

Fuel Facilities and Spent Fuel Storage and Transportation Business Line Briefing

Commission Meeting
December 4, 2019



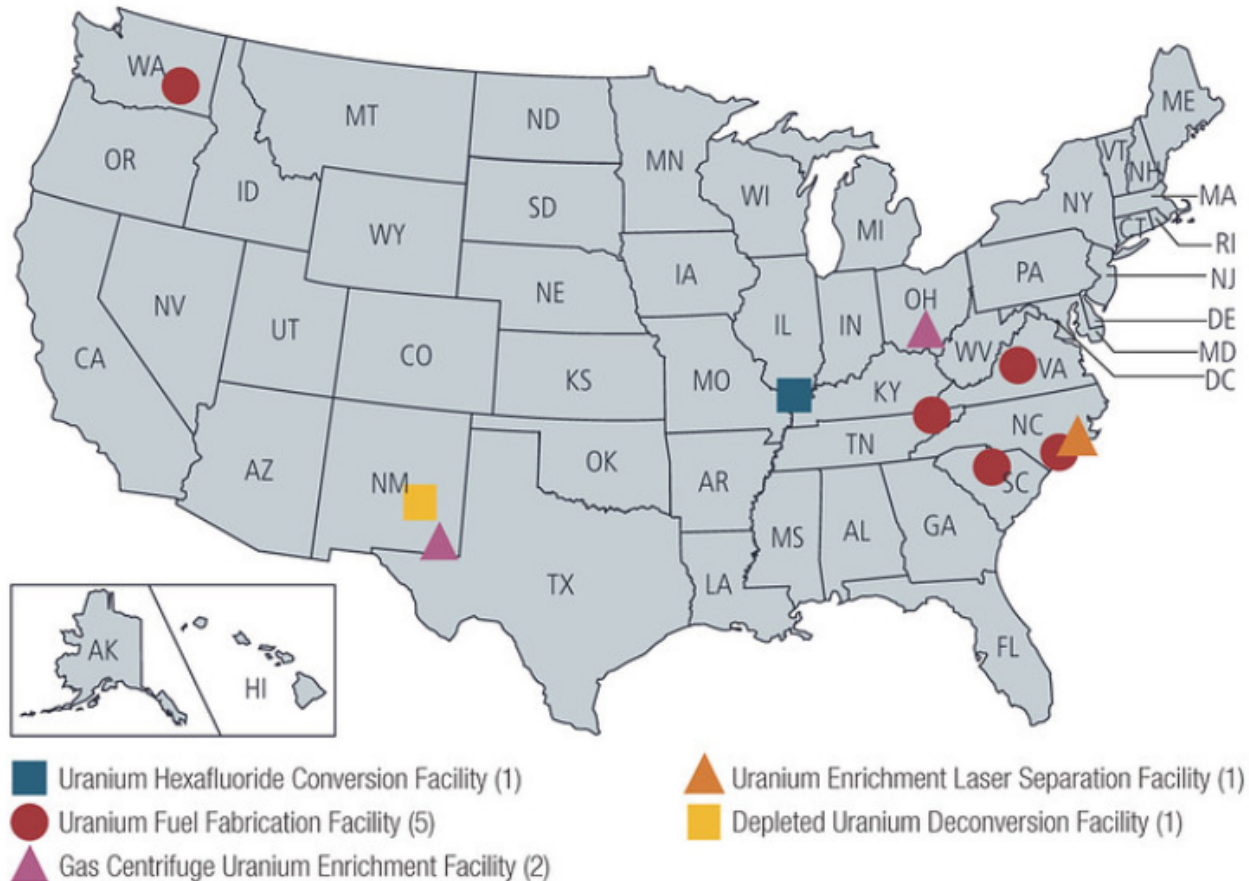


Preparing for the Future

John Lubinski, Director
Office of Nuclear Material
Safety and Safeguards

Successfully Regulating Fuel Cycle Facilities

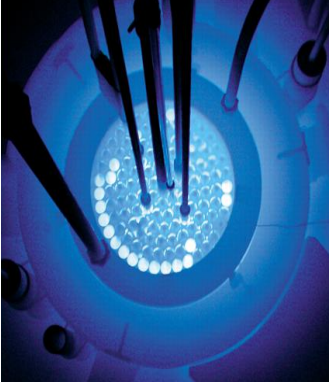
Locations of NRC-Licensed Fuel Cycle Facilities



Note: There are no fuel cycle facilities in Alaska or Hawaii.

