

Instilling Public Confidence in Environmental Cleanup

Capabilities in Environmental Surveys and Cleanup Verification

- Provide independent verification of environmental cleanup initiatives, using state-of-the-art field survey technology to evaluate final site conditions and to validate a contractor's final status survey procedures
- Perform characterization surveys, designed using the data quality objectives process and including surface scans for gamma radiation, non-destructive assay (NDA) measurements of surfaces and piping, and soil sampling and analysis
- Manage a radiochemistry laboratory specifically designed for analysis of environmental samples and unique matrices
- Provide health physics services, including applied health physics evaluations, audit services, and standards development
- Lead radiation sciences training, involving hands-on, laboratory-based courses on a variety of health physics topics

FY08 by the Numbers

- 2,619 —Number of samples processed by the radiochemistry laboratory
- 261—Number of people trained through ORAU's Professional Training Programs
- 19—Sites where independent verification was performed

DOE and other federal agencies spend billions of dollars cleaning up contaminated sites each year and need assurances that federal release criteria have been met. The ultimate safety of these buildings and lands is of paramount concern for the public and future stakeholders of these properties as well. ORAU is the nation's leading provider of independent verification surveys of environmental cleanup, greatly enhancing public trust and instilling confidence in the decontamination and decommissioning of contaminated sites.



Customers and Partners

- U.S. Department of Energy (DOE)
- U.S. Nuclear Regulatory Commission (NRC)
- U.S. Department of Homeland Security (DHS)
- Pennsylvania Department of Environmental Protection

Ensuring Confidence in Environmental Cleanup through Characterization and Independent Assessments

Each year, radioactively contaminated sites across the country are cleaned up for government reuse or for release as public lands. Whether it is an accelerated cleanup project at a former DOE weapons production facility or the decommissioning of an old nuclear reactor for the NRC, federal agencies need assurances that release criteria have been met.

These agencies also want to ensure the public's confidence that decontamination or remediation work has been properly completed, that no corners have been cut, and that the buildings and lands are safe, especially when the property is to be released for industrial or other private-sector use.

From characterizing a site's contamination prior to cleanup to independently verifying that the cleanup has been successfully completed, ORAU offers an integrated approach to environmental assessment and cleanup verification. To complement this, ORAU also applies the highest standards in health physics to provide comprehensive training in and standards development for the radiation sciences.

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2008 Key Accomplishments

- When DOE needed to quantify the amount and level of radionuclides remaining in the process piping at the former K-25 site, ORAU used a specialized, *in situ* gamma spectrometry measurement system to determine—without having to perform physical sampling—how much U-235 remained after the contractor had performed the chemical decontamination of the piping. The findings, which found that the uranium deposits were low enough to ensure a criticality accident could not occur during demolition activities, ultimately provided assurance to DOE and its stakeholders that the decontamination work was accurate and acceptable.
- ORAU personnel chaired the national standards committee to develop the ANSI N13.59 standard, which provides guidance for performing characterizations of land areas—such as soils, surface and ground water, and vegetation—and structures or building construction materials, in support of decommissioning.
- When the NRC realized that a number of its regulatory guides had become outdated, ORAU provided recommendations in radiological training and the “as low as reasonably achievable” (ALARA) philosophy, which establishes guidance to minimize the sustained risk of radioactive exposure. The technical approaches will enable the NRC to update existing guidance and will serve as a valuable reference as new power plants are established across the nation.

