

Concerned Citizens for Nuclear Safety

P.O. Box 31147
Santa Fe, NM 87594-1147
(505) 986-1973
nuclearactive.org

June 5 and 6, 2023

By email to: SNL-SWEIS@nnsa.doe.gov

Dr. Adria Bodour, NEPA Compliance Officer
National Nuclear Security Administration - Sandia Field Office
P.O. Box 5400
Albuquerque, NM 87185

Re: Comments about the Scope of Sandia National Laboratory draft
Site-Wide Environmental Impact Statement (SWEIS)

Dear Dr. Bodour:

Concerned Citizens for Nuclear Safety (CCNS) provides the following comments about the scope of the draft Site-Wide Environmental Impact Statement (SWEIS) for Sandia National Laboratory (SNL) in Albuquerque, New Mexico. Our comments were delayed due to a cut of a large fiber cable in Taos, NM, thus disabling our ISP for nearly 30 hours. A repair was finalized this evening. For that reason, we are submitting our comments now. Please kindly accept them and provide acknowledgment of them. Thank you.

CCNS is a Santa Fe, New Mexico non-governmental organization that formed to address the proposed transportation of radioactive and hazardous waste from Los Alamos National Laboratory (LANL) through Santa Fe on St. Francis Drive to the yet-to-open Waste Isolation Pilot Plant (WIPP).

Given the number of changes, for example, in operations, expansion of waste generation, contamination of the air, water and soil that have occurred at SNL since 1999, it is irresponsible for SNL to wait over 25 years to provide the public with a SWEIS process. Given that the “current” publicly available 1999 SWEIS and the related 2006 Supplement Analysis are 24 years and 17 years behind schedule, respectively, some of the data cited below may not be current.

Accidents, Exceedances of Standards, and Worker Exposures Reported in Defense Nuclear Facilities Safety Board (DNFSB) Monthly Reports. In the process of preparing these comments, I reviewed the monthly reports of the DNFSB from June 3, 2022 through May 5, 2023. The applicable reports are referenced below:

There are a number of recent issues with the **Annular Core Research Reactor Facility (ACRRF)**, including:

- dropped handrail into the ACRRF Fuel-Ringed External Cavity, Version II (FREC II) cavity event (June 3, 2022);
- preparation for Class III experiments with Hazard Category (HC)-3 quantities of fissionable material (August 5, 2022, September 2, 2022, January 6, 2023, February 3, 2023);
- Transient Rod Withdrawal (TRW) operations (unreviewed safety question) (September 2, 2022), approved (December 2, 2022), software quality problems (January 6, 2023) (March 3, 2023) (April 7, 2023) (May 5, 2023);
- hoisting and rigging problems/incidents during the Blue Dragon *Causal Analysis Report of ACRR* (November 2022);
- unplanned reactor shutdown (December 2, 2022);
- temporary increase in MAR limit, in the approval, the Sandia Field Office (SFO) asked to be notified when higher MAR limits were in effect. But there was no notice to the public. (January 6, 2023); and
- five-ton crane would no longer lower the load (March 3, 2023);

The SFO allowed SNL to exceed the experiment Material at Risk (MAR) administrative limit of the **SPECTRE Phase V and Bambino experiment series** activities. In the approval, SFO asked to be notified when higher MAR limits were in effect. But there was no notice to the public. (July 8, 2022)

An unintentional breach of a **plutonium isentropic compression experiment (Pu-ICE)** container occurred; a worker was exposed and the buffer area was contaminated. (July 8, 2022)

Radiological contamination of a worker during a separation activity for an Isentropic Compression Experiment (ICE) assembly at the **Radioactive Mixed Waste Management Facility (RMWMF)**. (October 7, 2022)

The number of exemptions from standards in the ANSI/ANS Standard-8.3 *Nuclear Criticality Accident Emergency Planning and Response* in the **Sandia Pulsed Reactor/Critical Experiment (SPR/CX) Facility** for the nuclear criticality safety program are concerning, to say the least. (July 8, 2022); new core design (October 7, 2022); documented safety analysis (DSA) (March 3, 2023); installation of a large tarp (marked with an emblem “**W**” that signifies “No Water”) (April 7, 2023);

Tritium outgassing event in Building 720 (February 3, 2023); and

Emergency Management (EM) Drill at Auxiliary Hot Cell Facility at **Technical Area V (TA-V)** (April 7, 2023).

The draft SWEIS must address all of the issues associated with the sites described above.

Waste. The SWEIS is important for the public to understand SNL's environmental role as a key facility in the Department of Energy (DOE) nuclear weapons complex. SNL generates and stores extremely large amounts of hazardous and radioactive wastes.

In the draft SWEIS, SNL must present its plan for reducing the more than 120,000 pounds of hazardous waste produced annually just at the Albuquerque site. Decontamination, decommissioning and demolition (DD&D) of contaminated facilities are ongoing and expected to increase.

