U.S. DEPARTMENT OF ENERGY | Idaho Operations Office

Idaho Facilities Past , Present, Future – The DOE Perspective

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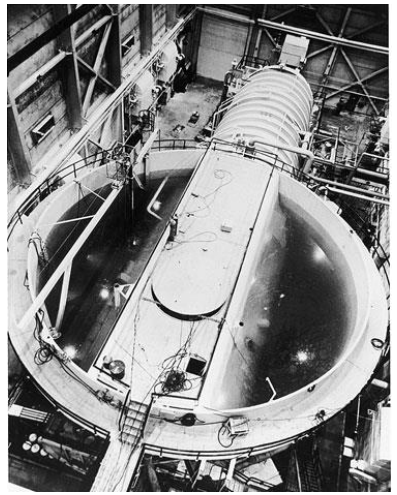
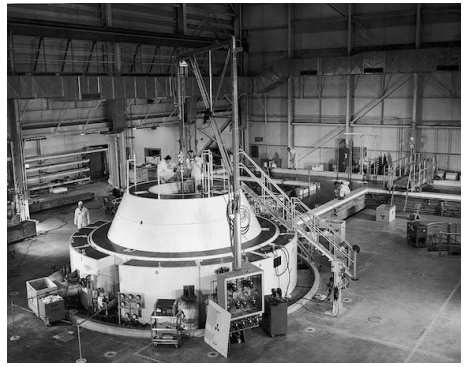
PAST

- Began as Naval Proving Ground gunnery range supporting WWII
  - Reactor prototype for fleet following WWII
- NRTS in 1949, ERDA in 1975, INEL in 1977, INEEL in 1997
  - 52 original test reactors tested here
- Post 2005, ANL-W transferred to NE-ID, EM began managing cleanup under ICP contract





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PAST

LOFT

The world's first Loss-of-Fluid-Test reactor started up at INL on March 12, 1976. It repeatedly simulated loss-of-coolant accidents that could potentially occur in commercial nuclear power plants. Many safety designs for reactors around the world were based on these tests.

TREAT

Constructed in 1958, and operated from 1959 until 1994, TREAT was built to conduct transient reactor tests where the test material is subjected to neutron pulses that can simulate conditions ranging from mild transients to reactor accidents.

ATR

This reactor was commissioned in 1967 and is used to test nuclear fuels and materials to be used in power plants, naval propulsion, research and advanced reactors. It can operate at a maximum thermal power of 250 MW and has a "Four Leaf Clover" core design that allows for a variety of testing locations. The unique design allows for different neutron flux conditions in various locations.

