GAS-COOLED REACTOR
ADVANCED REACTOR TECHNOLOGIES PROGRAM

NDMAS
Nuclear Data Management and Analysis System

July 16, 2024

NDMAS Portal Updates

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DOE ART Gas-Cooled Reactor (GCR) Review Meeting

Hybrid Meeting at INL

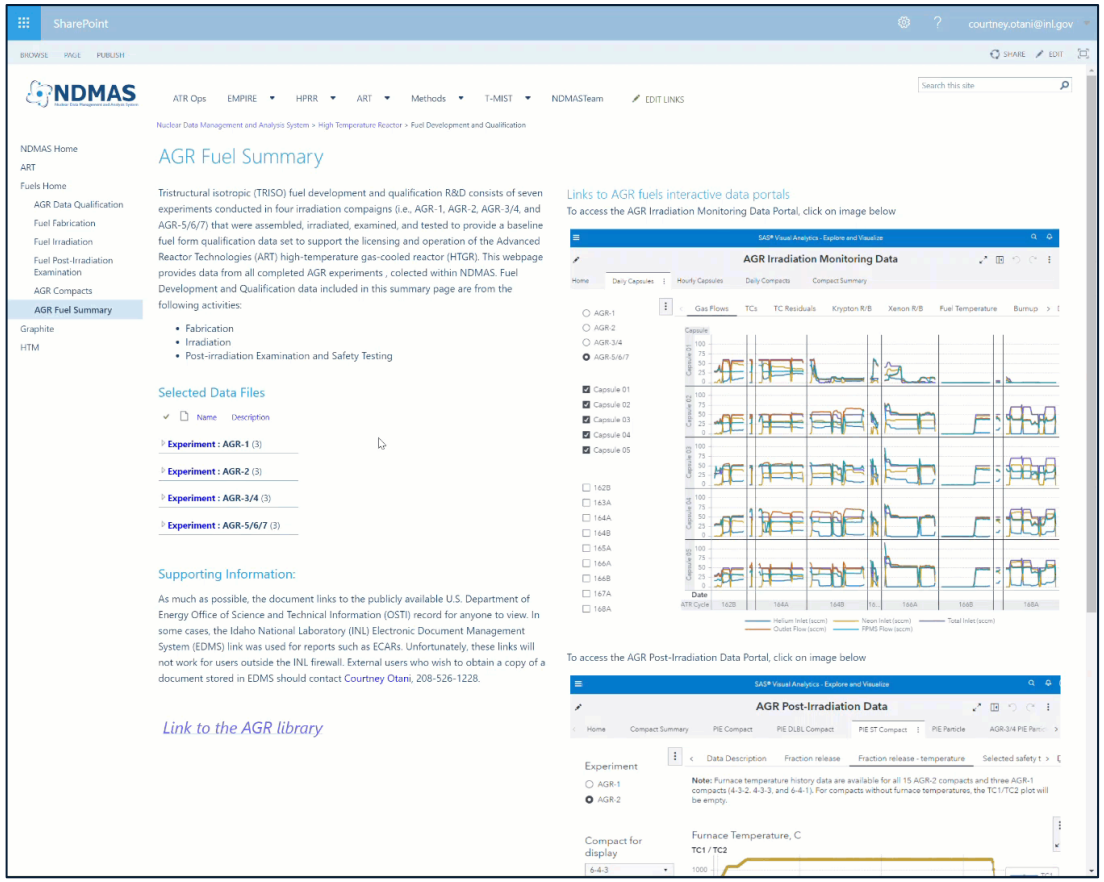
July 16–18, 2024

Overview of Current ART-GCR Data

- Fuel Fabrication
- Irradiation Monitoring (Fuel & Graphite – near real-time for HDG-1)
- Post-Irradiation Examination (Fuel & Graphite)
- Graphite Characterization (Baseline and Irradiated)
- High Temperature Metals Mechanical Tests
- Methods Validation Data
  - Japan Atomic Energy Agency's High Temperature Test Reactor (HTTR)
  - Argonne National Laboratory's Natural convection Shutdown heat removal Test Facility (NSTF)
  - Oregon State University's High Temperature Test Facility (HTTF)
- Additional related data
  - Advanced Test Reactor operations (near real-time)

