance in Idaho, please add to the reassurance by adding “and will not ever be used” to each of the above in the final EIS. Alternatively, please explain why that is not possible.

The nuclear infrastructure required to produce an RPS comprises three major components: (1) the production of plutonium-238; (2) the purification, pelletization, and encapsulation of plutonium-238 (heat source), as plutonium dioxide, into a usable fuel form; and (3) the assembly, testing, and delivery of RPSs to Federal users.

The recovery of scrap Pu-238 is omitted as a possible integral part of the process. Please explain why. In our view, its omission can play a large role in predetermining the need for resumed virgin production of Pu-238 in a nuclear reactor. If correct, that is a grievous predetermination.

Small amounts of transuranic waste generated during purification would be shipped to the Waste Isolation Pilot Plant (WIPP) in New Mexico under the alternatives analyzed in this Consolidation EIS.

WIPP cannot accept non-defense related waste. Please explain where you plan to send this non-defense related waste. Moreover, we don't regard as “small” the 13 cubic meters of transuranic wastes to be produced annually by purification (draft EIS p. 4-46). In combination with Target Fabrication and Post-Irradiation Processing, DOE presumes that a total of 20 cubic meters will be disposed of at WIPP, an assumption that could be seriously tested in the regulatory and legal arenas.

1.4 Decisions to Be Supported by the Consolidation EIS

Whether to consolidate existing, usable, and available plutonium-238 inventory, including the milliwatt RTG heat sources at LANL and Pantex, at INL (a one-time relocation of material) and blend this material gradually into the plutonium-238 purification process.

Why is using existing Pu-238 recovery at LANL not a declared option? One hundred million dollars have been spent on LANL's Pu-238 scrap recovery line, which is due to go online this fall 2005. Please state what the total available scrap plutonium inventory is, including the amount in existing, used Radioisotope Thermoelectric Generators (RTGs), Light Weight Radioisotope Heater Units (LWRHUs), and general-purpose heat sources (GPHSs) across the DOE complex. LANL's scrap recovery line can reclaim plutonium-238 fuel from old, disassembled heat sources and from other sources as well.

The United States does not currently have the domestic capability to produce plutonium-238.

We question the absence of any mention of LANL's scrap recovery capability. It would be much cheaper than building a whole new plutonium facility and would take surplus Pu-238 out of circulation, which is a significant

non-proliferation consideration.

The 2001 ROD for the NI PEIS authorized the reestablishment of the DOE's plutonium-238 production capability and the mission need was approved in February of 2004. As decided in the ROD for the NI PEIS, a production rate of 5 kilograms (11 pounds) per year of plutonium-238 is expected to be sufficient to meet estimated long-term requirements and will not be revisited.

The Defense Nuclear Facilities Safety Board (DNFSB), in a Staff Issue Report dated April 9, 2002, stated, "The Department of Energy (DOE) has no current capability for producing Pu-238 for programmatic applications. Therefore, LANL is developing a capability to reclaim and purify scrap Pu-238. **The new scrap recovery line in the Plutonium Facility (Technical Area [TA]-55) consists of six gloveboxes and will have a normal design throughput of 5 kg of Pu-238 oxide per year.**" (Emphases added.) This new scrap recovery line is now due to start operations this fall 2005. Why is this not considered in the draft EIS? The final EIS should do so.

LANL's "Actinide Research Quarterly," 1st Quarter 2002, 'To Mars and Beyond', speaking about the scrap recovery line, states that, "**For the next two decades, it is estimated that Los Alamos will produce two to eight kilograms of plutonium-238 fuel per year to meet the needs of NASA's space applications.**" (<http://www.lanl.gov/orgs/nmt/nmtdo/AQarchive/02spring/02spring.pdf>)

It appears that in the beginning of 2002 there was enough Pu-238 to meet NASA's needs for 20 years. Please explain what happened to invalidate that conclusion.

In an April 22, 2005 LANL "Weekly Report," the DNFSB stated that, "DOE-NE is considering **if low-inventory cans can be disposed as waste instead of retained to recover the Pu-238**... about half the cans in the room (~120 of 238) plus about 20 others in the vault may qualify for WIPP."