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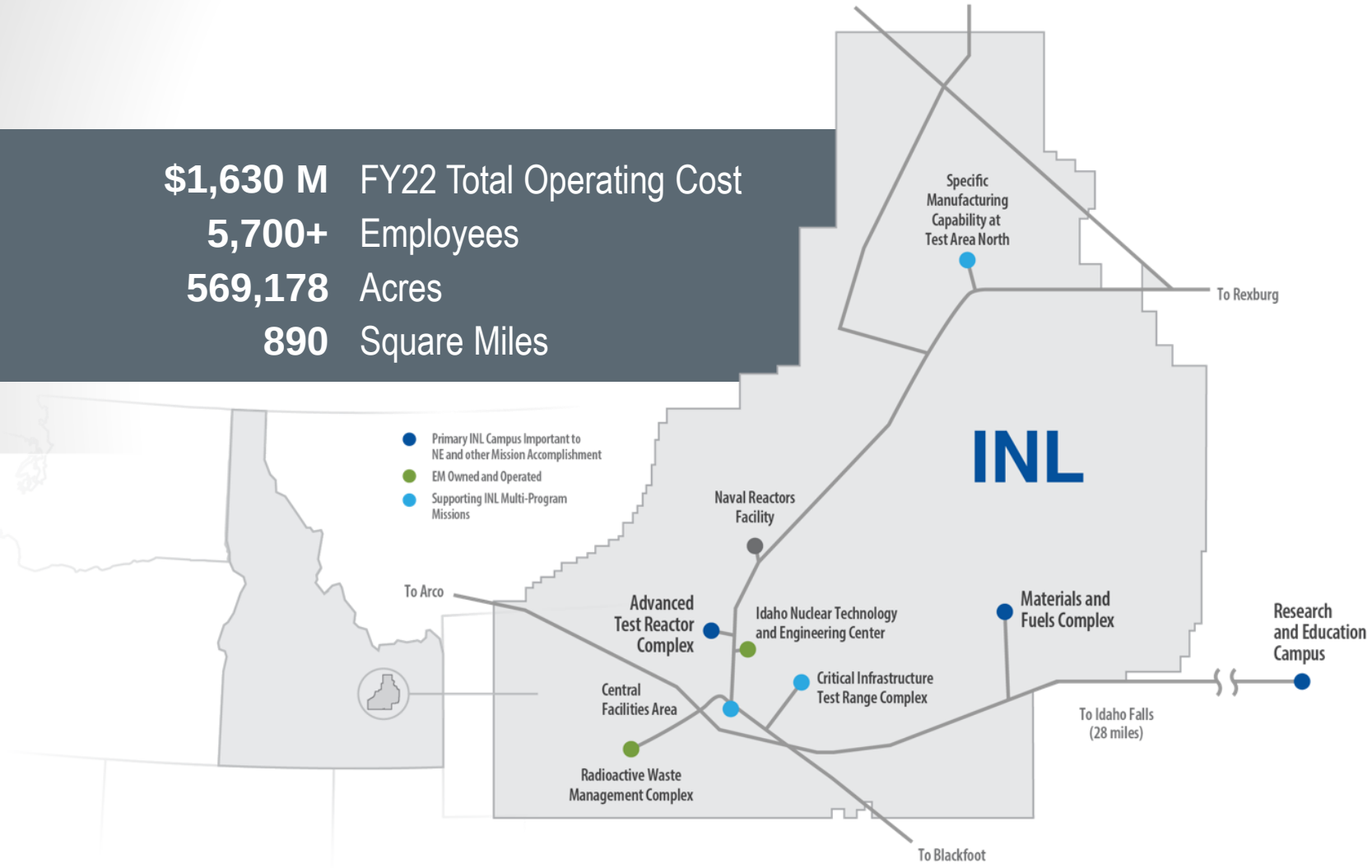
PRESENT

$1,630 M	FY22 Total Operating Cost
5,700+	Employees
569,178	Acres
890	Square Miles



4	Operating reactors
22	Hazard Category II & III non-reactor facilities/ activities
49	Radiological facilities/activities
17.5	Miles railroad for shipping nuclear fuel
44	Miles primary roads (125 miles total)
9	Substations with interfaces to two power providers
128	Miles high-voltage transmission & distribution lines
3	Fire Stations

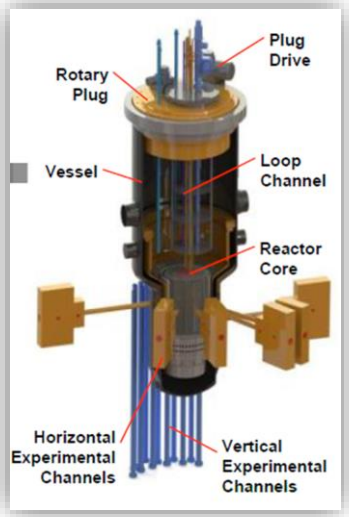
FY23 Appropriations Summary

DOE Office of Nuclear Energy Funding Nationwide: FY23 $1773 M (up 7%)

INL Infrastructure Programs

$576M FY23 Funding

- INL Facilities: $418.7M
- Sample Prep Lab: $7.3M
- INL Safeguards & Security: $150M