For the most recent information, go to the Dataset Index Web page at <https://www.nrc.gov/reading-rm/doc-collections/datasets/>.

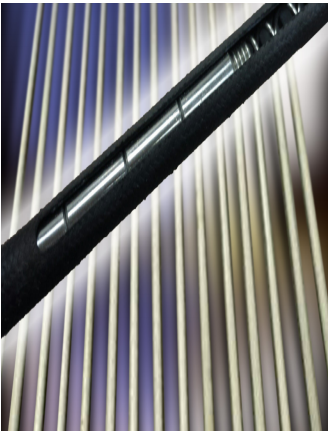
Preparing for New Technologies



- Evaluating our regulatory framework for necessary changes



- Ensuring workforce is equipped for HALEU and ATF applications



- Conducting preapplication meetings with external stakeholders

Becoming a Modern Risk-Informed Regulator

Why do we need to change?

Why is this urgent?

What do we need to change?

How will we know we got there? What's the goal?

How will we get there?

What will we not change?

What's the alternative?

Why's this important to me? Who will be involved?

What can I do?

Who will help us get there?

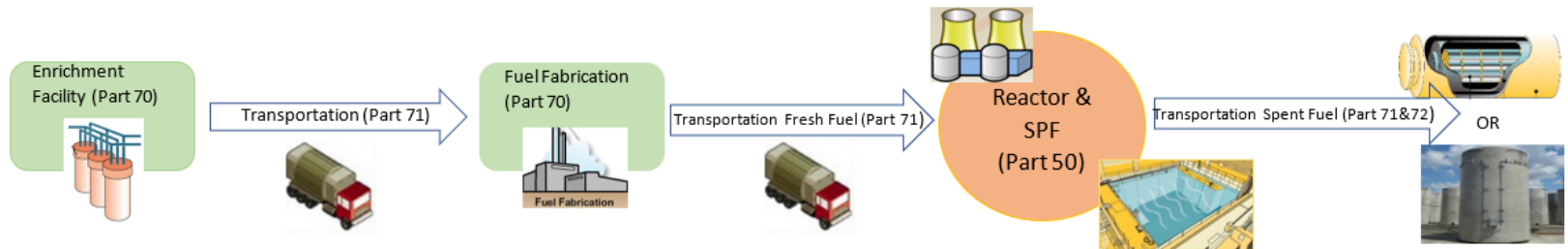
What is a "modern risk-informed regulator?"



Current Fuel Cycle Program Environment

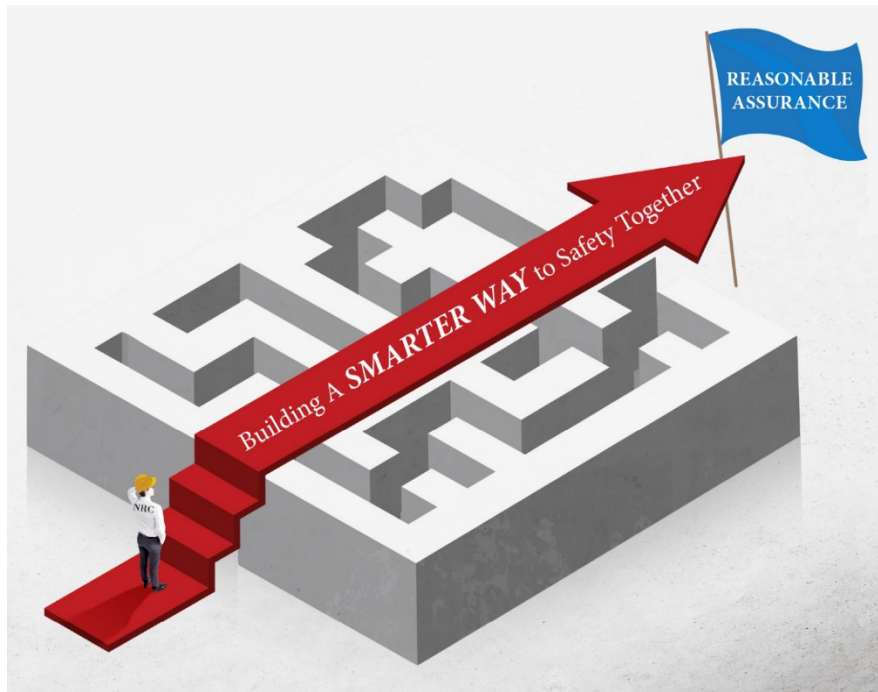
Andrea Kock, Director
Division of Fuel Management,
NMSS

