INL/MIS-23-74400-Revision-0

Lab - NHS Condensed Version

August 2023

Bryon P Marsh

Changing the World's Energy Future

Idaho National Laboratory

INL is a U.S. Department of Energy National Laboratory operated by Battelle Energy Alliance, LLC

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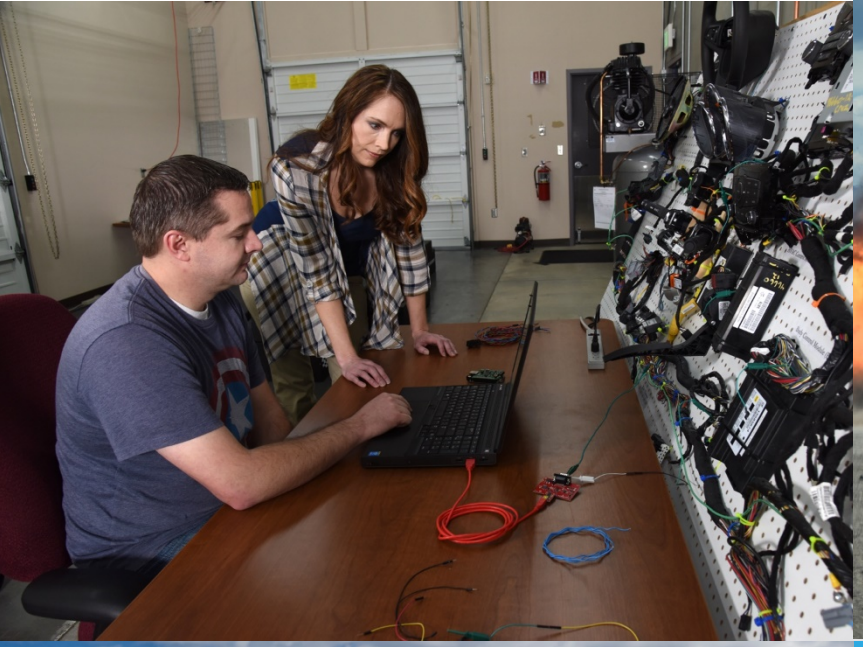
Prepared for the
U.S. Department of Energy
Under DOE Idaho Operations Office
Contract DE-AC07-05ID14517



