

Hot Machine Shop

BWXT Nuclear Energy, Inc. (BWXT) Radioactive Material Machine Shop (known as the “Hot” Machine Shop or HMS) is fully equipped with the machine tools necessary to machine radioactive and non-radioactive parts and specimens from all types of materials.

Included in the HMS is an optical comparator to ensure proper dimensioning. In addition to this equipment, shielding has been erected to permit machining of radioactive specimens out of cell. If samples are emitting high dose rates, they can be transferred to the hot cell facility for rough machining to a size and radiation level that will allow handling in the HMS. The hot cell facility is equipped with a remote bench top mill and remote cut off saws for this purpose.



CNC electrical discharge milling machine



Precision abrasive cut-off saw



Vertical CNC milling machine

Equipment

- Three EDM Machines (CNC)
 - Two in radioactive area
 - One in non-radioactive area
- Vertical Milling Machines (CNC)
 - One in radioactive area
 - One in non-radioactive area
- Large capacity vertical band saw
 - Horizontal band saws
- Lathes
- Abrasive cut-off saws
- Diamond saw
- QA instrumentation

Services

The HMS equipment has been used to produce a variety of mechanical property specimens including:

- Charpy specimens
 - Full size
 - 1/2 size
 - 1/3 size
 - 1/4 size
- Reconstituted full size charpy specimens
- Full size tensile specimens
- Miniature tensile specimens
- Compact tension specimens

The HMS has also prepared samples for analytical evaluations, such as:

- Transmission electron microscopy
- Positron annihilation
- Atom probe field-ion microscopy
- Small angle neutron scattering



Sectioning Control Rod Drive Mechanism (CRDM) nozzle and surrounding reactor vessel head material on large capacity vertical band saw. Blade angle range is $\pm 45^\circ$ (inset)

NUCLEAR ENERGY

GOVERNMENT SERVICES

ADVANCED TECHNOLOGIES

Headquartered in Lynchburg, Va., BWX Technologies, Inc. (BWXT) is a leading supplier of nuclear components and fuel to the U.S. government; provides technical, management and site services to support governments in the operation of complex facilities and environmental remediation activities; and supplies precision manufactured components and services for the commercial nuclear power industry. BWXT has more than 5100 employees and significant operations in Lynchburg, Va.; Erwin, Tenn.; Mount Vernon, Ind.; Euclid, Ohio; Barberton, Ohio; and Cambridge, Ontario, as well as more than a dozen U.S. Department of Energy sites around the country. Follow us on Twitter @BWXTech and learn more at www.bwxt.com.

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