Nonproliferation Test and Evaluation Complex (NPTEC)

Introduction

The Nonproliferation Test and Evaluation Complex (NPTEC) is used as a research and demonstration facility that is available on a user-fee basis to private and public sector test and training sponsors concerned with the safety aspects of hazardous materials.

NPTEC hosts a wide range of research and training activities using hazardous materials, including remote sensor testing, dispersion model verification, mitigation technologies, advanced hazardous materials and Weapons of Mass Destruction training.

Location

NPTEC is located on Frenchman Flat, a natural geological basin. It is the largest facility for open-air testing of hazardous materials and biological simulants in the world. The topography, wind predictability and location offer a secure, controlled environment for small- and large-scale hazardous materials' testing and training.

NPTEC provides:

- Secure test beds;
- Logistics;
- Execution support for customers to utilize during project execution; and

Chemical/Biological/Explosive Test Beds

NPTEC is ideally suited for test sponsors to conduct field verification/validation of their technology in a realistic environment. The topography, wind predictability and location offer a secure, controlled environment for small- and large-scale hazardous materials that are being tested and trained upon. All of these projects are conducted within environmental and safety regulations.
• An aircraft take-off and landing strip on Frenchman Flat.

- Manned and unmanned aircraft include groups one through five, fixed- and rotor-wing Unmanned Aerial Vehicle (UAV) and Unmanned Aerial System (UAS), with some small UAV dropped from the General Atomics MO-9 Reaper (aka Predator) wing. These aircraft take off and land at NNSS runways, heliports and Frenchman Lake. These manned aircraft and different types of Group 1 through 5 UASs/UAVs have an anticipated overflight mission above NPTEC. UAS and UAV may have hazardous materials onboard that can be released at various altitudes.

NPTEC is authorized to:

• Class one through four lasers, as long as they are operated per a laser safety operating permit.

• Receive, stage, store, handle and perform a planned release of six known bio-simulants.

• Use radioactive materials (such as uranium oxides) as display targets and hazardous chemicals (such as hydrogen fluoride) at the Solids Area. This operation includes placing radioactive materials exposed to the environment in a manner consistent with a radioactive material and hazardous chemicals release or loss of confinement event in a DOE nuclear facility.

• Have rail cars (passenger or industrial) or other transportation vehicles to use in various experiments, including energetic release of hazardous materials of any of the above, separately or in combination.

• Provide the controlled release of hazardous and/or toxic materials into the atmosphere to experimentally simulate real-life accidents (gas propulsion, spill/release, etc.).