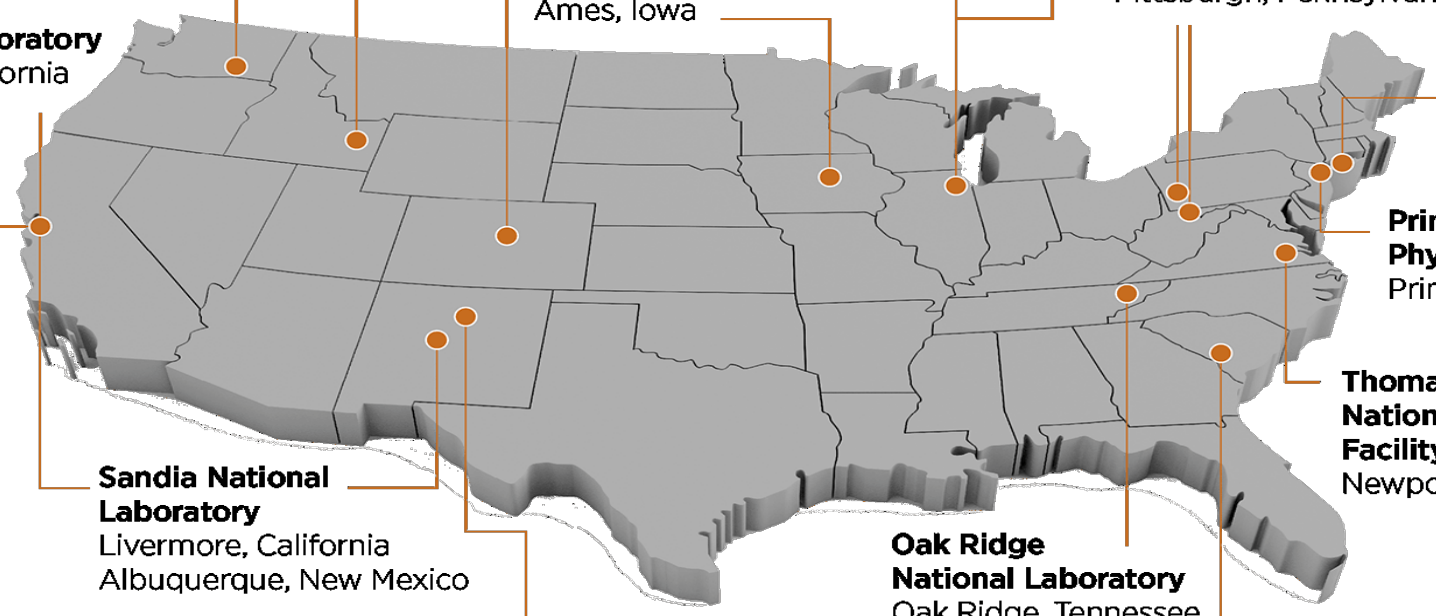
June 2023

Bill Kiestler
Chief Operations Officer

Idaho National Laboratory
National & Homeland Security

Idaho National Laboratory

National Laboratories



Idaho National Laboratory
Idaho Falls, Idaho

National Renewable Energy Laboratory
Golden, Colorado

Fermi National Accelerator Laboratory
Batavia, Illinois

Brookhaven National Laboratory
Upton, New York

Pacific Northwest National Laboratory
Richland, Washington

Argonne National Laboratory
Argonne, Illinois

National Energy Technology Laboratory
Morgantown, West Virginia
Pittsburgh, Pennsylvania

Ames Laboratory
Ames, Iowa

SLAC National Accelerator Laboratory
Menlo Park, California

Princeton Plasma Physics Laboratory
Princeton, New Jersey

Thomas Jefferson National Accelerator Facility
Newport News, Virginia

Sandia National Laboratory
Livermore, California
Albuquerque, New Mexico

Oak Ridge National Laboratory
Oak Ridge, Tennessee

Lawrence Livermore National Laboratory
Livermore, California

Los Alamos National Laboratory
Los Alamos, New Mexico

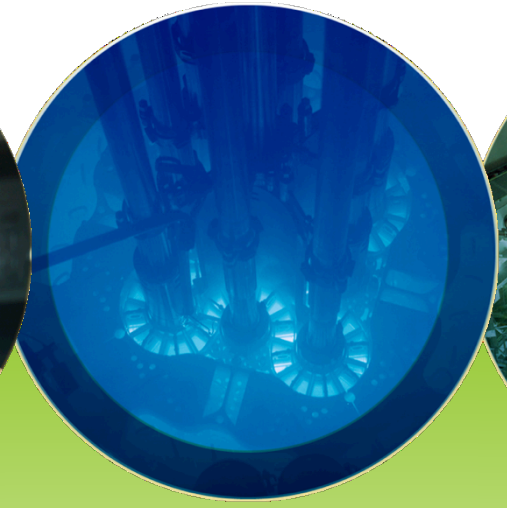
Lawrence Berkeley National Laboratory
Berkeley, California

Savannah River National Laboratory
Aiken, South Carolina

INL is Positioned to Address the World's Energy and Security Challenges

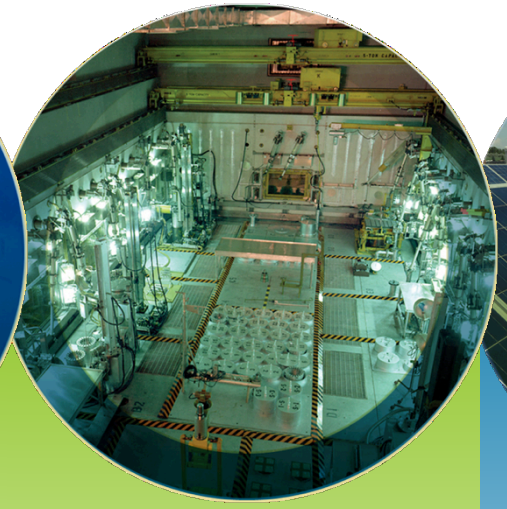
Nuclear S&T

- Advanced reactor design and optimization
- Nuclear fuels and materials
- Fuel cycle technologies
- Light water reactor fleet sustainability