Is DOE-Nuclear Energy really considering throwing away Pu-238 at the expense of the taxpayers? Is the production of new Pu-238 necessary because DOE has imprudently decided to dispose of part of its scrap inventory? The final EIS should fully explain. Is the scrap recovery line due to stay at LANL? The final EIS should also so state.

1.5.1 Idaho High-Level Waste and Facilities Disposition Final Environmental Impact Statement (DOE/EIS-0287)

Under the terms of the 1995 Settlement Agreement and Consent Order with the state of Idaho, DOE agreed to treat high-level radioactive waste currently stored at INL and to prepare the waste in a form ready to be shipped out of Idaho by 2035.

Idaho also won a legal requirement for DOE to ship radioactive transuranic wastes out of the state. There is currently no legally sanctioned waste path for the non-defense-related Pu-238 transuranic waste that DOE's proposal will create.

1.5.3 Final Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy Research and Development and Isotope Production Missions in the United States, Including the Role of the Fast Flux Test Facility (DOE/EIS-0310)

In the NI PEIS, DOE proposed to enhance these capabilities to provide for: (1) production of isotopes for medical and industrial uses, (2) production of plutonium-238 for use in advanced RPSs for future NASA space exploration missions, and (3) the nation's nuclear research and development needs for civilian application.

Why was there no mention in that programmatic EIS of the need for Pu-238 production for ‘national security’ missions?

1.5.6 Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory, Los Alamos, New Mexico (DOE/EIS-0238)

On January 5, 2005, NNSA announced its intent to proceed immediately with the preparation of a supplemental SWEIS to update the analyses presented in the 1999 LANL SWEIS (70 FR 807) and the process for participation in public scoping of the document’s impact analysis. After carefully considering scoping comments, NNSA determined that it would be necessary to prepare a new SWEIS to provide appropriate NEPA compliance for the possibility of enhancement of LANL’s stockpile stewardship interim pit production capability. The No Action Alternative for the new SWEIS is the continued implementation of the 1999 SWEIS ROD, together with other actions described and analyzed in subsequent NEPA reviews. The new SWEIS will analyze an expanded operations alternative that includes the enhancement of pit production capability, as well as a reduced operations alternative.

Is LANL trying to make increased room for pit production at its Plutonium Facility (PF-4) where Pu-238 operations are also being conducted? Is this the real driver for DOE’s preferred alternative of consolidating Pu-238 operations at INL? The final EIS should disclose what the “saved” floor space at PF-4 would be used for in the event that DOE’s preferred alternative is implemented.

CHAPTER 2 PROJECT DESCRIPTION AND ALTERNATIVES

2.1 Nuclear Operations Related to Production of Radioisotope Power Systems

After SRS stopped producing plutonium-238 (the last operating reactor was shut down in 1996), DOE satisfied its plutonium-238 requirement by using DOE’s inventory in storage at the Los Alamos National Laboratory (LANL) in New Mexico. The inventory was augmented by plutonium-238 purchased from Russia for use in space missions beginning in 1992.

Does this Pu-238 inventory at LANL include Pu-238 that is tied up in scrap that could be recovered in LANL’s scrap recovery line?

Inventory of Available and Usable Plutonium-238

DOE will utilize existing available and usable plutonium-238 inventory to meet Federal agency requirements for RPSs in space and national security applications. “Available” inventory means it is not being used for other applications and is readily accessible by DOE during the time period assumed in this EIS for each alternative. “Usable” plutonium-238 means that it has a form and purity level that allows it to be used by DOE.

Does this include the 238 cans of Pu-238 mentioned in the DNFSB’s April 22, 2005 Weekly Report for LANL? Additionally, as previously referred to in these comments, there is evidence that DOE’s idea of usability is “direct use.” We think that a false premise when measured against the conservation of taxpayers’ dollars and the bad message that resumed plutonium production, even if not for weapons-usable materials, sends to the international community. We assert again that DOE should explore all options for recovering PU-238 from existing inventory and scrap.

Moreover, it is inevitable that a proportion of weapons-usable plutonium, i.e., Pu-239, and other plutonium isotopes of interest to the weapons programs (e.g., Pu-242), will be produced in any reactor for PU-238 production. The final EIS should disclose what those amounts might be, what their intended use could be, and what, if any, safeguards exist that would prevent their diversion to weapons programs. We think this vitally important as an example to the world in discouraging programs aimed at the production of nuclear weapons materials.