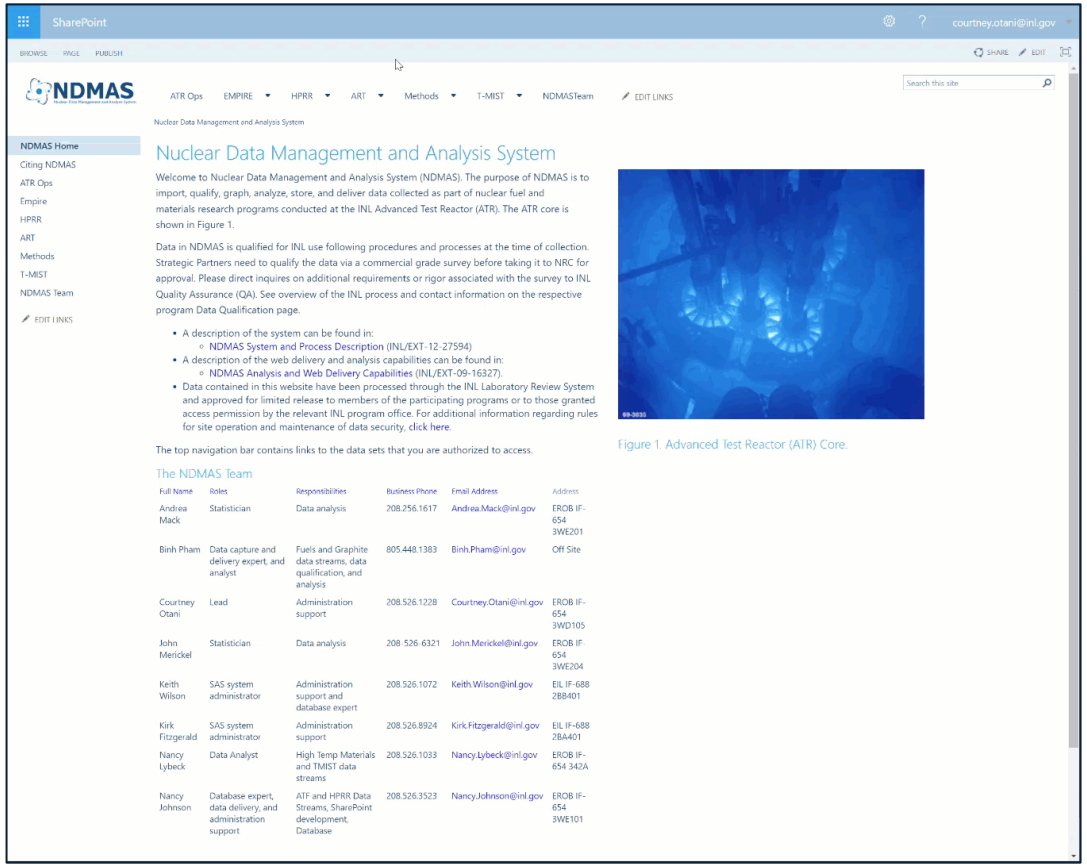
Added AGR Fuel Data

- AGR-3/4 particle data (ongoing)
  - Compact and particle inventory data from radial DLBL
  - Post-irradiation (8 compacts)
  - Post-safety test (2 compacts)
  - Post-safety test and post-NRAD reirradiation (3 compacts)
- Furnace temperature history for safety tests (some AGR-1 and AGR-2)
  - AGR-1 (3 INL compacts)
  - AGR-2 (all 15 compacts)
- AGR Fuel Summary page
  - Data downloads for all completed AGR irradiations (1, 2, 3/4, 5/6/7)
  - Links to interactive data portals (SAS VA) for Irradiation and PIE data
- Notes to augment data interpretation