Preparing for New Technologies



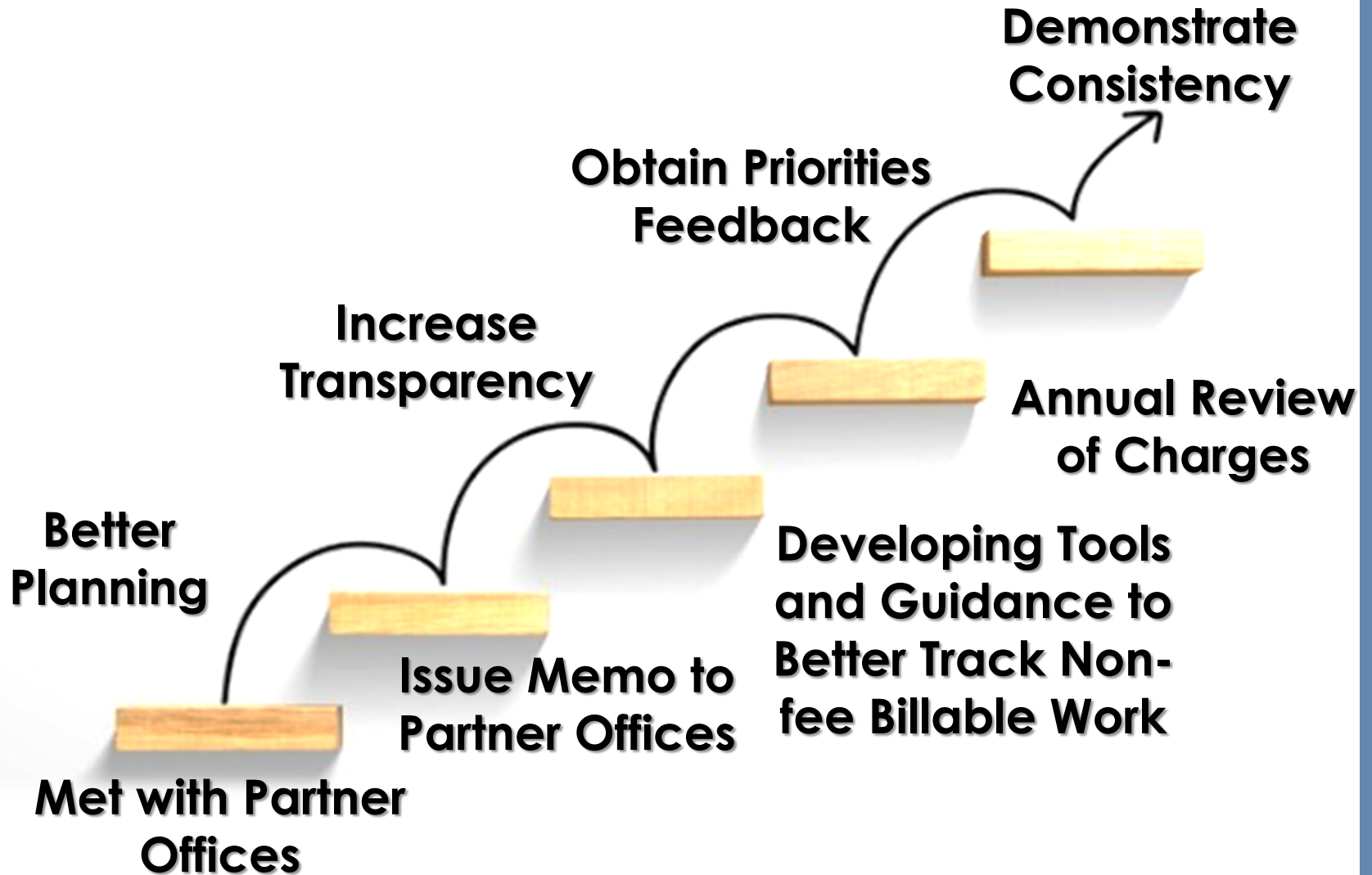
- Engagement with internal and external stakeholders
 - Issued letter requesting anticipated schedules
 - Implementing ATF project plan
 - Evaluating our regulatory framework
 - Utilizing diverse forums for engaging stakeholders

