



# Strategic Programmatic Overview of the Fuel Facilities and the Nuclear Materials Users Business Lines

- Commission Meeting
- April 23, 2019





# Opening Remarks

Steven West

Deputy Executive Director for Materials,  
Waste, Research, State, Tribal, Compliance,  
Administration and Human Capital Programs

# **Fuel Facilities Business Line Meeting Agenda:**

- Business Line Overview –  
John Lubinski
- Current Program Environment –  
Mike King
- Inspection Program Activities –  
LaDonna Suggs
- International Atomic Energy Agency  
Safeguards Activities –  
Jim Rubenstone



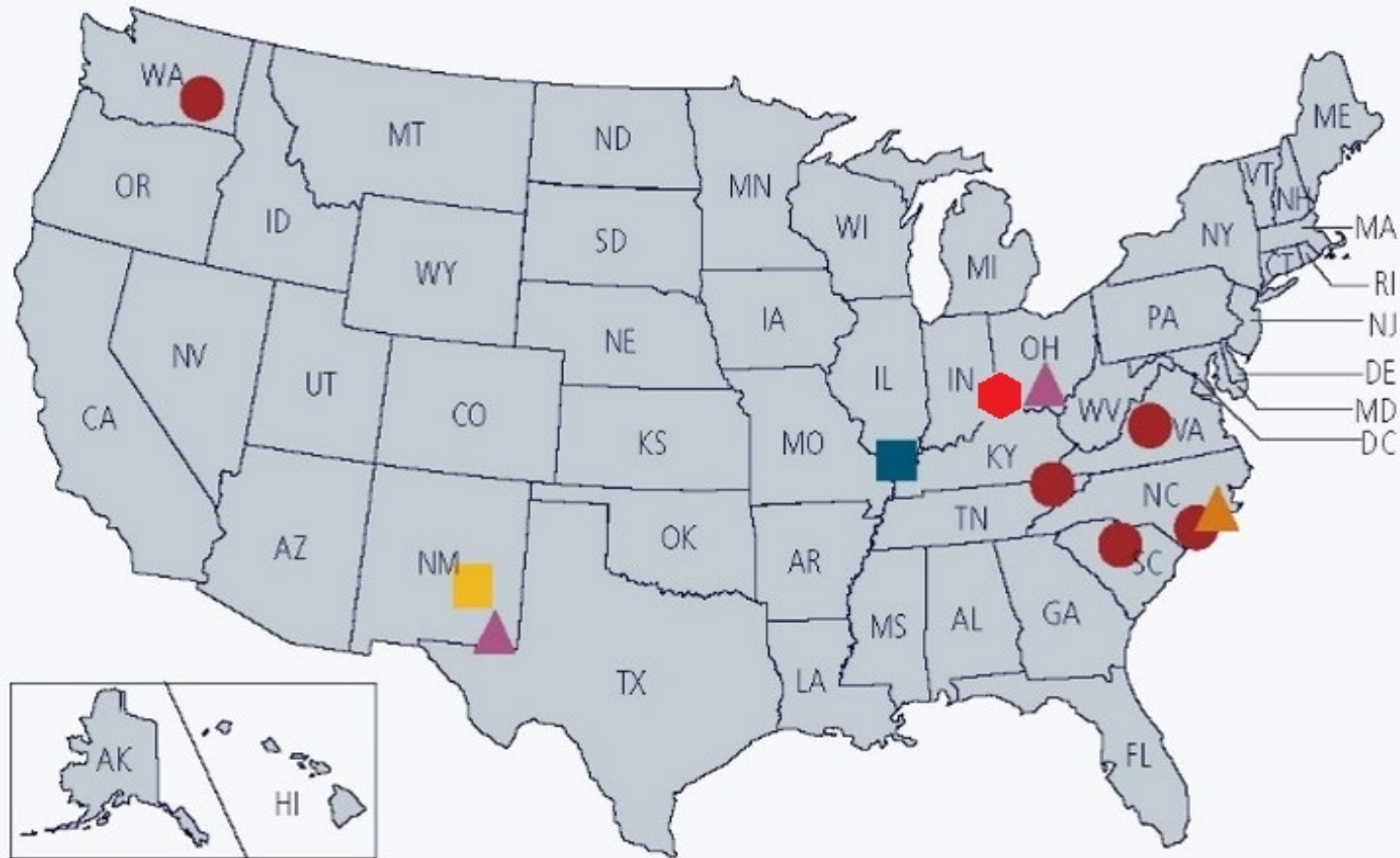
# **Overview of the Fuel Facilities Business Line**

