

*The Irradiation-Assisted Stress Corrosion Cracking hot cell is located in FASB's west room.*



## Fuels and Applied Science Building

**T**he Fuels and Applied Science Building (FASB) is a radiological facility that houses small hot cells, gloveboxes, hoods, and other equipment that support nuclear energy research and development. This equipment complements a host of capabilities within the Materials and Fuels Complex at Idaho National Laboratory. FASB provides numerous capabilities needed to support research and development related to nuclear fuel as an alternative for reactors, used fuel treatment options, nuclear waste management, and other scientific activities.

The FASB west room contains inert atmosphere gloveboxes used for developing low-enrichment fuels, treating

waste from glovebox operations, working with corrosive materials, and testing equipment that will be used in other facilities. The

most recent addition is the Irradiation-Assisted Stress Corrosion Cracking hot cell.

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*The capability to perform Stress Corrosion Cracking tests on irradiated materials is a valuable tool for INL and its research partners.*

*The Energy of Innovation*

**For more information**

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*In addition to the Gamma Irradiation Test Loop shown here, FASB contains inert atmosphere gloveboxes used for fuel development, treating waste from other glovebox operations, and testing equipment that will be used in other facilities.*

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This addition supports several program customers through the Department of Energy's Nuclear Science User Facilities program to perform crack growth rate measurements on irradiated structural materials to support light water reactor life extension.

The east room contains processing areas, work control areas, offices and a characterization area under the mezzanine.

**Key Capabilities**

- Irradiation-Assisted Stress Corrosion Cracking hot cell
- 4 inert atmosphere gloveboxes
- 5 radiological hoods
- Thermal characterization instruments (laser flash, dilatometer, differential scanning calorimeter)

- Cobalt-60 gamma irradiator
- Lab-scale molten salt electrorefiner
- Lab-scale fabrication equipment (hot isostatic press, arc melting furnace)
- Metal and ceramic powder processing equipment (atomizer, milling, mixing, pressing/sintering)
- Numerous heat treating and sintering furnaces



*FASB houses small hot cells, gloveboxes, hoods, and other equipment that supplements the post-irradiation examination, fabrication, and other nuclear energy research capabilities at the Materials and Fuels Complex.*