



Environmental Test Facilities

What are Environmental Test Facilities?



Environmental Test Facilities (ETFs) are used to perform physical testing and simulations of a variety of natural and induced environments on nuclear weapons components, subsystems and weapons (with or without special nuclear materials [SNM]). Additionally, ETFs are used for stockpile surveillance, resolving significant findings, computer model development and validation, and the development of diagnostics and measurement technologies required to quantify weapon system response to simulated stockpile environments. These facilities include: controlled atmosphere test chambers; sled tracks; centrifuges; aerial cable facilities; burn sites; shock, vibration, and electromagnetic test facilities; radiation testing sites; aeroscience and wind tunnels; and laboratories for component testing.

Why are ETFs needed?

Nuclear weapons go through a life cycle of fabrication, storage, deployment, back into storage, and eventual dismantlement. The behavior of weapons in all of these environments must be understood. ETFs are used by NNSA to generate data to support rigorous engineering analysis to verify and validate designs. This analysis is used to help certify the nuclear weapons stockpile. The use of these facilities helps to assure that weapons are safe and reliable.

Where does NNSA currently conduct Environmental Testing?

Currently NNSA conducts environmental testing at eight NNSA locations: Lawrence Livermore National Laboratory (LLNL), Los Alamos National Laboratory (LANL), Sandia National Laboratories (SNL), the Nevada Test Site (NTS), Pantex Plant, Kansas City Plant, Savannah River Site, and the Y-12 Site. The Complex Transformation Supplemental Programmatic Environmental Impact Statement (SPEIS) focuses on a subset of base and system ETFs, referred to as “major” ETFs, that are costly to maintain or have potentially significant environmental impacts. Major ETFs are located at SNL/NM, LANL, LLNL, and NTS.

What are the alternatives NNSA is evaluating for performing this work?

The No Action Alternative evaluates continued operations at all sites and either maintaining or upgrading existing facilities to meet current safety and security standards. The Downsize-in-place Alternative evaluates elimination of unneeded and redundant capabilities and phasing out aging and unused facilities at sites performing major environmental testing. The Consolidate ETF Capabilities at One Site Alternative evaluates constructing new facilities at the consolidation site (NTS or SNL/NM), as well as the option of moving LLNL Building 334 ETF capabilities to Pantex. NNSA’s preferred alternative is to consolidate major environmental testing at SNL/NM. LANL and LLNL major ETF’s would close by 2010-2012. LLNL Building 334 ETF capabilities would move to Pantex by 2012.

For further information contact:

Mr. Theodore Wyka
Complex Transformation SPEIS Document Manager
Office of Transformation, NA-10.1
U.S. Department of Energy/NNSA
1000 Independence Avenue, SW
Washington, DC 20585

Phone: (800) 832-0885 (ext. 63519)
E-mail: complextransformation@nnsa.doe.gov
Website: <http://www.ComplexTransformationSPEIS.com>