

U.S. Nuclear Regulatory Commission  
38<sup>th</sup> Annual Regulatory Information Conference

# RIC2026

Regulation, Innovation and  
Collaboration for a Safer Tomorrow

## Fuel Cycle Update for Next Gen Fuels

Jason Piotter, New Fuels Team Lead

#NRCRIC2026

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# Division of Fuel Management Successes from front to back of the fuel cycle **2025 By the Numbers**



**106** COMPLETED  
LICENSING  
ACTIONS

- 24—Fuel Facilities
  - ↳ 6 New Fuels Related
- 50—Transportation
  - ↳ 4 New Fuels Related
- 32—Storage



**14** COMPLETED  
INSPECTIONS

- 14—Storage and  
Transportation



**32** FUTURE NEW FUELS  
LICENSING ACTIONS

- 17—Fuel Facilities
- 15—Storage and  
Transportation



## TECHNICAL ISSUES

The NRC is actively engaging with preapplicants to identify and address key technical issues, such as criticality benchmarks, source terms, and waste forms.

## ADDITIONAL ACTIVITIES

In addition to engaging with the U.S. Department of Energy (DOE) and industry to better characterize new fuels, the NRC is assessing and updating regulations and guidance.

## Approving Notable Actions while Reducing Schedule and Resources

### Major Fuel Facility Licensing Action Approvals

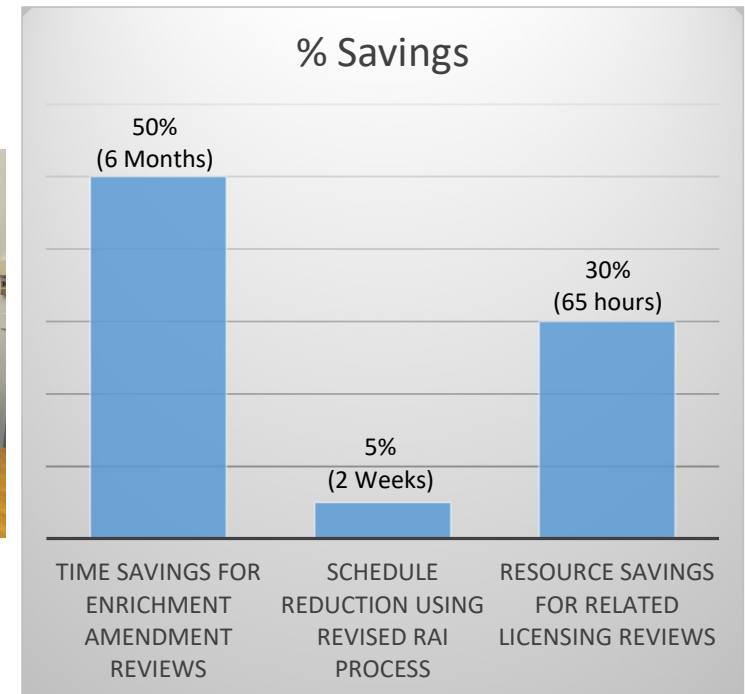
Issued Part 70 license to TRISO-X for TRISO fuel fabrication facility—supports domestic production of High-Assay Low-Enriched Uranium (HALEU) fuel

Louisiana Energy Services (LES) Amendment to Increase Enrichment Limits up to 10 wt%—supports Accident Tolerant Fuels with increased enrichment

Centrus Phase III of HALEU Demonstration—allows for increased production of HALEU feed material



Signing of Part 70 License for New TRISO-X Fuel Fabrication Facility



RAI: request for additional information

ADVANCE Act  
Accelerating Deployment of Versatile,  
Advanced Nuclear for Clean Energy Act  
of 2024

EO 14300  
Ordering the Reform of the Nuclear  
Regulatory Commission

ADVANCE Act and  
Executive Orders (EOs)

EO 14299 and EO 14301  
Deploying Advanced Nuclear Reactor  
Technologies for National Security and  
Reforming Nuclear Reactor Testing at the  
Department of Energy

EO 14302  
Reinvigorating the Nuclear Industrial Base

## Research Supporting Next Gen Fuels

National Criticality Experiments  
Research Center for DNCSH



Research programs are driven by licensing needs and informed by engagement through domestic programs and international collaborations

Radiochemical Assay Programs



## Fuel Cycle Front End

- Critical experiments
- Code validation
- Security
- Material control and accounting



## Transportation

- Critical experiments
- Code validation



## Fuel Cycle Back End

- Source terms
- Criticality and shielding
- Thermal and materials
- Operations



# Looking Forward

U.S. Nuclear Regulatory Commission  
36<sup>th</sup> Annual Regulatory Information Conference

# RIC2026

## March 10-12, 2026

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TRISO



Aalo



General Matter



**Preapplication Engagements  
Are Essential for Efficient NRC  
Licensing Reviews**



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**Thank You!**

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