Fuel Cycle Programs

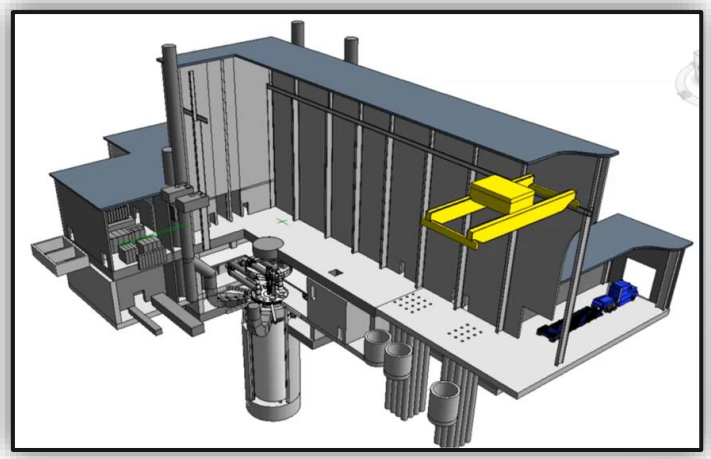
$422M FY23 Funding

- Advanced Nuclear Fuel Availability: $100M
- Advanced Fuels: $146M
- Fuel Cycle Other: $176M

Reactor Fleet & Deployment

$660M FY23 Funding

- Advanced Reactors Demonstration: $285M
  - *National Reactor Innovation Center* *$70M*
  - *Demonstration 1 & 2* *$60M*
  - *Risk Reduction for Future Demonstrations* *$120M*
  - *Regulatory Development* *$10M*
  - *Advanced Reactors Safeguards* *$5M*
- Nuclear Energy Enabling Technologies: $95.5M
- Advanced SMRs: $185M
- Advanced Reactor Technologies: $49M
- LWR Sustainability: $45M



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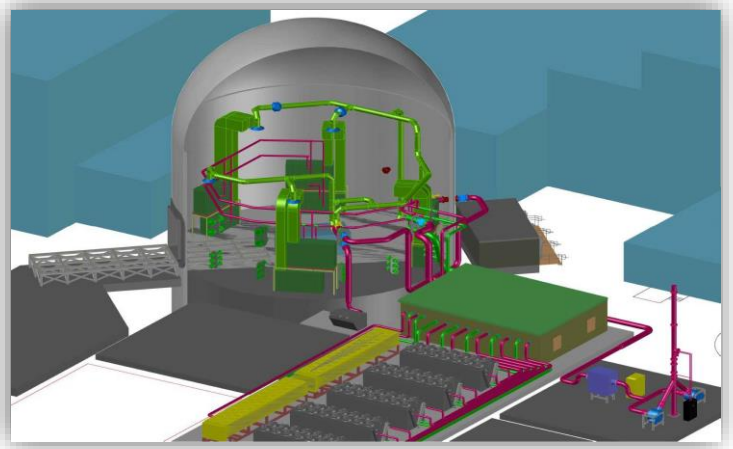
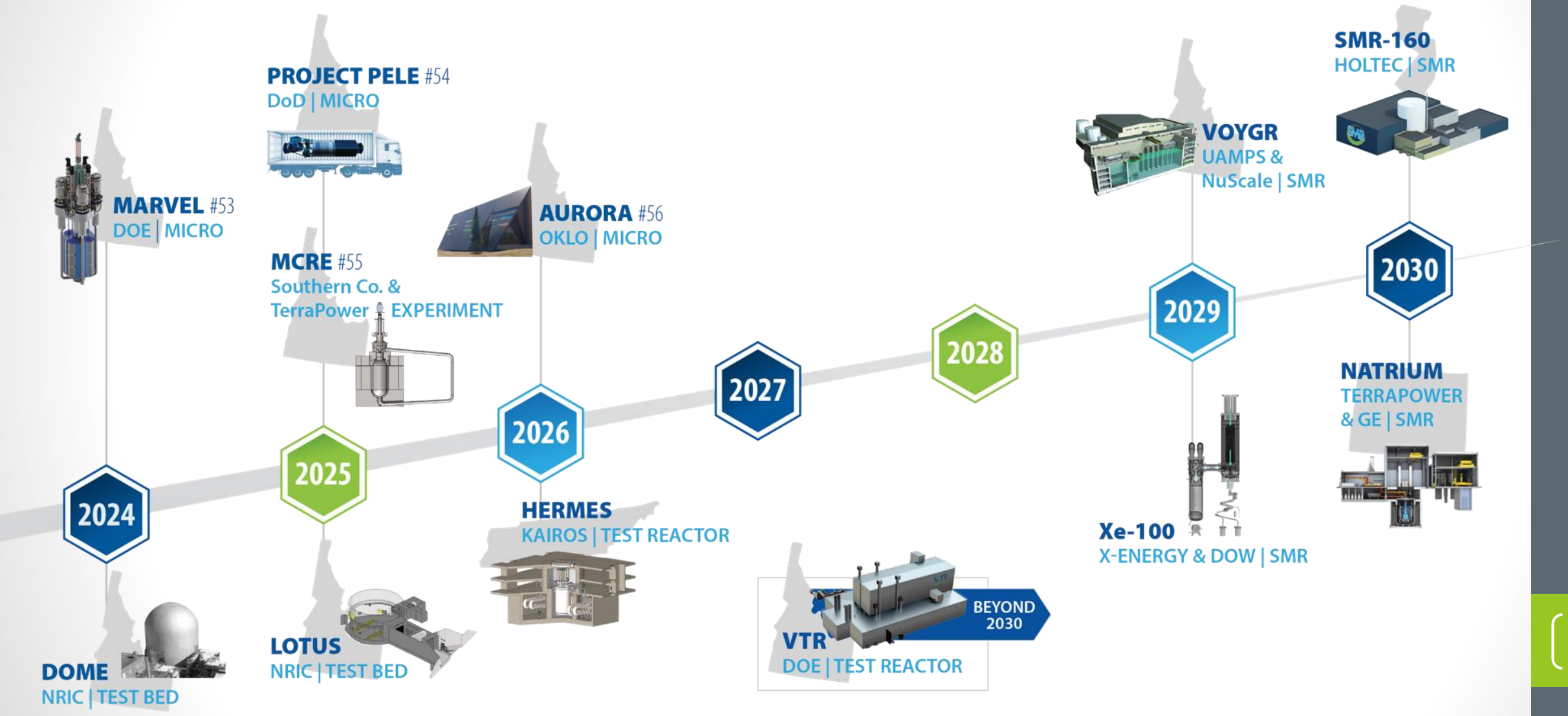
FUTURE