Making Progress Toward Becoming a Modern Risk-Informed Regulator



- Updated the Licensing Handbook
- Initiated Smarter Licensing and Oversight Efforts

Optimizing Our Programs



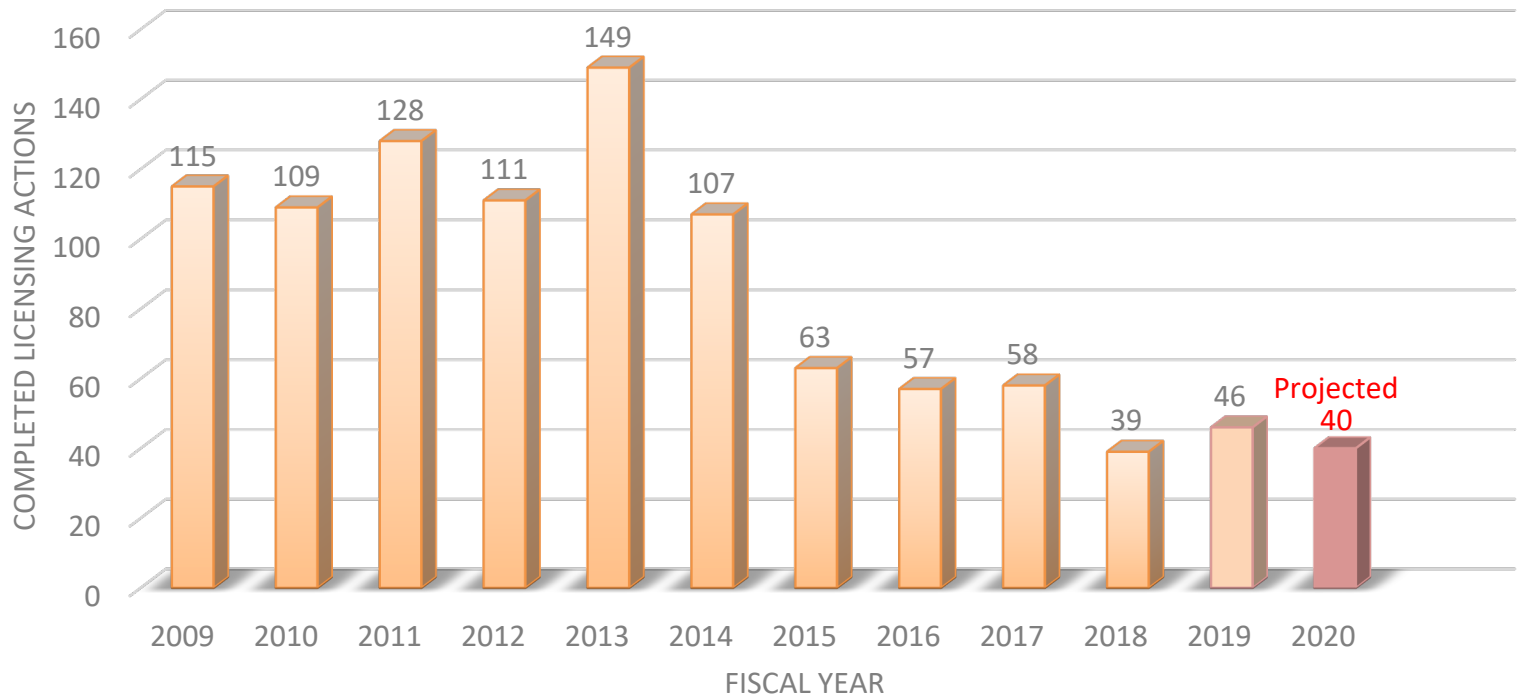


Fuel Facilities Licensing Activities

Jake Zimmerman, Chief
Fuel Facilities Licensing Branch,
NMSS

Effective and Efficient Fuel Facility Licensing Reviews

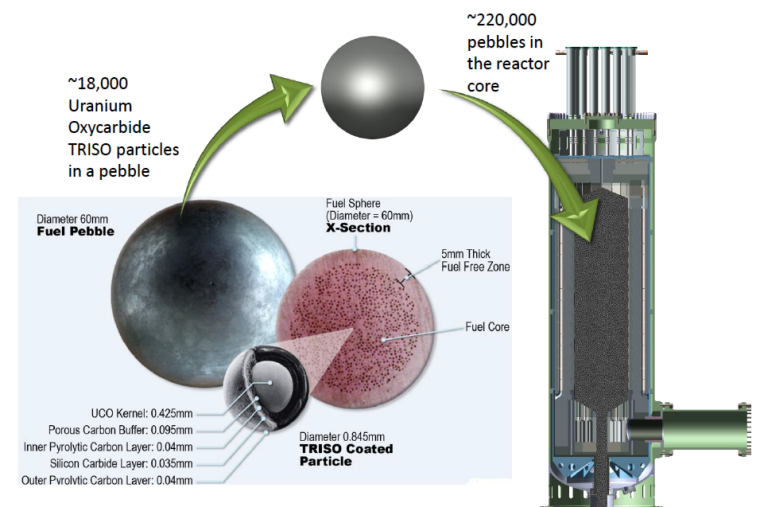
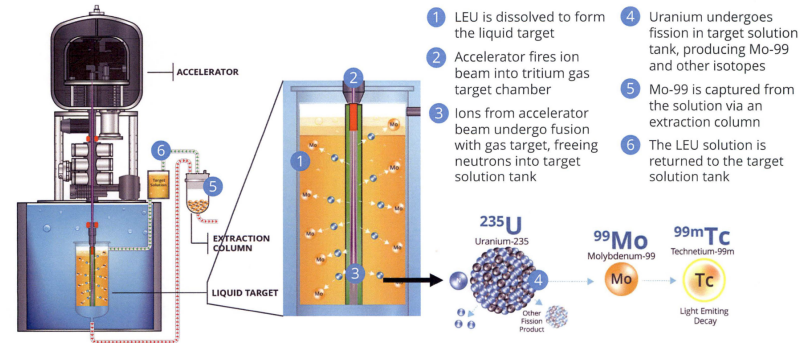
Number of Licensing Actions



Preparing for New Applications

- Early and frequent communications
- Pre-application meetings
