



Building 235-F

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Savannah River Site Citizen Advisory Board

Facilities Disposition and Site Remediation Committee



SRS Building 235-F



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Purpose

- Provide information regarding ongoing risk reduction activities in the 235-F Facility
- To fulfill the Facilities Disposition & Site Remediation Committee - 2012 Work Plan topic



Building 235-F

Plutonium Fuel Form (PuFF) Facility



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NNSA
National Nuclear Security Administration

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Agenda

- History of Building 235-F
- Challenges
- Current Plans
- Q & A



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Facility History

- Building 235-F constructed in the 1950's as part of original Savannah River Plant
- PuFF mission was performed 1979 through 1984
- Historical Missions:
 - Special products for Savannah River Site Reactors
 - Special mission heat source fabrication for NASA's missions
 - Plutonium material storage
- Three primary Pu-238 process areas
 - Old Metallurgical Lab
 - Plutonium Experimental Facility
 - Plutonium Fuel Form Cells
- Facility placed in standby mode in 1984



Heat Source



Space Mission



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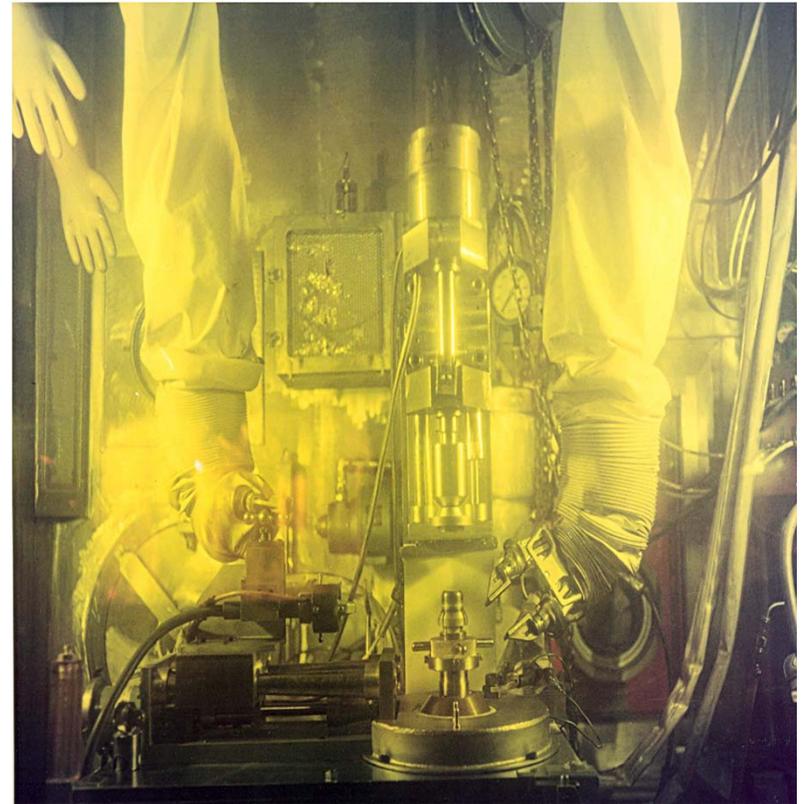
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Plutonium Fuel Form (PuFF) Facility History



Early Construction of 235-F

Interior of a glovebox



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Plutonium Fuel Form (PuFF) Facility History



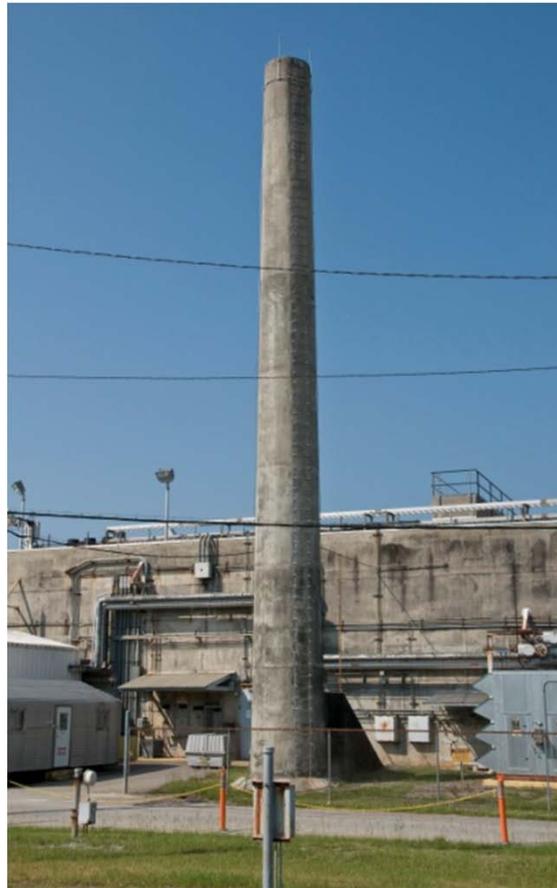
Process Cell

Process Cell



Plutonium Fuel Form (PuFF) Facility History

- Stack Reduction completed June 2010
- Preparing new 235-F Authorization Basis
- Funded by American Recovery and Re-Investment Act



Before: 75 feet



After: 25 feet



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Challenges

- Large amount of residual material.
- Under accident condition (Seismically Initiated Full Facility Fire) with unmitigated dose consequences calculated as approx. 27,000 rem to the onsite/collocated worker at 100 meters and greater than 10 rem (offsite)
- Close proximity to new NNSA facilities
- End state will be determined through a Core Team Agreement



Remote Operations Area



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2012 - 2013 Planned Activities

- Continue Surveillance & Maintenance activities necessary to maintain safety
 - Removal and management of flammable and combustible materials
 - Roof Replacement
- Deactivation planning activities
 - Formation of Integrated Project Team
 - Develop and Implement Safety Basis to support deactivation activities
 - Restore required services to facilitate activities
 - Enhanced characterization of residual material in process cells
 - Perform Pu-238 migration studies to support conceptual model of the closed facility
 - Prepare deactivation alternative analysis
 - Initiate deactivation of cells with less residual material
 - End-State discussions with regulators



2012 - 2013 Planned Activities - continued

- Develop Defense Nuclear Facility Safety Board 2012-1 Response and Implementation Plan (summary of recommendations)
 - Immobilize and/or remove the residual Pu-238
 - Remove all transient and fixed combustibles that are not directly necessary for activities.
 - Ensure all necessary electrical equipment are in a safe configuration.
 - Evaluate operability of early detection and alarm systems
 - Ensure that an integrated emergency response plan is in place
 - Ensure that periodic coordinated drills in response to a simulated event at 235-F are conducted.



Summary

- Continue to perform Surveillance and Maintenance to maintain facility safety
- Continue Deactivation activities and re-evaluate options in consultation with EPA and SCDHEC
- Address deactivation pre-requisites (waste end state determination, Safety Basis revision) while planning work methodology



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QUESTIONS



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