Receive from Pantex

Ship to Pantex

Storage
- Securely store plutonium-bearing items, including residues, oxides, metals, components, and pits.

Receipt and packaging
- Receive and unpack pits from the Pantex Plant near Amarillo, Texas.

Pit disassembly
- Disassemble old pits to recover the plutonium to feed new pit manufacturing.

Metal preparation
- Remove stable and radioactive impurities from the feed plutonium.

Foundry
- Melt, alloy, cast, and anneal pure plutonium into a blank for machining.

Machining & inspection
- Machine cast plutonium and inspect using radiography, dimensional inspection, and density.

Assembly & joining
- Assemble plutonium and nonnuclear shells and perform welding to seal the pit against the environment.

Post assembly
- Perform final inspection and nondestructive testing of the pit.

Pit quality acceptance
- Remove stable and radioactive impurities from the feed plutonium.

Solid waste management
- Stage, characterize, and ship low-level and transuranic waste (which primarily contains tools, gloves, and other items that have been in contact with hazardous materials) to the appropriate disposal site.

Liquid waste management
- Remove radioactive elements from liquid waste streams so that effluent can be discharged to the environment.

Nitrate & chloride recovery
- Dissolve plutonium by-products and residues in acid to recover plutonium from the residue stream.

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Materials characterization
- Analyze plutonium metal samples for physical properties, such as grain size, surface chemistry, and strength.

Analytical chemistry
- Analyze plutonium samples to ensure chemical and isotopic constituents are within specifications.

Machined hemispheres

Finished assemblies

Finished assemblies

Storage

Nitrate & chloride recovery

Nitrate & chloride recovery

Solid waste management

Solid waste management

Liquid waste management

Liquid waste management

Pit disassembly

Metal preparation

Foundry

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Receive from Pantex

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Plutonium Pit Manufacturing

AT LOS ALAMOS