- Information sharing with federal partners
- Enhancing our communications
- Working with the Office of Regulatory Research and National Labs

SHINE High Level Overview



Engaging in Knowledge Management

- Licensing seminars series on various topics to promote knowledge management

- Promoting cross-qualifications for technical staff



- Utilizing strategic workforce planning to ensure we have expertise to support our future workload

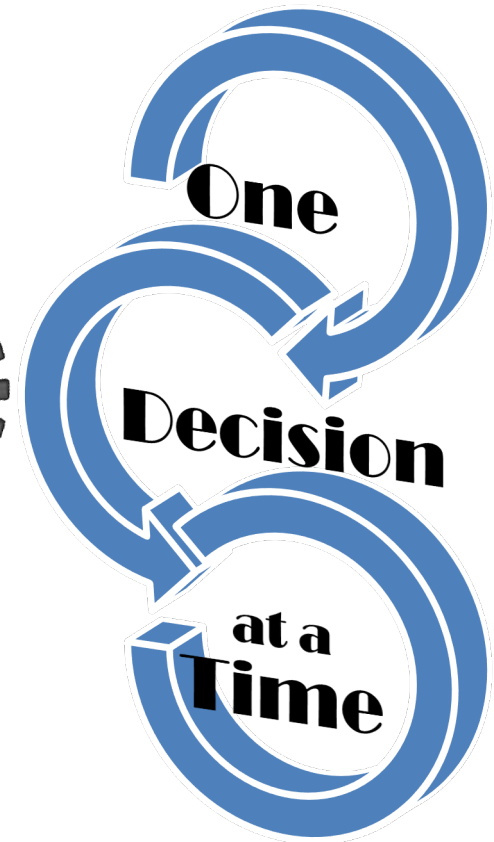


Fuel Cycle Inspection Program

Robert Williams, Chief
Projects Branch 1,
Division of Fuel Facility Inspection,
Region II

