

High Burnup Research Cask Data Collection

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U.S. DEPARTMENT
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Spent Fuel and High-Level Waste Disposition

DISCLAIMER

This is a technical presentation that does not take into account contractual limitations or obligations under the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste (Standard Contract) (10 CFR Part 961).

To the extent discussions or recommendations in this presentation conflict with the provisions of the Standard Contract, the Standard Contract governs the obligations of the parties, and this presentation in no manner supersedes, overrides, or amends the Standard Contract.

This presentation reflects technical work which could support future decision making by the U.S. Department of Energy (DOE or Department). No inferences should be drawn from this presentation regarding future actions by DOE, which are limited both by the terms of the Standard Contract and Congressional appropriations for the Department to fulfill its obligations under the Nuclear Waste Policy Act including licensing and construction of a used nuclear fuel¹ repository.



¹The term “used nuclear fuel” is intended to be synonymous with the term “spent nuclear fuel” as used and defined in the Nuclear Waste Policy Act of 1982, as amended, and the Standard Contract for the Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste (10 CFR Part 961).

Center for Used Fuel Research (CUFR) Established at INL – January 14, 2026

Department of Energy Establishes Center for Used Fuel Research at Idaho National Laboratory



U.S. Department of Energy designates Idaho National Laboratory as its leading institution for critical research, development, and demonstration efforts concerning used nuclear fuel management.

WASHINGTON — The U.S. Department of Energy (DOE) Office of Nuclear Energy today announced the establishment of the [Center for Used Fuel Research](https://www.energy.gov/ne/articles/department-energy-establishes-center-used-fuel-research-idaho-national-laboratory) (Center) at Idaho National Laboratory (INL), officially designating INL as its leading institution for critical research, development, and demonstration efforts concerning used nuclear fuel (UNF) management. This strategic move underscores the DOE's renewed commitment to solving one of the nation's most pressing energy and environmental challenges and delivers on a key element of the 1995 Idaho Settlement Agreement establishing INL as the DOE lead used nuclear fuel research laboratory.

<https://www.energy.gov/ne/articles/department-energy-establishes-center-used-fuel-research-idaho-national-laboratory>



Mission and Goals of the Center for Used Fuel Research

Mission: Coordinate efforts in developing innovative technologies and solutions, conduct applied research that helps support and maintain regulatory compliance, and enable public confidence in the storage and transportation of commercial and DOE-managed UNF



Reduce DOE's contractual (~\$39 - \$44 billion) and technical liabilities (TBD)



Leverage U.S. and international research and operational experience



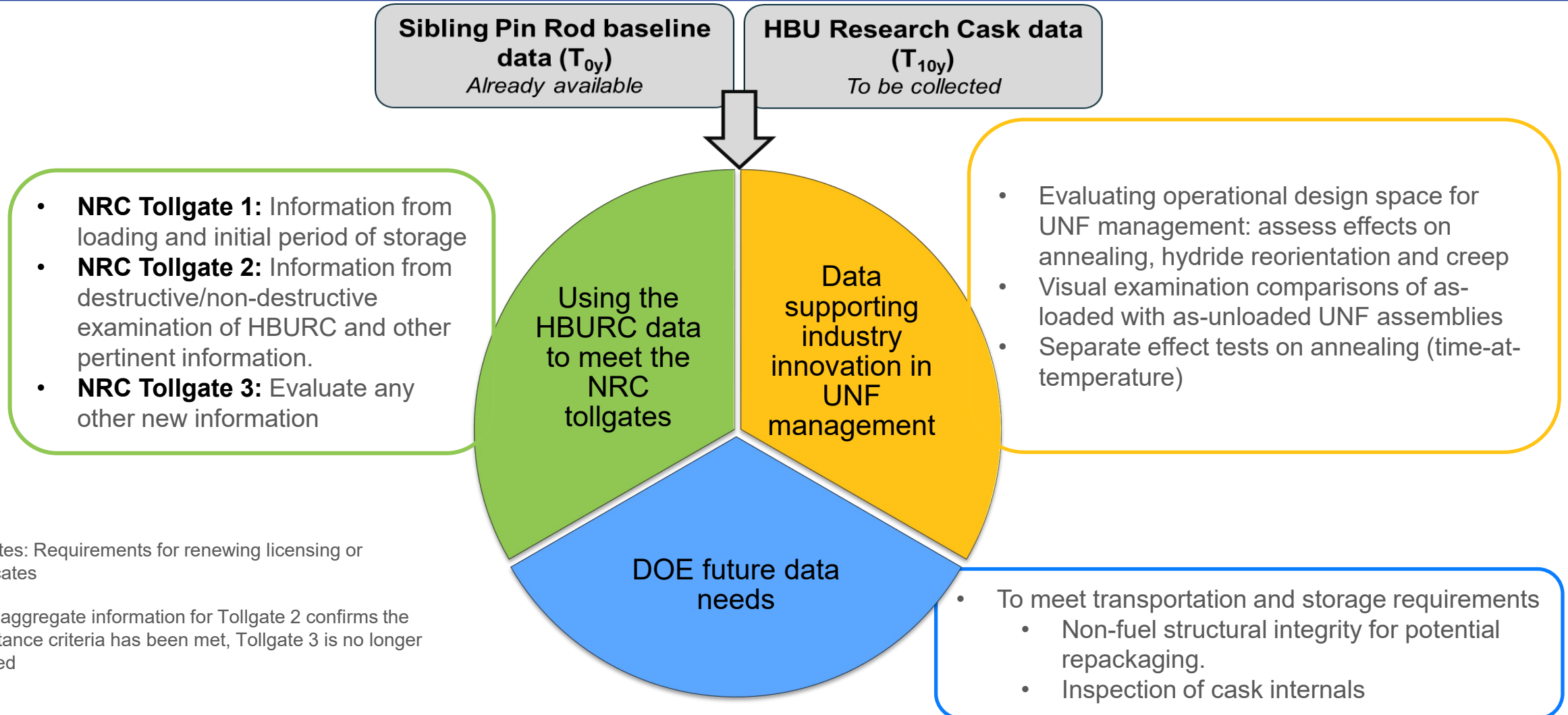
Furnish data and methods to support extended storage and transportation

