National Security

Test Readiness

Nevada National Security Site

Introduction

When the Nevada Test Site (known then as the Nevada Proving Ground) was established in 1951, it provided an important on-continent proving ground for the U.S. nuclear weapons program. One-hundred atmospheric nuclear tests occurred at the test site between 1951 and 1963. When the United States entered into the Limited Test Ban Treaty, which prohibited nuclear testing in the atmosphere, outer space, and underwater in 1963, all testing moved underground. Between 1951 and 1992, 828 underground nuclear tests were conducted in specially drilled vertical holes, vertical shafts, and horizontal tunnels at the Nevada Test Site, now known as the Nevada National Security Site (NNSS).

Preparations for an underground nuclear test at Icecap tower in 1992 were halted after President Clinton signed the CTBT.

In 1992, President Bush instituted a moratorium on nuclear testing; and in 1996, President Clinton signed the Comprehensive Test Ban Treaty (CTBT) banning all nuclear weapons test explosions. However, since the underground test moratorium, each administration has maintained the capability to execute an underground nuclear test.

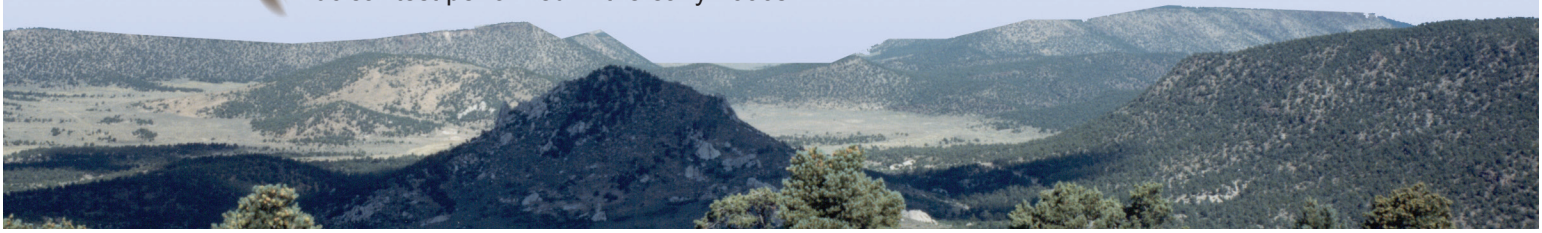
Background

In order to certify the safety and reliability of the nation's nuclear stockpile without nuclear testing, computer models and advanced experimental capabilities are continuously developed as part of the science-based Stockpile Stewardship Program. The Stockpile Stewardship Program was formed to provide increased predictive capability of nuclear weapons performance. Key components on the Stockpile Stewardship Program, such as subcritical experiments at the NNSS, have helped to maintain many but not all of the skills and other elements necessary to execute an underground nuclear test.

The Major Elements of the Test Readiness Program

The Test Readiness Program ensures that the United States will be able to resume underground nuclear testing within a designated time frame. An underground nuclear test may be safely executed within an established period of time by maintaining critical personnel, equipment, and infrastructure resources, however, the cessation of underground nuclear testing in 1992 created a new set of challenges in maintaining test readiness.

One challenge is the application of newer advanced technology, diagnostics, and equipment that replaced outdated equipment used in the past. New methods of recording data are being tested and evaluated, and new technology is being integrated with resurrected equipment so there is no noticeable difference in test data between a future underground nuclear test and an underground nuclear test performed in the early 1990s.



Since the 1990s, many of the personnel with key skill sets utilized during an underground nuclear test are retired. To impart the knowledge of retiring personnel, the National Nuclear Security Administration Nevada Site Office (NNSA/NSO) created a mentor program where knowledge may be passed from experienced scientists and engineers to a new group of scientists and engineers who may be too young to have participated in the last underground nuclear test in 1992. NNSA also maintains a cadre of retired scientists and engineers who may be needed on a part-time basis to support a return to nuclear testing. A retiree corps, composed of retirees with necessary identification and information, is also available to access archived technical information, data, and recollections in areas related to weapons disassembly and nuclear weapons testing; assist in stockpile stewardship activities as required; and train replacement scientists and engineers.

Reviewing readiness

Specific guidance for Test Readiness Program implementation activities for each fiscal year is provided by NNSA Headquarters based on available funding.

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