Table 2-1 Current Locations and Quantities of Plutonium-238 and Neptunium-237 Available and Usable Inventory and Program Requirements

Does this include the 238 cans of Pu-238 mentioned in the DNFSB's April 22, 2005 weekly report for LANL?

Footnote f - This inventory is in old heat sources from dismantled nuclear weapons' RTGs. Its purity level is too low for direct reuse, but suitable for blending with higher purity plutonium-238. Some of these heat sources are located at LANL. The 20 kilograms is the total inventory for all the heat sources, both at LANL and Pantex. Transportation of this inventory from LANL and Pantex to INL is analyzed in this EIS. This inventory will be available and usable by 2011.

Please explain why the sources at Pantex are not shipped to LANL so the PU-238 can be reclaimed in LANL's scrap recovery line. Is there a scrap recovery line planned for INL? It is not mentioned in this EIS.

2.2.2 Consolidation Alternative (Preferred Alternative)

Under the Consolidation Alternative, DOE would consolidate all RPS nuclear production operations within the secure area at MFC at INL.

Why would the MFC at INL be any more secure than TA-55 at LANL?

Current plutonium-238 operations at the Plutonium Facility at LANL would continue until new facility operations at MFC commence in 2011.

Do these operations mentioned at LANL include the scrap recovery line?

2.2.4.1 Consolidation of Radioisotope Power Systems Nuclear Production Operations at Sites Other than Idaho National Laboratory

Los Alamos National Laboratory

Although LANL currently has the capability of purifying, pelletizing, and encapsulating plutonium-238, it does not have any operating nuclear reactors. Its last reactor, Omega West, has been decommissioned and decontaminated, and is now a greenfield. Because LANL has no available onsite nuclear reactor, it was considered and dismissed from detailed evaluation in this EIS.

LANL is soon to have the scrap recovery line in operation. Why is this not considered in the draft EIS? We consider this omission to be tantamount to a predetermination to consolidate PU-238 activities at INL. We further believe that DOE has failed to adequately consider whether existing inventory and recovery of scrap obviates the need for virgin production of Pu-238 in a reactor for decades, if ever. For example, the final EIS should evaluate the amount of Pu-238 that could be recoverable from the Moscow Treaty's mandate to reduce operationally deployed nuclear weapons to 2,200 or under by 2013.

2.3.2.1 Plutonium-238 Facility

Figure 2-10 Proposed New Plutonium-238 Facility at the Materials and Fuels Complex (Conceptual)

This figure clearly shows a large *Aqueous Scrap Recovery Area*. The word “aqueous” is not mentioned regarding the MFC. Please explain the proposed future use of the Aqueous Scrap Recovery Area in concrete terms.

Plutonium-process-contaminated noncombustibles would be packaged as transuranic waste for eventual shipment to the Waste Isolation Pilot Plant, near Carlsbad, New Mexico.

Define “eventual.” Is this waste designated as non-defense? If so, how can it go to WIPP?

4.1 No Action Alternative

Impacts of purification, pelletization, and encapsulation operations at the Plutonium Facility within Technical Area 55 (TA-55) at Los Alamos National Laboratory (LANL) are largely from the Environmental Assessment for Radioisotope Heat Source Fuel Processing and Fabrication (DOE 1991).

Referencing a 14-year-old document is not acceptable. Modeling abilities for risk assessment have improved. The actual operational history for TA-55 is now available and actual operational releases and environmental impacts should be made public.

4.1.11.1 Waste Management

Arrangements are being made that would allow the solid low-level radioactive waste to be treated and disposed of offsite at another DOE site or at a commercial facility, thereby eliminating any onsite storage problems,

Please give details about these arrangements and name the DOE and commercial sites in consideration.

4.6 Resource Commitments

4.6.1 Unavoidable Adverse Environmental Impacts

Normal facility operations would also result in unavoidable radiation exposure to workers and the general public. Workers would have the highest levels of exposure, but doses would be administratively controlled. The incremental annual dose contributions to the MEI, general population, and workers are discussed in the public and occupational health and safety-normal operations sections of this chapter. These doses are not expected to exceed any standards or administrative control limits.

Please list the administrative controls that would be in effect. Please explain why no engineered controls would be in place.

*Respectfully submitted,
Scott Kovac and Jay Coghlan*