February 3, 2005

By email to: ConsolidationEIS@nuclear.energy.gov

Timothy A. Frazier, Document Manager
NE-50/Germantown Building
Office of Space and Defense Power Systems
Office of Nuclear Energy, Science and Technology
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585-1290

Re: Comments on the scope of the draft Environmental Impact Statement for the proposed consolidation of nuclear activities related to production of radioisotope power systems.

Dear Mr. Frazier,

Concerned Citizens for Nuclear Safety (CCNS) submits for your consideration the following comments on the scope of the draft Environmental Impact Statement for the proposed consolidation of nuclear activities related to production of radioisotope power systems.

1. The project will require that activities currently performed at PF-4 at Technical Area (TA) 55 at Los Alamos National Laboratory (LANL) be re-located to Idaho National Engineering and Environmental Laboratory (INEEL). Will the facilities used at PF-4 for these activities be decontaminated, decommissioned and demolished? If so, how much and what types of waste would be produced by decontaminating, decommissioning and demolition activities? Where would this waste be stored? If the waste would be stored off-site, what are the impacts of transportation of this waste from the LANL complex? If the facilities are not to be decontaminated, decommissioned and demolished, to what tasks will they be reassigned? What are the public health and safety impacts to potential workers of reassigning these facilities, given the nature of the work that has been performed there in the past?

2. What materials and in what amounts would be transported from LANL to INEEL? Please include a detailed schematic of any proposed transportation vessels under consideration. Please detail any transportation routes considered from LANL to INEEL. What are the public health and safety impacts of transporting these materials to the communities along the transportation routes? Will these communities be involved in the decision-making processes related to this project? CCNS suggests that public hearings on the draft Environmental Impact Statement be held along all transportation routes proposed from LANL to INEEL.

3. Please describe in detail the processes required to produce radioisotope power systems, including plutonium production, transportation, target fabrication, irradiation, plutonium extraction storage and purification, as well as radioisotope power system production and long-term storage requirements. Please include all types and amounts of radioactive and hazardous waste that will be produced as a result of this process, the location at which the Department of Energy (DOE) proposes to store this waste, and the transportation routes that will be required to transport the waste to permanent disposal repositories. What is the official classification of the radioactive waste that will be produced by this process? If it is transuranic, will the waste be considered for the Waste Isolation Pilot Plant, located near Carlsbad, NM?

4. Please outline any and all potential uses for the radioisotope power systems to be produced by DOE. The Department of Defense has indicated that the radioisotope power systems will be required for future space-based defense-related projects. How will these radioisotope power systems relate to future space-based military applications and surveillance missions?

5. CCNS requests that DOE include in the draft Environmental Impact Statement a thorough statement of purpose and need for radioisotope power systems production, analyzing individually each potential use for these power systems. Further, CCNS requests that DOE include an alternative in the draft Environmental Impact Statement that assesses the environmental impacts of halting this project altogether and beginning cleanup of related activities at LANL, INEEL, Savannah River Site and Oak Ridge National Laboratory.

6. How will this project effect timelines for cleanup of the INEEL site and removal of radioactive waste from the site? Further, how will relocating the facility effect waste storage at LANL's Area G low-level radioactive waste disposal site?

7. In the *Report on the Monitoring Team of the Institute for Energy and Environmental Research on the Independent Audit of LANL for Compliance with the Clean Air Act, 40 CFR 61, Subpart H in 2001 to CCNS*, independent technical experts Arjun Makhijani and Bernd Franke found:

> Owing to its high specific activity, the proper identification of [plutonium-238 (Pu-238)] in ambient air samples may pose a problem. In the [Meteorology and Air Quality-AIRNET], the maximum [maximum detection limit (MDL)] for Pu-238, equivalent to 0.1 [millirem per year (mrem/year)] annual dose, is reported to be 0.14 [picocuries (pCi)] per half filter composite. The target MDL for Pu-238 is indicated to be 0.05 pCi per half filter composite.

> According to the information on page 55 of the first audit report by the [Independent Technical Audit Team], the specific activity of a particle with 1 μm aerodynamic diameter that consists of pure Pu-238 oxide particles is 2.8 pCi. If such particles would be released from a diffuse source (e.g. from waste materials), the presence of one such particle on a half filter composite would indicate a dose of 2 mrem/year. If said particle were to remain on the half filter composite that is not subjected to alpha spectroscopy, the resulting dose estimate would be 0 mrem/year.
>
> The potential bias would be greater if a larger particle size is assumed. While it may be argued that the activity may be detected because the detection limit for alpha activity of a single filer is 0.5 pCi. However, it is not evident from the procedures in place (MAQ-AIRNET, ESH-17-201, R3) that analysis of the entire filter be performed.[1]

Given the use of Pu-238 in the proposed radioisotope power systems production, how will DOE address the problems of filter composite samples that Dr. Makhijani and Mr. Franke present in this document quoted above? Has DOE made arrangements to perform alpha spectroscopy on both half filter composites that are collected?

Has this become DOE policy across the entire nuclear weapons complex? If not, CCNS recommends that DOE incorporate the concerns of Dr. Makhijani and Mr. Franke into their analysis of the proposed radioisotope power systems production, as well as any future analyses of operations that will potentially use Pu-238 across the entire complex.

The draft Environmental Impact Statement should consider the high activity of Pu-238 when estimating the off-site dose of radiation to the public and its associated impacts on public health and safety in terms of the Radioactive National Emissions Standards for Hazardous Air Pollutants (RAD-NESHAPS).

8. CCNS requests that DOE consider alternatives to plutonium-powered radioisotope power systems as an alternative included in the draft Environmental Impact Statement. This would include alternate technologies that would perform the same function as radioisotope power systems while eliminating the creation of additional radioactive waste, environmental emissions and impacts to public health and safety.

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[1] Makhijani, Ph.D., Arjun and Bernd Franke, *Report of the Monitoring Team of the Institute for Energy and Environmental Research on the Independent Audit of LANL for Compliance with the Clean Air Act, 40 CFR 61, Subpart H in 2001 to CCNS,* December 18, 2002, page C-15.

9. CCNS requests a 60-day comment period on the draft Environmental Impact Statement upon its release, given the scope of the project and the number of DOE sites and surrounding communities that will be impacted by this proposal.

Thank you for your consideration of our comments. Should you have any questions or comments, please do not hesitate to contact me.

Sincerely,

Joni Arends
Executive Director