- Sample Preparation Laboratory (I/P)
- DOME Test Bed (In Design)
- LOTUS Test Bed (In Design)
- Advanced Test Reactor Reactor Support Building (I/P)
- Analytical Laboratory Ventilation Upgrade (I/P)
- Materials and Fuels Complex Protective Forces Building (I/P)



Accelerating advanced reactor demonstration & deployment

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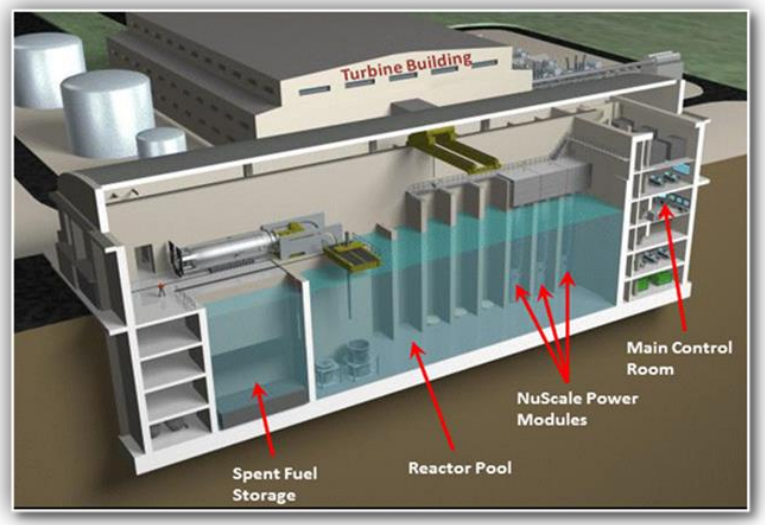
FUTURE

- Future Priorities for the Nuclear Energy Mission:
  - Sustain existing fleet
  - Getting advanced rector technologies over the finish line
  - Establishing and maintaining critical fuel cycle infrastructure
  - Enhance global competitiveness



Most of INL's Nuclear Energy R&D capabilities are focused on three primary site areas