The National Organization of Test, Research and Training Reactors

Q2. June 4, 2025

A note from our Chair

Hello TRTR Community!

It's been another busy quarter for the community. Earlier this month, the White House issued a series of executive orders aimed at accelerating nuclear energy deployment, modernizing regulation, and bolstering domestic fuel supply. While much of the public focus has been on commercial power production and advanced reactors, these actions carry meaningful implications for our community.

Below are a few highlights:

Fast-Tracking Advanced Reactor Licensing
The Department of Energy (DOE) and Nuclear Regulatory Commission (NRC) have been directed to streamline the licensing process for advanced and next-generation reactors. This could create opportunities for RTRs to play expanded roles in fuel qualification, material testing, and workforce development aligned with these new designs.

Increased Support for Domestic Uranium Production
A renewed emphasis on boosting domestic uranium production—currently meeting only a fraction of U.S. demand—may lead to changes in how research reactors secure and qualify fuel. There could be new incentives or mandates favoring U.S.-origin uranium, with downstream impacts on supply chains and reactor operations.

NRC Reform and Regulatory Realignment
Perhaps most notable for RTRs is the directive to overhaul NRC structure and operations. While the goal is to reduce regulatory burden and improve agility, the process could bring uncertainty in the near term, especially for facilities undergoing license renewals or modifications. We will monitor this closely and advocate for clarity and continuity in RTR-specific guidance.

Strategic Role in National Priorities
With nuclear energy now identified as critical infrastructure for AI and defense applications, research reactors are uniquely positioned to contribute to thermal testing, isotopes for quantum computing, and other mission-driven innovation. The community may see increased collaboration with national labs and federal agencies seeking rapid, flexible R&D capabilities.

This is an exciting time for the community and I encourage you to remain engaged with the NRC and share your insights with the community. Please continue to participate in the NRC's quarterly calls and feel free to reach out to me anytime.

Cameron Goodwin
Rhode Island Nuclear Science Center

Registration is now open!

Quarterly Call Summary (ML25127A267)

Status of NUREG-1478, Rev. 3, Operator Licensing Examiner Standards for RTRs
•Draft is with OPM; no date on when it will be available for public comment.

Operator licensing examination trends observed by NRC staff
•Slight increase in written and operational failures possibly due to high turnover at facility and weaknesses in training programs. Encourage benchmarking and sharing across the community. Areas for improvement include: minimizing reliance on old written exams, improving understanding of 50.59 process, increasing comprehension of the design and operation of radiation monitors, nuclear instrumentation, and control rods/blades. SRO candidates could use training on why actions are taken during an emergency response. Tracking mechanisms will continue to be internally evaluated to give better feedback to the community.

SharePoint External Sharing replacing BOX
•Expect Box to fully retire this fall. An email should have been sent to every facility.

Status of NUREG-1537, Revision 1, "Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors"
•Not expected until later this year. Revision will not impact SAR updates.

Non-Power Production or Utilization Facility License Renewal Rule (NPUF Rule)
•Public website to track due dates and submission of FSAR submittals. Contact your PM for questions regarding submission of redacted files. The FSAR will undergo a SUNSI review upon receipt.

Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2024
•Implementation website is available to see actions being undertaken.

New reactor license applications
•List of active projects. 10 or so applications to review in 2026 and more to come!

Status of NEI 23-03 (10 CFR 50.59, Digital Modification Guidance)
•Final comments are being incorporated. Then it goes to a tech writer at NEI with a target goal for submission to the NRC by the end of July. Expecting a clean endorsement with a reg guide.

DOE/NRC Forms 741, "Nuclear Material Transaction Report," 742, "Material Balance Report," and 742c, "Physical Inventory Listing"
•Forms have been updated to reduce errors with submissions.

Medical Reviewing Official Update
•Review time has increased from 10 to 15 days for 396 Forms requiring medical review.

Member Facilities in the News

Corey Hines receives 2025 Crimson Spirit Award
Corey Hines, the Director of the Nuclear Science Center at Washington State University, was awarded the Crimson Spirit Award for exceptional service and exceeding expectations.

Sara Hauptman Winner of the RRFM Best Student Presentation Award
Sara Hauptman, a Graduate Student and Senior Reactor Operator at MIT won for her presentation "Exploring MITR-III Alternative Reactivity Control Systems to Elliminate Axial Flux Skewing".

NextGen MURR Consortium Announced
University of Missouri announced its partners for developing the NextGen MURR research reactor will be the Korea Atomic Energy Research Institute, Hyundai Engineering Co., and MPR Associates. The initial $10 million agreement includes detailed programming studies, a preliminary site evaluation and will establish an initial project cost and schedule estimate.

Construction Starts for Hermes Test Reactor
Kairos Power has begun pouring nuclear safety-related concrete beginning at the start of May.

Reportable Occurrences

Armed Forces Radiobiology Research Institute Research Reactor
Event No 57730: The Log Channel malfunctioned and failed to provide a period signal. This lead to a power overshoot and the reactor momentarily exceeded its licensed power level.

See our website for a table of reportable occurrences.

Read More

Inspection Reports

University of California, Irvine Nuclear Reactor Facility
No violations. ML25059A183

Oregon State TRIGA Reactor
No violations. ML25073A113

Ohio State University Research Reactor
No violations. ML25063A288

NIST Center for Neutron Research
No violations. ML25111A084

University of Texas - Austin Nuclear Engineering Teaching Laboratory
No violations. ML25090A151

Washington State University Reactor
No violations. ML25121A297

University of California, Davis McClellan Nuclear Research Center
No violations. ML25093A348

Rhode Island Nuclear Science Center
No violations. ML25115A004

Kansas State University TRIGA Reactor
No violations. ML25125A324

Walthousen Reactor Critical Facility
No violations. ML25072A075

Purdue University Reactor - 1
Severity Level IV: Two operators with inactive licenses operated the reactor without supervision. ML25105A279

Missouri University Research Reactor
Non-Cited Violations: Self identified violations for processing iodine-131 without proper radiation monitoring, failure of required filters for I-131 processing, failure of required instrumentation channel during operations, and failure of a control blade during operations. ML25142A250

See our website for a table of inspection reports.

Read More

Licensing Actions

NIST Center for Neutron Research
Proposed license amendment to convert the reactor from a Testing Facility to a Research Reactor. ML25078A031

Walthousen Reactor Critical Facility
Proposed update to the Technical Specifications to lessen staffing and surveillance requirements during a long-term shutdown of the reactor. ML25072A257

Penn State Breazeale Reactor
Request for license amendment to modify the Organizational Structure in the Technical Specifications. ML25118A019

See our website for a table of licensing actions.

Read More

EVENTS

- July 7-11: Workshop on the Use of a Graded Approach in the Application of the Safety Requirements for Research Reactors
- July 13-17: 2025 Health Physics Society Annual Meeting
- July 28-31: U.S. Women in Nuclear Conference
- Sept 8-12: 2025 TRTR Annual Meeting

ISOTOPIC TOPICS

IAEA Webinar: "Neutrons: Role and Socioeconomic Impact in Modern Society"

Learn about the role of neutrons in driving innovation.

Armour Research Reactor

A 1958 film about the first privately owned reactor dedicated to industrial research.