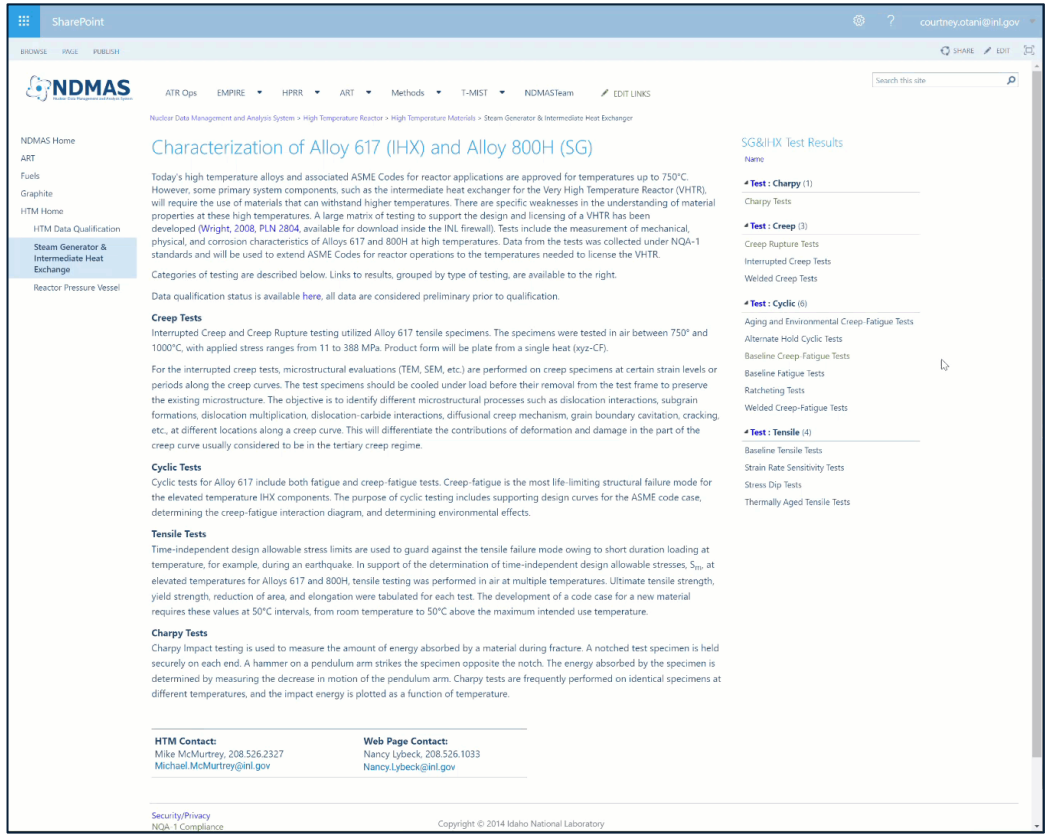
Added Other GCR and Related Data

- AGC
  - AGC-3 Exhaust Sweep Gas Cylinder Analysis
  - AGC-3 Physics Calculations
  - AGC-4 Exhaust Sweep Gas Cylinder Analysis
  - HDG-1 Irradiation Monitoring (constant updating)
  - Baseline Graphite: characterization data for Billet 2114-A20568 and Brazilian test for Billet NBG-18-635-14
  - Updated Publication categorized library list in SharePoint pages
    - ndmas.inl.gov (public)
    - ndmashome.inl.gov (access controlled)
- ATR operational data (constant updating)
- Interactive displays (Highcharts and VA)



Updated High Temperature Metals

- Fully back online
- Steam Generator and Intermediate Heat Exchange
- Reactor Pressure Vessel
- Dropdown options for streamlined viewing of data

