



New Mexico Environment Department

NMED's Regulatory Scheme for the Plutonium Pit Disposition Program **Rick Shean, Division Director, Resource Protection Division**

Radioactive and Hazardous Waste Committee

August 21, 2023



Los Alamos National Laboratory Plutonium Disposition Program



Plutonium Disposition Program

- **The Hazardous Waste Bureau regulates hazardous and mixed (hazardous and radioactive) waste at LANL through the LANL Hazardous Waste Permit.**
- **To date, NMED has not received any potential permit modifications related to future Pit Production.**



Plutonium Disposition Program

- In December 2022, DOE prepared a draft environmental impact statement (EIS) for the Surplus Plutonium Disposition Program.
- The EIS's proposed action is to implement a disposition process and strategy to securely dispose of 34 metric tons (MT) of plutonium.
- NMED has reviewed the EIS and has identified potential permit modifications that may be needed to implement the disposition plan at LANL



LANL Image credit: Associated Press



Los Alamos National Laboratory Plutonium (Pu) Pit Production Major Facilities

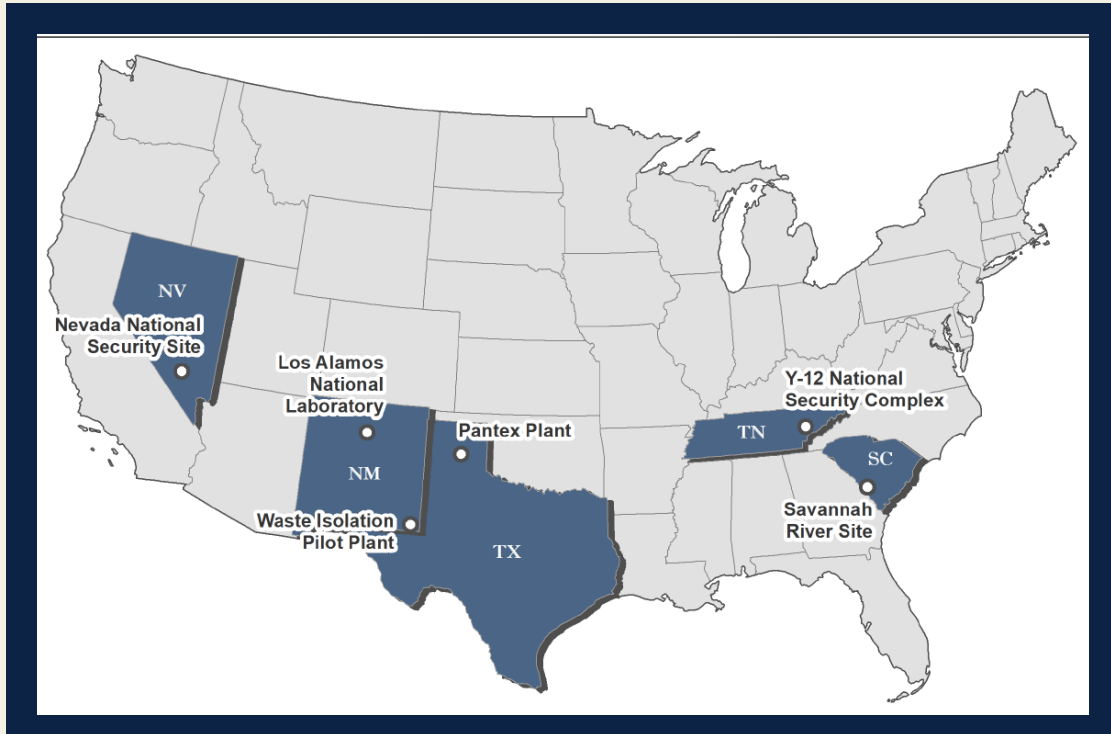


Image credit: DOE Public Hearing Slides EIS 0549, slide #11, 2023-01

- The Impact Statement (EIS) looked at capabilities at the:
 - Savannah River Site (SRS) located in South Carolina
 - Los Alamos National Laboratory located in New Mexico
 - Pantex Plant located in Texas
 - Y-12 Security Complex located in Tennessee, and
 - WIPP located in New Mexico



Two Alternatives

- The EIS proposed two Alternatives:
 - ▣ No Action Alternative, (shown right) or
 - ▣ The DOE Preferred Action, which includes four different sub-actions

II. No Action Alternative (continued management of Pu)	
Step	Location
Pit Management	Pantex & LANL
Non-Pit Metal Processing	LANL or SRS
Dilution	SRS
Characterization & Packaging	SRS
Disposal	WIPP

LANL-Los Alamos National Laboratory
SRS-Savannah River Site
WIPP- Waste Isolation Pilot Plan



The DOE Preferred Alternative

The Preferred Alternative had four (4) Sub-Options

Step in Process	Option 1	Option 2	Option 3	Option 4
Pit Dis-assembly	LANL	LANL	LANL	SRS
Non-Pit Metal Processing	LANL	SRS	LANL	SRS
Dilution	SRS	SRS	LANL	SRS
Characterization & Packaging	SRS	SRS	LANL	SRS
Disposal	WIPP	WIPP	WIPP	WIPP



