

Technology Division

...at the Nevada Test Site

Overview

The Technology Program serves Environmental Management by pursuing safer, more efficient, and more cost effective technologies to conduct environmental cleanup and waste management activities at the Nevada Test Site (NTS). The program also supports the University and Community College system of Nevada for research projects involving environmental sciences. The following components are currently part of the Technology Program:

Technology Development

The *Technology Development* function identifies innovative technologies to meet the technical challenges of Environmental Management's remediation and waste management efforts. Technology development staff members research the latest advancements in monitoring, soil cleanup, waste reduction, for example, to determine which advancements are relevant and suitable to NTS projects. Numerous advanced technologies have been applied at the NTS, including the hydraulic shears equipment used to dismantle contaminated structures and the Personal Ice Cooling suit designed to protect workers from extreme heat when working in hot, desert climates.



Advanced Monitoring Systems Initiative

The *Advanced Monitoring Systems Initiative (AMSI)* project's goal is to help remove the technical and institutional barriers that often prevent advanced, field-ready sensors and sensor-based monitoring systems from being tested and approved. These systems can be used at remote Environmental Management sites to monitor air or soil for moisture, gases, contaminants, etc. These systems also can be set up to perform remote data retrieval.



Developing sensor-based monitoring systems is often hindered due to the cumbersome testing and evaluation stages of development. AMSI works to integrate efforts by providing commercial and federal entities unique facilities at the NTS to conduct all evaluation activities. Advanced sensor systems now being tested at the NTS include those that detect tritium and technetium-99 as well as volatile organic compounds.



National Environmental Research Park

In addition to hosting numerous U.S. Department of Energy (DOE) projects and missions, the vast NTS also serves as a fascinating outdoor laboratory for the academic community. Through cooperative agreements with the University of Nevada, Las Vegas and the University of Nevada, Reno, the *National Environmental Research Park* Program (as it is called) provides professors and graduate students opportunities to conduct research at the NTS. Researchers, who are encouraged to focus their efforts on environmental management technology needs, have developed such promising innovations as the tritium monitor to be used by the Underground Test Area Project – the group that is evaluating groundwater at the NTS.



The Future

As the DOE's Nevada Site Office works to accelerate cleanup at historic nuclear testing sites, technology development will play an essential role in finding smarter, more efficient ways to meet this challenge. Through its work with Nevada Universities, the site office will also encourage the development of research expertise within the state. Its efforts in the area of sensors and monitoring systems will become even more significant as the DOE moves from active cleanup to stewardship at sites where those activities have been completed.

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