The draft SWEIS must include the annual production volumes of waste from DD&D operations, from operationally generated wastes, as well as from bio-hazardous and nanotechnology waste-generating operations and include the disposal pathways.

The toxic, hazardous and radioactive wastes from SNL operations are contaminating the groundwater that serves Albuquerque drinking water wells and pose great threats to public health and the environment. This is true for operations at Technical Area Five (TA-V) where the 1967-era Annular Core Research Reactor (ACRR), the Auxiliary Hot Cell Facility (AHCF), the Tijeras Arroyo, the Mixed Waste Landfill, the Chemical Waste Landfill, and other locations that SNL must fully identify. The draft SWEIS must include a full inventory of the waste generated by each of these facilities, the disposal pathway for that waste and the steps SNL is using to minimize the volume of waste.

Seismic Danger – SNL Buildings Cannot Survive a Large Earthquake. The Annular Core Research Reactor (ACRR) and the Auxiliary Hot Cell Facility (AHCF) are located in a building that cannot survive the large earthquake that can occur in this region. The operation of the ACRR nuclear reactor in the absence of any ventilation containment and no containment vessel must be explained in the draft SWEIS. Operations at the ACRR and AHCF must be terminated at the earliest possible date.

An estimated unacceptably high latent cancer death rate of seven persons per thousand (7 in 1,000) people would occur in a 50-mile radius of SNL. The draft SWEIS must include the seismic and health risk analyses for these old and new nuclear facilities that do not meet seismic standards. The draft SWEIS must provide plans to address the unacceptable cancer risks for those living within a 50 mile radius of Sandia and LANL, with a special analyses of the people living within the areas of the intersection of the two 50-mile radii.

Groundwater. SNL has increased its consumption of groundwater and disposes of more than one million gallons per day of "waste" water into the Albuquerque city sewer system. SNL must identify the sources of "waste" water and consider whether reclamation and reuse is possible.

The draft SWEIS must provide analyses to protect the drinking water aquifer. It must include the current and projected aquifer usage by the City of Albuquerque and compare it to the current and projected use of the aquifer by SNL and Kirtland Air Force Base. The draw down on the aquifer from SNL water usage must be provided in the draft

SWEIS. It must include a description of the economic and environmental impacts from SNL water usage and contamination of groundwater.

The draft SWEIS must describe the groundwater monitoring network, air monitoring and contamination at the Lurance Canyon Burn Site from JP-8 jet fuel and other contaminants that may be present. It must include sampling and monitoring program and results for all springs located at SNL and near SNL facilities at Kirtland AFB.

Air. SNL's ambient air monitoring for radionuclides, including tritium (radioactive tritium), is far less than at other DOE sites even though emissions at those sites may be far less than emissions from SNL. For example, there are only four locations at SNL that monitor alpha and beta radioactivity.

SNL must provide a comprehensive monitoring system to accurately measure radionuclide concentrations. SNL must provide a complete inventory of all radioactive releases from all SNL facilities. Specific isotope analysis for strontium-90, americium-241 and plutonium-238/239/240 must be provided in the draft SWEIS.

Open Burning and Open Detonation of Explosives and Other Hazardous Materials. CCNS opposes the open burning and open detonation (OB/OD) of explosives and other hazardous materials. There are alternatives to OB/OD of hazardous waste. The National Academies of Sciences, Engineering, and Medicine and the Environmental Protection Agency (EPA) have recognized safe alternatives to OB/OD that capture and treat emissions prior to release. EPA is considering revising regulations to promote these safer alternatives. The draft SWEIS must include information about the number of pounds of materials that are OB/OD at SNL as well as disposal pathways for ash and unburned materials. The draft SWEIS must include a new alternatives analyses for OB/OD operations along with a timeline for implementation of alternatives to OB/OD and ending those operations.

Incomplete Documented Safety Analysis (DSA) for Management of Special Nuclear Materials (SNM) at SNL. The Defense Nuclear Facilities Safety Board (DNFSB) found in its March 18, 2005 report that SNL did not have adequate safety bases in place for managing SNM. SNL must describe the continued transportation of SNM to Sandia for experiments and testing. The potential for human exposure and environmental accidents, waste disposal and terrorist activities associated with continued use of SNM at SNL must be analyzed in the draft SWEIS.

CCNS supports the draft SWEIS comments of Citizen Action New Mexico of June 1, 2023 and September 7, 2011, and its March 3, 2010 Comments to Defense Nuclear Facilities Safety Board. CCNS appreciates Citizen Action New Mexico's 2014 analysis of *Unsafe Nuclear Reactor Operations at Sandia National Laboratories*, which is incorporated into these comments. <https://www.radfreenm.org/index.php/sandia-reactor-safety/88-sandia-unsafe-nuclear>

A comprehensive SWEIS is essential to the safe operation of SNL and the protection of the public and the environment.

Thank you for your careful consideration of CCNS's comments. Please acknowledge receipt of CCNS's comments.

Sincerely,

Joni Arends, Executive Director