Advanced Test Reactor

- Steady state neutron irradiation of materials and fuels
  - Naval Nuclear Propulsion Program
  - Industry
  - National laboratories and universities



Materials and Fuels Complex

- TREAT – Transient testing
- Analytical laboratories
- Post-irradiation examination
- Advanced characterization
- Fuel fabrication
- Space nuclear power and isotope technologies

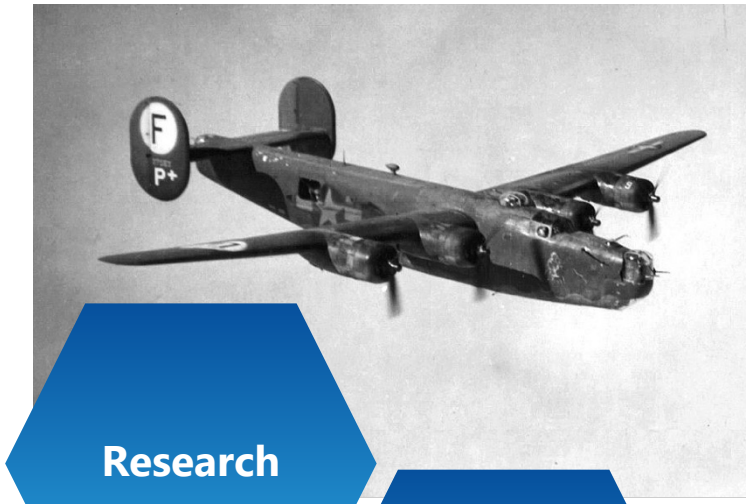
Energy and Environment S&T

- Advanced transportation
- Environmental sustainability
- Clean energy
- Advanced manufacturing
- Biomass

National and Homeland Security S&T

- Critical infrastructure protection and resiliency
- Nuclear nonproliferation
- Physical defense systems