Ensuring a Smarter Way to Safety

- Focusing on safety by successfully completing the core inspection program
- Proactively planning to inspect new facilities
- Modernizing decision making one decision at a time
- Partnering with NMSS on the smarter inspection effort



Maintaining Knowledgeable, Agile Staff

- Enhancing the diversity of technical backgrounds through cross training
- Continuing our focus on collaboration and knowledge management
- Implementing the leadership model through Leadership at all levels



Enhancing Openness Through Public Engagement

- Increased engagement with local officials and stakeholders
- Continued resident Inspector outreach
- Transforming licensee performance review meetings



Acronyms

- ATF - Accident Tolerant Fuel
- HALEU - High-assay Low Enriched Uranium
- NMSS – Office of Nuclear Material Safety and Safeguards

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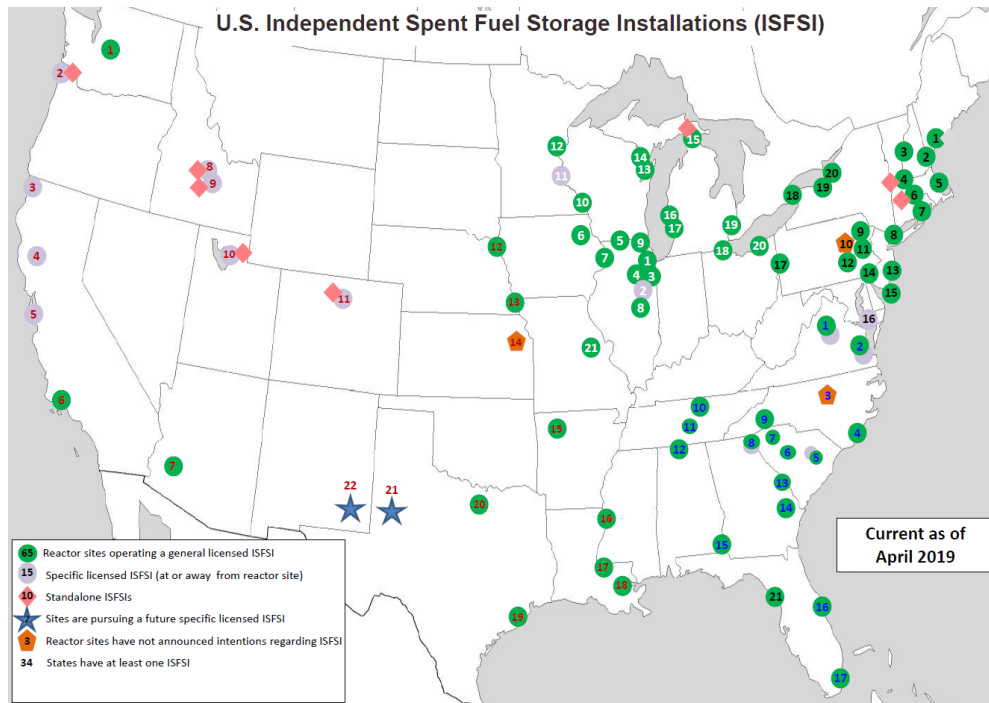




Optimizing our Programs in a Dynamic Environment

John Lubinski, Director
Office of Nuclear Material
Safety and Safeguards

Effectively Responding to a Changing Environment



- Consolidated interim storage facilities reviews on track
- Approved a number of applications for transporting accident tolerant fuel
- Engaging a wider set of stakeholders in new forums

Making progress on becoming a modern risk informed regulator

- Completed graded approach pilot
- Completing assessment of the ISFSI Inspection Program

Innovate Focus on our people
Accept Risk Use technology
modern, risk-informed
regulator



Current Spent Fuel Storage and Transportation Environment

Christopher Regan
Deputy Director, NMSS/DFM

Preparing to address changes

- Assessed current regulatory framework for licensing of accident tolerant fuel
- Conducted assessment of the spent fuel transportation oversight inspection readiness
- Participated in spent fuel transportation tabletop exercises



Optimizing our Licensing Practices

- Revised guidance documents for adaptability, clarity, and efficiency
- Accommodated early renewals
- Developed new guidance for high burn-up fuel
- Ensuring a shared understanding of authorized changes under licensee change processes