DOE's High Burnup Research Cask (HBURC) is Moving to INL in 2027



- Research project started in 2013 as a collaboration between DOE and the Electric Power Research Institute (EPRI)
- High burnup UNF stays in reactors longer to produce electricity
- Monitoring characteristics of high burnup UNF in one dry cask at the North Anna Power Station near Mineral, Virginia
- Project will provide data to support safe storage of UNF for DOE's future Federal UNF staging facility(ies), and a majority of currently operating U.S. nuclear power plants
- The HBURC contents includes four cladding types all with a burnup range >45 GWd/MTU

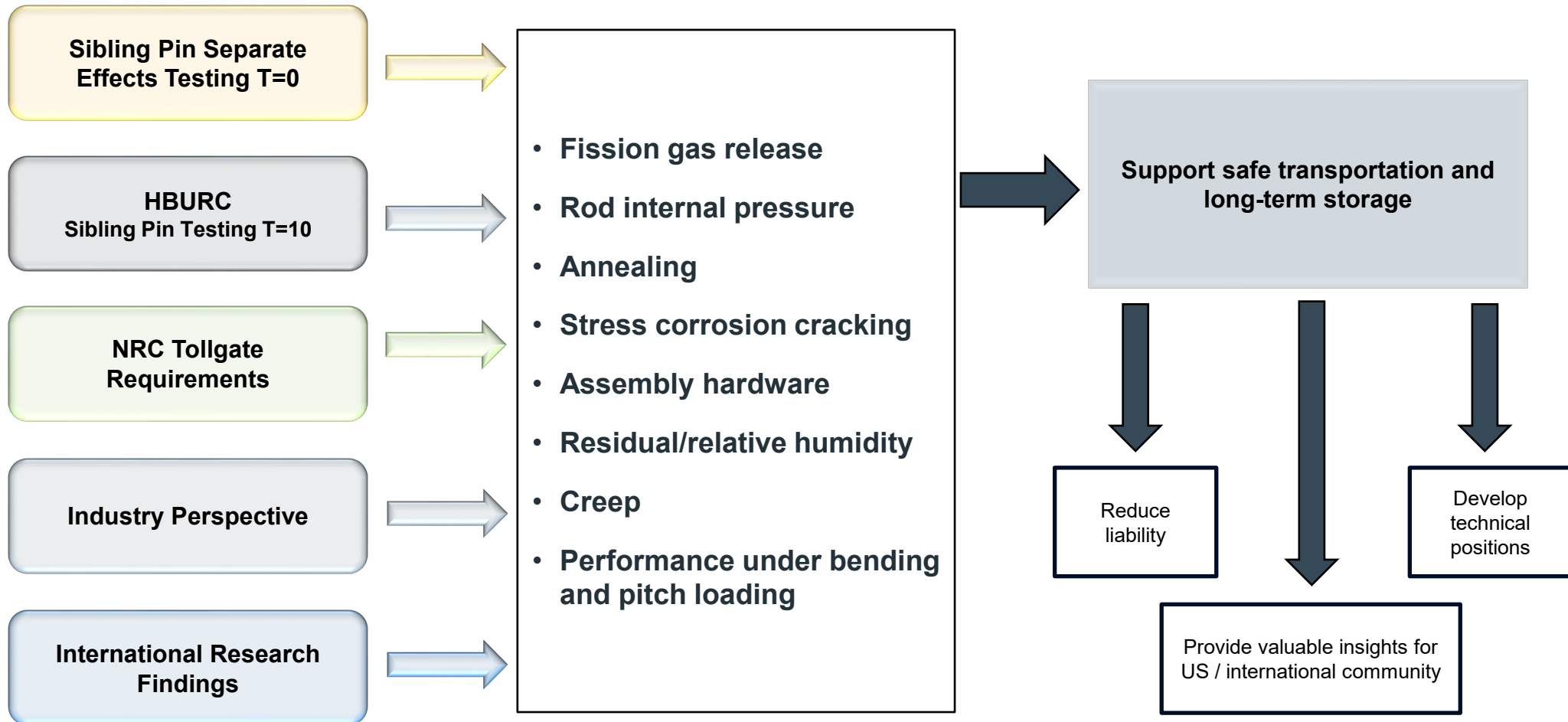
Examination of High Burn Up (HBU) Light Water Reactor Fuel



Tollgates: Requirements for renewing licensing or certificates

*If the aggregate information for Tollgate 2 confirms the acceptance criteria has been met, Tollgate 3 is no longer required

The CUFR is planning what pins to pull and what exams to perform after HBURC is opened





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