National & Homeland Security History

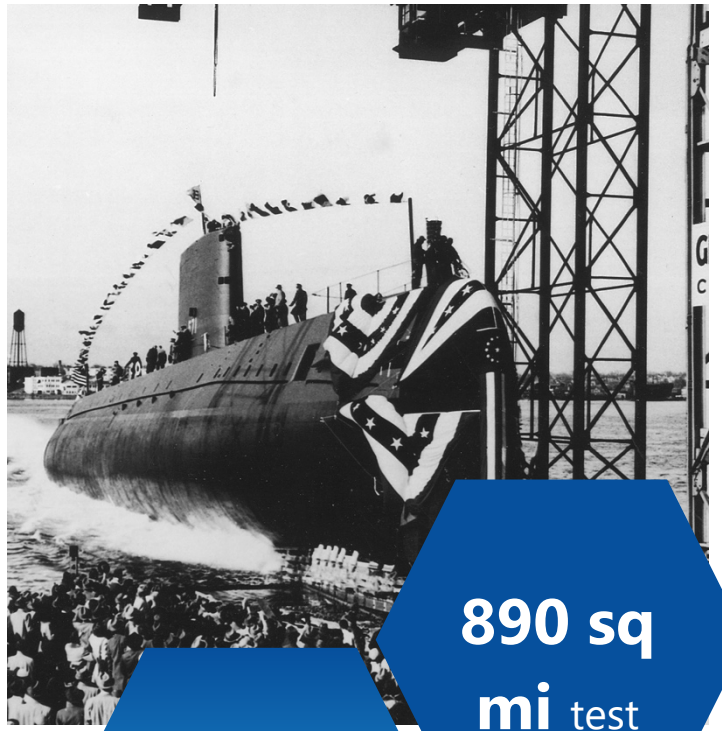


Research

Development

Demonstration

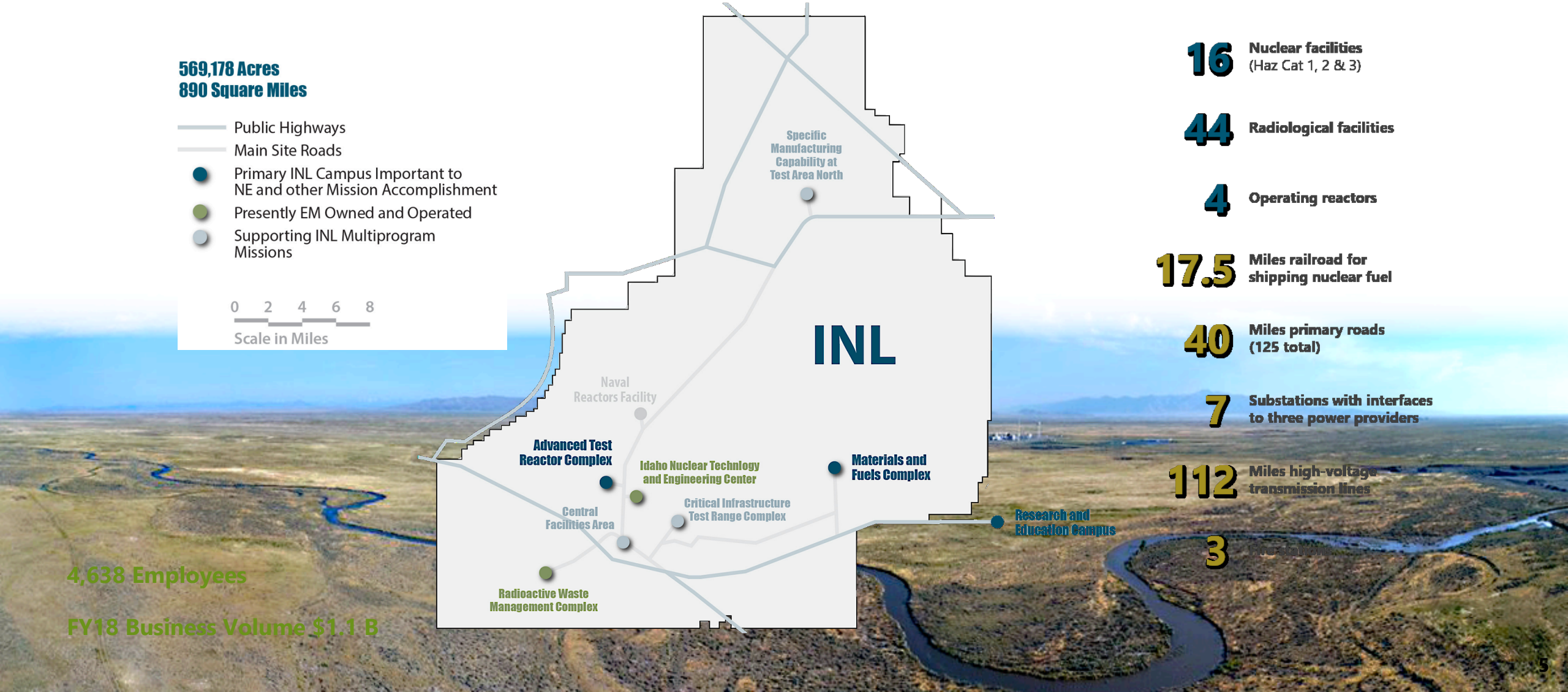
INL has supported national security research for nearly 80 years.