Option 3: All process at LANL

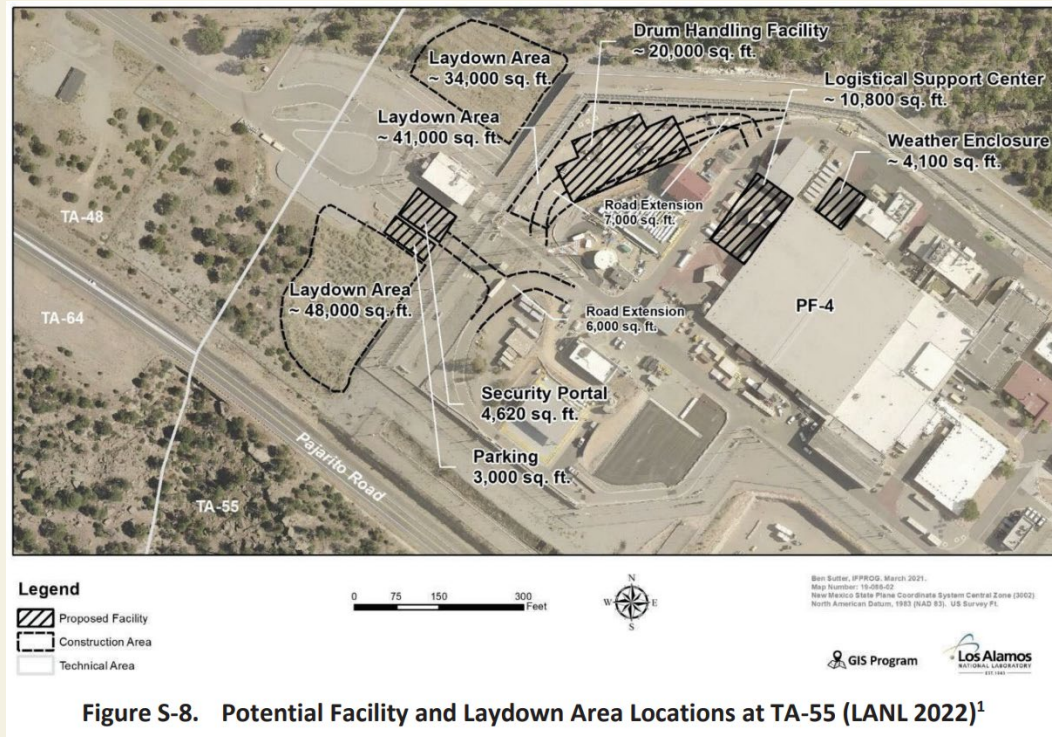
Step in Process	Option 3
Pit Dis-assembly	LANL
Non-Pit Metal Processing	LANL
Dilution	LANL
Characterization & Packaging	LANL
Disposal	WIPP

- Under Option 3, most of the processes would occur at LANL
- The EIS proposed to ship volumes of mixed wastes from other facilities to LANL, LANL does not currently have a permit to receive hazardous waste from other facilities.
- Potential Permit modification may be required and LANL would need to develop a waste acceptance plan and procedure to ensure that waste is compliant with the LANL WAC.
- Dilution of hazardous waste, if conducted, would require a Permit modification.



Permitting Considerations

- The EIS identified “laydown areas” which may need to be added to the LANL hazardous waste Permit as outdoor waste storage areas.
- The figure also indicates the construction of a drum handling facility which may also need to have a hazardous waste permit modification.
- If new permitted units are required, they will need a seismic evaluation and will need to be evaluated if they impact the footprint of pre-existing SWMUs or AOCs.



LANL Image credit: EIS Figure S-8



Permitting Considerations

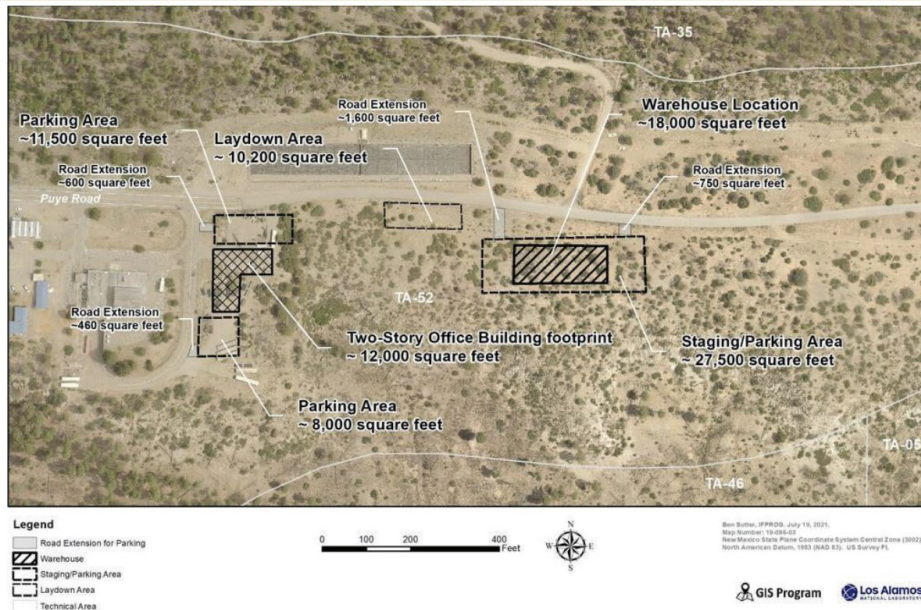


Figure S-9. Potential Facility and Laydown Area Location at TA-52 for the Office Building and Warehouse (LANL 2022)

- If the warehouse in the EIS is used to store mixed hazardous waste, then it would also need to be added as a storage area in the LANL Permit.

LANL Image credit: EIS Figure S-9

NMED Contact Information

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