Ensuring our Oversight Program is Modern and Risk-Informed

- Used operational experience and risk insights to appropriately focus program
 - Eliminated overlaps in procedures
 - Developed realistic times estimate for inspections
 - Used risk insights to focus hours on most important aspects of oversight
- Recommendations to be fully implemented in FY 2021





Spent Fuel Storage and Transportation Licensing Activities

John McKirgan, Chief
Spent Fuel and Transportation
Licensing Branch,
NMSS

Efficiently License and Certify Storage and Transportation Containers

- Completed an increased number of licensing actions due to licensing process efficiencies
- Completed a number of significant licensing actions



Promoting Transparency and Emphasizing Outreach

- Proactively engaging stakeholders on new and on-going actions
- Augmented outreach on interim storage
- Proactive engagement has facilitated progress on the consolidated storage applications



U.S. NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

SEARCH

REPORT A SAFETY CONCERN

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Home > Radioactive Waste > Spent Fuel Storage > FAQ

Spent Fuel Storage in Pools and Dry Casks Key Points and Questions & Answers

On this page:

- Questions and Answers – General
 - What is spent nuclear fuel?
 - Why does spent fuel need to be cooled?
 - Why not require real time radiation monitoring or EPA RadNet monitors around an independent spent fuel storage installation (ISFSI)?
 - How are licensees required to fund dry storage facilities?
 - What is high burnup fuel?
 - Could high burnup fuel degrade in storage?
 - What were the inspection results of the canisters located at the Diablo Canyon ISFSI?
- Questions and Answers – Spent Fuel Pool Safety
 - What do you look at when you license a fuel storage facility? How do I know it can withstand a natural disaster?
 - How do you know the fuel pools are safe? Does the NRC inspect these facilities, or just the reactor itself?

Safety Focused in a Dynamic Environment

- Completed emergent and important licensing requests
- Leveraged tools to focus on most important casework
- Utilizing strategic workforce planning to build the workforce of the future



Becoming a Modern Risk-Informed Regulator

- Successfully completed the graded approach pilot amendment
- Interacting with industry to enhance understanding of safety margin
- Evaluating a topical report program to reduce unnecessary submittals





Spent Fuel Storage and Transportation Oversight Activities

Linda Howell, Deputy Director
Division of Nuclear Materials Safety,
Region IV

Substantial Collaboration and Openness

- Multi-disciplinary teams were used to resolve significant technical issues
- Resource sharing
- Enhanced learning and knowledge transfer among staff



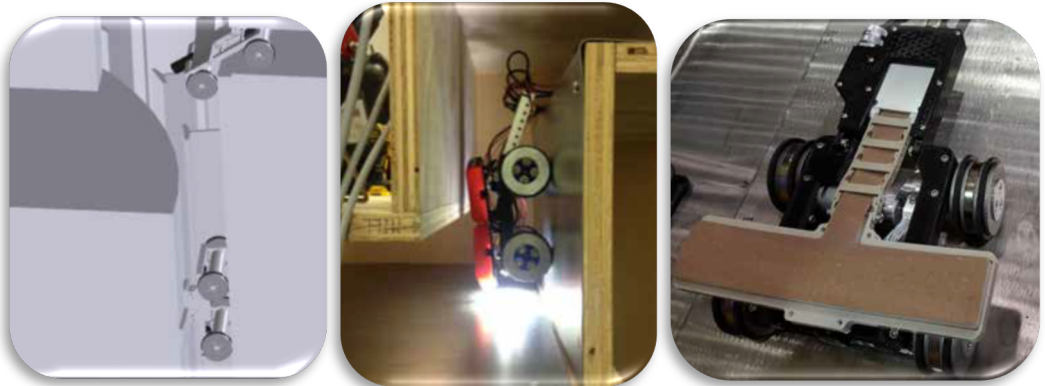
Maintaining Openness with Stakeholders

- Leveraged technology to improve timeliness of information sharing
- Conducted several briefings for congressional representatives and staff



Preparing for the Future

- Continued focus on safety significant operations
- Developing guidance for future aging management programs
- Evaluating technologies that have been successful in other industrial applications



Continued Safety Focus

- Industry and the NRC continue to share operating experience
- We will complete additional oversight of activities before and after transport if consolidated interim storage facilities are constructed