Deployment

890 sq mi test range

The Idaho National Laboratory Site – A Unique Capability for the Nation



National and Homeland Security Focus Areas

Cyber Resilience

Secure and Resilient Grid

Wireless Security

Infrastructure & Risk Analysis

First Responder Training

Nuclear Safety and Security

National Defense Support

INL is engaged worldwide solving *urgent* national security challenges in critical infrastructure protection and resiliency, nuclear and radiological security, and national defense.

Unique National Security Infrastructure & Capabilities

Electric Grid Test Bed

Commercial Feeds, Test Loops/Spurs

Water Security Test Bed

Municipal Water System

Radiological Ranges

First Responder Training

Specific Manufacturing

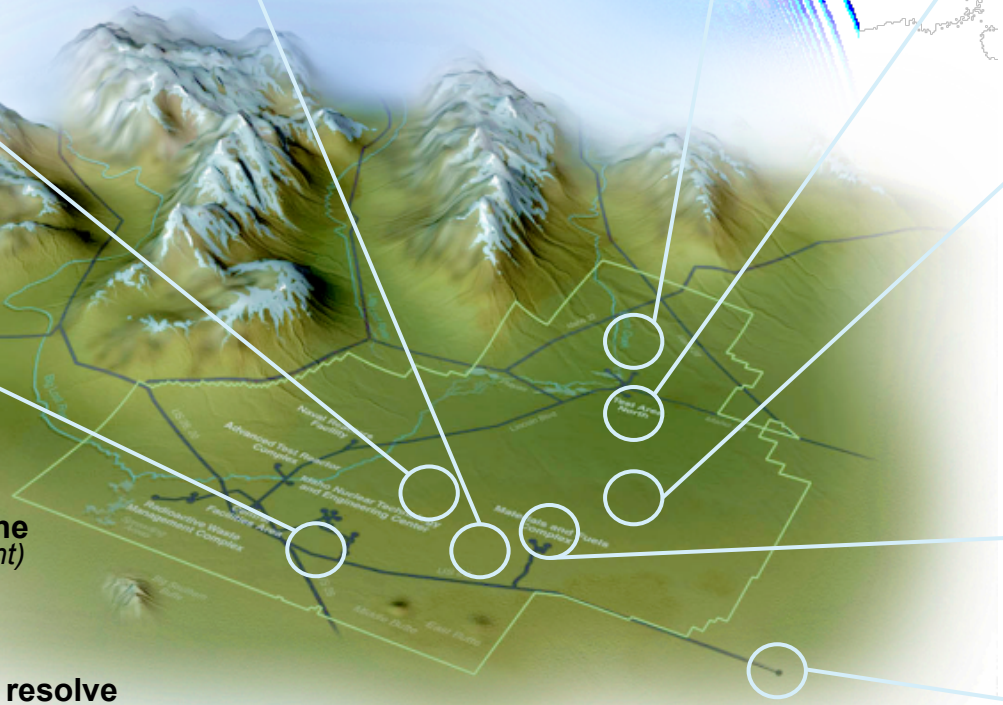
100% Quality Product

Wireless Test Bed

Agile Spectrum

National Security Test Range

~20k TNT, VA Center

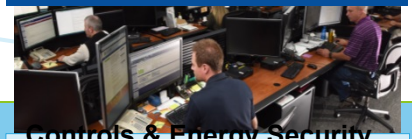


- ✓ **Full-scale real-world testing and demonstrations for deployment** *(designed, built and operated by INL)*
- ✓ **Integrated testing across multidisciplinary areas** *(radiological, physical security, explosive, power, controls, cyber)*
- ✓ **Rapid development through model, test, validate, and refine** *(high fidelity, effects-based modeling, rapid testing and measurement)*
- ✓ **Access to the full range of support services** *(lineman, engineers, rad techs, fire fighters and security forces)*
- ✓ **Ability to develop prototypes, manufacturing process and resolve uncertainty**

Nuclear Materials R&D

Electro-refining, SNM for Test/R&D

Research and Education Campus



Controls & Energy Security Labs

Innovation in nuclear, control systems, power grid, wireless and physical security

Idaho National Laboratory