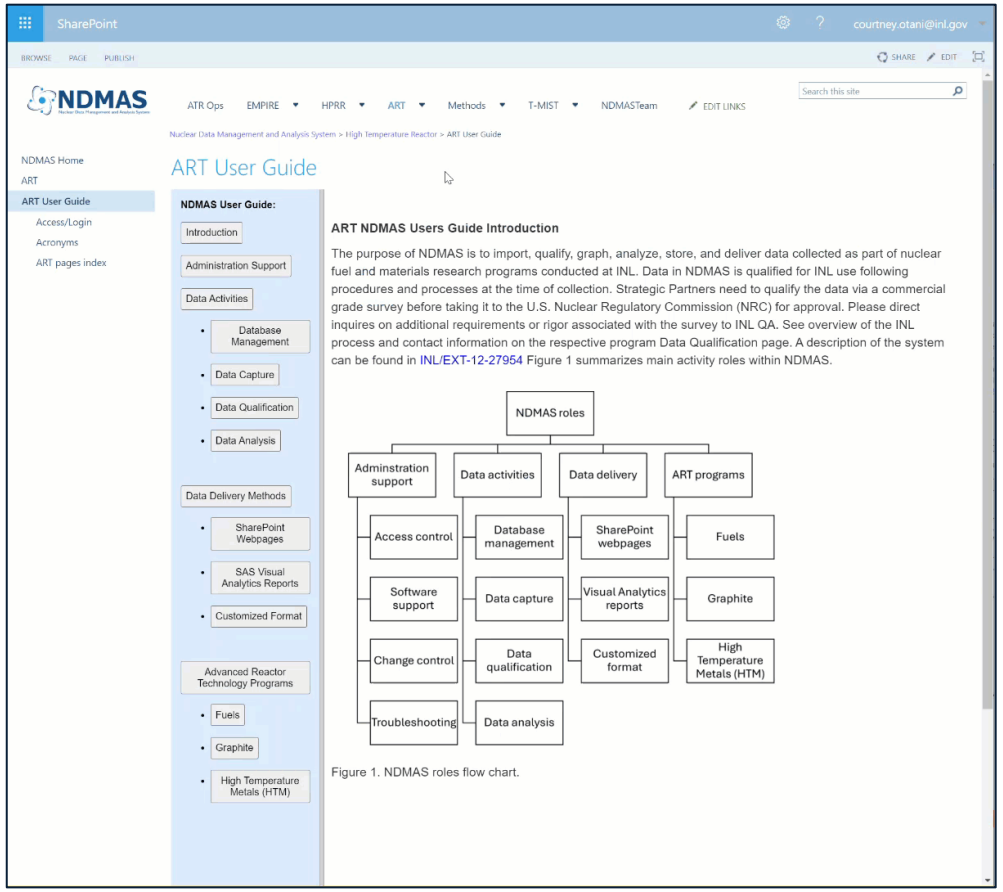


Ongoing and Upcoming Work

- AGR
  - Continued work on AGR 3/4 radial DLBL data and other PIE data
- AGC
  - More baseline data coming
  - Oxidation data coming
- Gen IV Materials Handbook
  - Metals, graphite, ceramics, and composites data from GIF Materials project group

Users Guide

- Clarifies instruction and content on access and navigation for all aspects of the ART-GCR programs, which include data from
  - Advanced Gas Reactor (AGR) fabrication, irradiation experiments, and post-irradiation examination
  - Advanced Graphite Creep (AGC) and High-dose Graphite Creep (HDG) irradiation experiments, graphite material characterization
  - High Temperature Metals (HTM) characterization
- Other information
  - Acronyms
  - Index to all webpages: organized by general topic
- https://ndmashome.inl.gov/art/user-guide



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Interested in gaining access to NDMAS?

Please email ndmas-webadmin@inl.gov. For other questions, email Courtney Otani.

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U.S. DEPARTMENT OF ENERGY