

EFF includes uranium metal forming equipment, including a CNC lathe, Electrical Discharge Machine, and a cold rolling mill.



Experimental Fuels Facility

The Experimental Fuels Facility at INL's Materials and Fuels Complex hosts a number of new capabilities. EFF is a 5,000-square-foot nuclear fuel fabrication facility where fuel and material samples are fabricated for irradiation in research reactors such as INL's Advanced Test Reactor. Later examination using other MFC resources such as the Hot Fuels Examination Facility, the Irradiated Materials Characterization Laboratory and the Analytical Laboratory provide new data to inform better, safer fuel designs.

Using the footprint of an existing radiological storage building, EFF was established in 2012 to house several new fuel fabrication and material handling capabilities that

support INL's mission as the nation's lead nuclear energy research laboratory.

The increasing demand for space to accommodate new fabrication equipment drove an effort to overhaul EFF for its

new mission. Upgrades to the building's east end are complete, and work is well underway to prepare utility infrastructure for additional fabrication equipment in the west half.

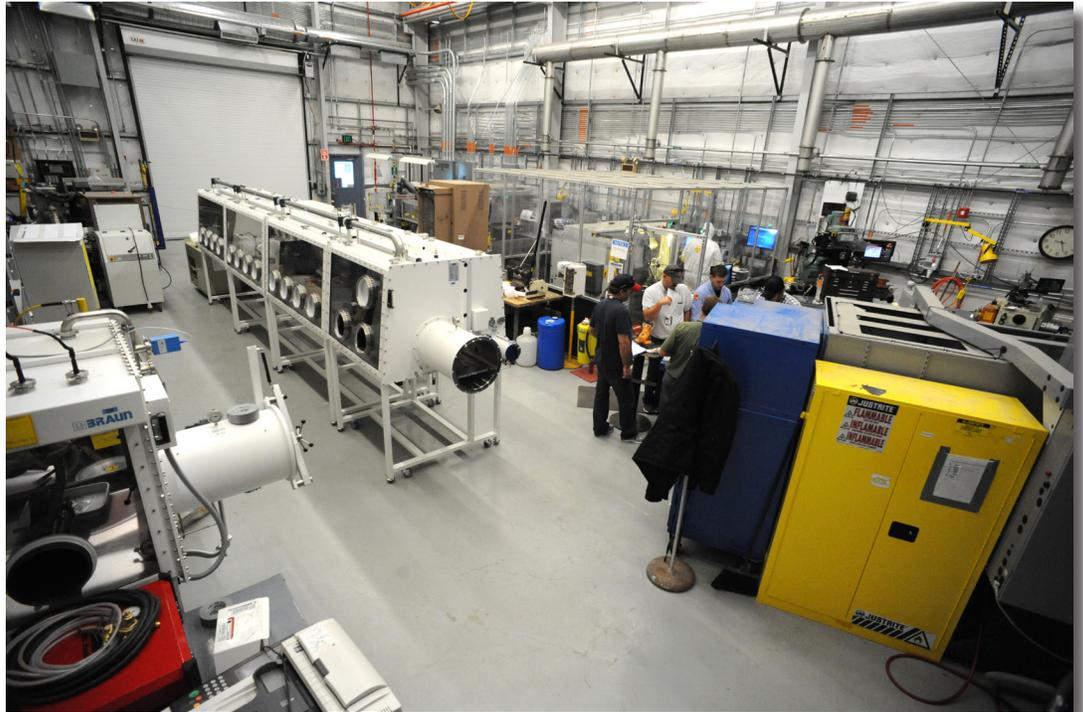
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The fuel and material samples fabricated in EFF are eventually irradiated and later examined in other MFC facilities.

The Energy of Innovation





When completed, EFF's capabilities will further expand INL's already wide array of co-located facilities for supporting every stage of the nuclear energy research & development cycle.

For more information

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Continued from previous page

While some new equipment is still being installed, several new fabrication capabilities are already supporting customers in the Department of Energy's Office of Nuclear Energy and private industry. When completed, EFF will

host many new capabilities to help the nation develop safer, more reliable nuclear fuels.

Key Capabilities

- Uranium metal forming equipment, including a CNC lathe, Electrical Discharge Machine, and a cold rolling mill

- Purified inert-atmosphere glovebox and automated orbital welding for experiment encapsulation and assembly
- Uranium compound processing glovebox line
- Hot isostatic press (HIP)
- Various other hoods, mills, presses, sintering furnaces and other fabrication capabilities to support advanced fuels development

Additional capabilities for second phase of EFF upgrades

- 150-ton extrusion press system
- Hydraulic straightener/draw bench
- Gun drilling equipment
- Sodium handling glovebox
- Sodium settling furnace
- Other fuel fabrication assembly equipment

The Experimental Fuels Facility capabilities include machining fuel samples directly, using either high- or low-enriched uranium.

