

Radioactive Waste Measurement Services

Introduction

ANTECH is a world leader in the design, supply and operation of equipment for measuring radioactive waste. Our staff has extensive experience in providing Measurement Services and Technical Support at customer sites, including:

- Supply and lease of measurement and characterisation equipment and waste container handling equipment
- Measurement instrument operation staff
- Data analysis and review (including data certification to national standards)
- On-site technical and instrument calibration support
- On-site maintenance

ANTECH is able to deploy gamma ray, neutron and calorimetry measurement systems. ANTECH has experience in the measurement and characterisation of a wide variety of radioactive waste, including waste containing Special Nuclear Material (uranium, plutonium and tritium). ANTECH systems are designed to measure contact and remote handled waste including:

- Exempt and Very Low Level waste (VLLW)
- Low Level Waste (LLW)
- Intermediate Level Waste (ILW)
- Transuranic Waste (TRU)
- LLW / TRU segregation and LLW characterisation
- Remote Handled (RH) Waste



ANTECH provides a comprehensive radioactive waste measurement and data analysis service that meets regulatory requirements in the US and in Europe. ANTECH personnel are experienced in all aspects of waste measurement including gamma ray spectroscopy analysis, active and passive neutron counting and the interpretation to matrix effects and other factors contributing to measurement errors. They have performed measurements of LLW, ILW, TRU, tritium and uranium at a variety of sites in Europe and the USA. At the Hanford Site (USA) ANTECH has been responsible for segregating, sentencing and characterising in excess of 7,500 drums of LLW and TRU waste. ANTECH has also measured Remote Handled (RH) waste at the Alpha Gamma Hot Cell Facility at the Argonne National Laboratory (USA).

Our proven expertise in waste characterisation uniquely qualifies our personnel in the development of measurement protocols to meet a wide range of characterisation and regulatory requirements. ANTECH personnel are experienced in satisfying industry standard waste acceptance criteria (WAC), data quality objectives (DQA) and in meeting site specific operating and waste handling procedures and controls.

Measurement Data Analysis Procedure

1. Establish measurement data quality objectives
2. Develop measurement procedures
3. Create measurement data review protocols
4. Prepare measurement data reports with flexible formats to suit specific customer requirements
5. Ensure measurement data compliance through program quality assurance and data quality objectives

Measurement Data Collection and Analysis

ANTECH personnel are qualified to perform all of the data collection and analysis functions necessary to prepare measurement data and analysis reports:

- Operate gamma ray and neutron detectors in a variety of data collection platforms
- Perform expert analysis of gamma ray and neutron measurement data
- Verify data analysis through independent technical reviews
- Report data collection, analysis, and review using electronic media that meets customer requirements

Measurement Data Analysis Reports

ANTECH produces measurement reports that quantify the radionuclide content of waste containers using gamma ray, neutron and calorimetry measurement techniques.

Our isotopic analysis reports meet regulatory compliance and documentation requirements in the US and in Europe and are tailored to meet our customers' specific requirements and specifications.



ANTECH Expertise

ANTECH's extensive experience in non-destructive assay operations at nuclear sites and nuclear material production facilities makes us particularly qualified to assist customers with:

- Developing and deploying measurement systems
- Routine measurement operation protocols
- Off-normal condition reports
- Troubleshooting, maintenance, instrument calibration and recovery plans
- Providing and supporting measurement quality assurance programs and meeting data quality objectives

Our expertise includes the capability to assist users in preparing for audits, establishing compliance justifications (including comprehensive measurement error analysis) and documenting measurement results and procedures.

