

2024 Nuclear Deterrence Summit

PIT PRODUCTION

LOS ALAMOS NATIONAL LABORATORY

PRESENTER:

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Plutonium Facility PF4

The only fully operational, full-capability plutonium facility in the nation

Supports stockpile stewardship programs through;

- Pit manufacturing
- Plutonium processing
- Plutonium science
- Subcritical experiments
- Nuclear forensics
- Nuclear counter-terrorism

Supports other national interests through;

- Plutonium-238 heat source fabrication
- Surveillance
- Dismantlement
- Materials management
- Material stabilization and disposition
- Waste processing

Facility Statistics

- Operational in 1978
- Facility size: 236,192 sq ft
- Built to withstand 200-mph winds and earthquake magnitudes in excess of 7.5
- Robust safety and security infrastructure designed to keep the workforce, environment and community safe
- Hazard Category I, Security Category II Nuclear Facility

LANL Pit Production Snapshot

- Pit development cadence has increased with 15 development pit starts over about the last year
- Two important pits providing essential design agency (DA) data were delivered
- The production workforce is growing and becoming proficient
- First copies of new process equipment across the pit production flow sheet have been installed and are reliably producing high quality product
- Difficult technical issues are being resolved
- War Reserve (WR) builds for the stockpile are planned to commence in 2024

MONTH/YEAR	DEVELOPMENT PIT BUILD STARTS
December 2022	2
January 2023	2
February 2023	1
March 2023	0
April 2023	1
May 2023	1
June 2023	1
July 2023	1
August 2023	2
September 2023	1
October 2023	1
November 2023	2
December 2023	0
TOTAL	15

Integrated production and construction execution strategy

Vendors → cold staging / setup → D&D → hot installation



Production, D&D, and installation occurring simultaneously in key PF-4 rooms



Pre-assembly and testing at cold assembly area



D&D legacy glovebox and equipment



Transfer and install in the Plutonium Facility

82 gloveboxes to be installed and 92 legacy gloveboxes removed from PF-4

