

FY 2005 vs. FY 2004 (\$000)

- **Stockpile Services Research & Development**

This increase reflects support for component testing which is partially offset by reduced stockpile specific experiment activity on the Omega Laser Facility, and reduced scope of work and a schedule delay on ACCORDION Prime subcritical experiments at the Nevada Test Site. + 1,790

- **Stockpile Services Stockpile Management, Technology, and Production**

This increase reflects the court ordered payments to legacy workers for toxic material exposure; increasing support for special component removal and container studies and associated implementation efforts; conducting independent assessment of production plant capacities and capabilities necessary for increased production; producing neutron generator test equipment; procuring special materials to support new limited life component builds; realigning program management for increased emphasis on quality aspects and reactivation of production quality control processes; and reactivation of production quality control processes. + 21,972

- **Stockpile Services Advanced Concepts Initiative**

Funding increase reflects an anticipated increase in programmatic activities. Second full year of funding in this category for all laboratories + 3,000

- **Stockpile Services Robust Nuclear Earth Penetrator Research & Development**

This increase in funding reflects the initiation of various developmental ground tests conducted on the candidate weapon designs in support of the Phase 6.2/6.2A option select + 20,122

Total Funding Change, Directed Stockpile Work + 79,779

and clean-up costs for buildings such as 9201-5 to accelerate footprint reduction.

ACTIVITIES:

WEAPONS ACTIVITIES

Directed Stockpile Work (DSW)

The Y-12 Complex maintains the only capability in the U.S. to fabricate precision parts and components (from certain materials) for nuclear weapons. Every nuclear weapon produced in the U.S. has components that were fabricated at Y-12. Y-12 is also involved in the evaluation of components and subsystems returned from the stockpile, the dismantlement of secondaries, and the processing of recovered special nuclear materials. The Complex is currently in the fourth year of a 4½-year effort, supporting the refurbishment of the W87 Life Extension Program (LEP). Planning is also underway to support future LEPs, such as the B61 First Production Unit (FPU) currently scheduled for February 2006 (Y-12)/June 2006 (Complex) and the W76 currently scheduled for March 2007 (Y-12)/September 2007 (Complex).

Significant FY 2005 activities include: process prove-in for the B61, preparation for the W76 FPU, and continuation of evaluation and dismantlement activities.

Science Campaign

Planned FY 2005 projects include: evaluate material properties for ceramics, evaluate historical information on U-6Nb and Enriched Uranium (EU) properties and determine material properties, and evaluate effect of proposed process changes on Fogbank material properties.

Engineering Campaign

Planned FY 2005 projects include: developing weapon specific aging models, evaluation and process development for non-destructive laser gas sampling system and enhanced low-temperature thermal decomposition system, evaluate corrosion mechanisms for metals of interest, and continue special material characterization.

Advanced Simulation and Computing (ASCI) Campaign

Planned FY 2005 projects include: integrated monitoring of Y-12 application availability and network performance, and inter-network infrastructure to support data accessibility.

Readiness Campaign

Planned FY 2005 projects include: Zone Refining, Enclosed Hazardous Material Processing, Chip and Coolant, Alternate Feed Study, Sensors for Holdup, IR Heating of Uranium, Manufacturing Engineering Integrated Desktop, Agile Machine Tool, Materials Knowledge Repository, Casting Process Science Basis, and Advanced Metrology Platform.

Readiness in Technical Base and Facilities (RTBF)

Key activities in FY 2005 include the continued safe operation of the major Y-12 production facilities and preparation for material transfer to the Highly Enriched Uranium Materials Facility (HEUMF) when completed. In addition, the Purification Facility Construction project is currently underway at Y-12 and the Beryllium Capability project begins design in FY 2004 and construction in FY 2006.