

# Irradiated Material Examination and Testing Facility



## Who We Are

The Irradiated Material Examination and Testing (IMET) Facility, Building 3025E, was designed and built in 1950 as a hot cell facility. It is a block-and-brick structure with a two-story high bay and houses six heavily shielded cells and 60 shielded storage wells. It includes the Specimen Prep Lab (SPL) with its associated laboratory hood and glove boxes; an operating area, where control and monitoring instruments supporting the in-cell test equipment are staged; a utility corridor; a hot equipment storage area; a tank vault room; office space; a trucking area with access to the high bay; and an outside steel building for storage. Tests and examinations are conducted in six dedicated hot cells and in a laboratory hood or modified glove boxes in the SPL.

## What We Do

- Physical and mechanical properties testing
- Examination of irradiated materials
- Irradiated specimen storage
- Sample preparation

## In-Cell Capabilities

- Sample sorting and identification
- Sample machining using a CNC milling machine and diamond saws
- Furnace annealing
- Automated welding
- Ultrasonic cleaning
- High-temperature, high-vacuum testing
- Tensile testing with high-vacuum chamber option
- Impact testing, fatigue and fracture toughness testing of standard and subsize impact specimens
- Automated micro-hardness testing
- Profilometry
- Scanning Electron Microscopy (PhilipsXL30)

## Specifications



6 hot cells



Lead glass and mineral oil



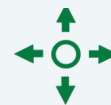
High-density concrete used for front, rear, and top shielding



Process and service compressed gases, air, demineralized water, process water, recirculating heating and cooling water, steam, vacuum, and electrical services



Transfer drawers between cells 1-4



Master-slave manipulators



Wesley Keeton  
Facility Manager  
865.574.0609