John Lubinski, Director  
Office of Nuclear Material Safety  
and Safeguards

# Focusing on Our Priorities

- Ensuring the readiness to perform licensing reviews for new technologies, medical isotope production, accident tolerant fuel, and advanced reactors
- Ensuring safety and security while increasing effectiveness and efficiency
- Supporting U.S. non-proliferation activities
- Maintaining effective communications with stakeholders on regulatory activities

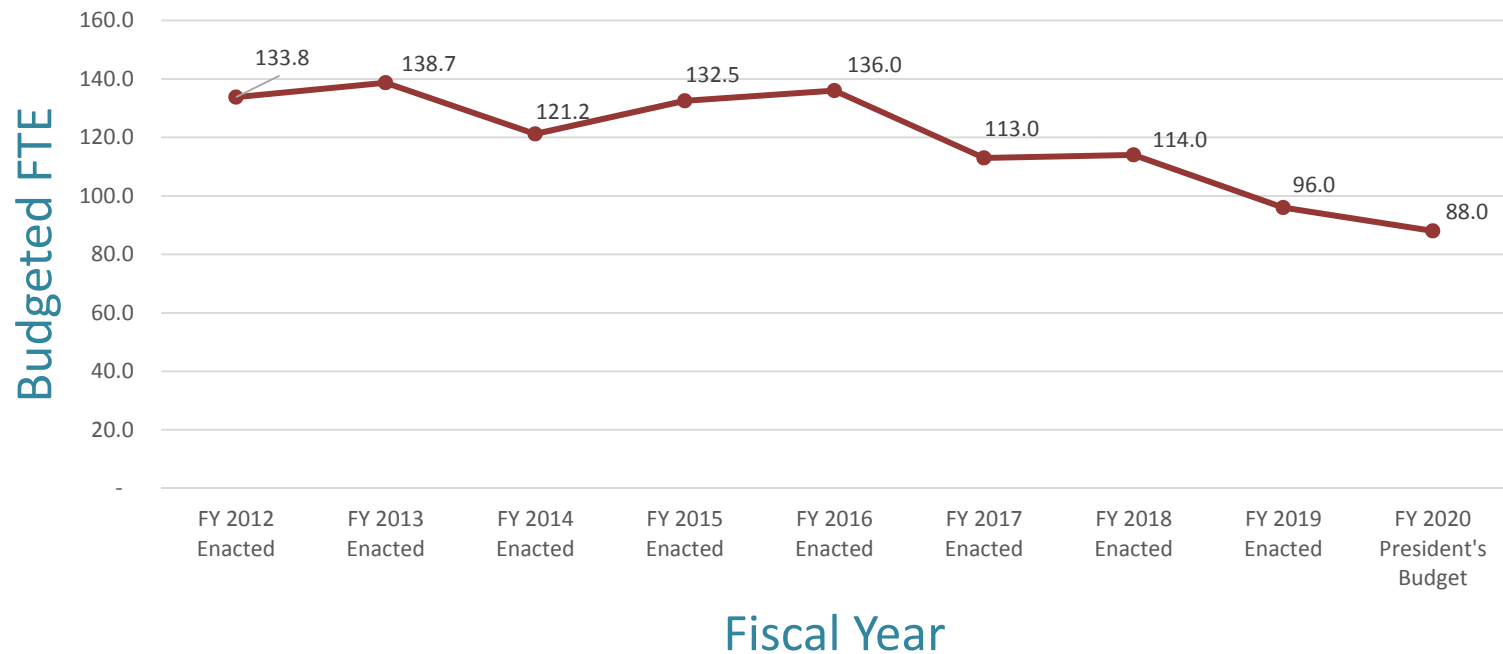
# Regulated Fuel Cycle Facilities



- Uranium Hexafluoride Conversion Facility (1)
- Uranium Fuel Fabrication Facility (5)
- ▲ Gas Centrifuge Uranium Enrichment Facility (2)
- ▲ Uranium Enrichment Laser Separation Facility (1)
- Depleted Uranium Deconversion Facility (1)
- ⬡ Gas Centrifuge Test Facility - decommissioning (1)

# Addressing the Changing Workload

## Fuel Facilities Business Line FY 2012 - FY 2020 Budget



# Focusing on Improving Our Regulatory Framework

- Continuing to risk-inform our regulatory activities
  - NMSS memorandum on reasonable assurance of adequate protection
- Improving the effectiveness and efficiency of our programs and processes
  - FCSE and DFFI reorganizations
  - NMSS reorganization and Centers of Expertise





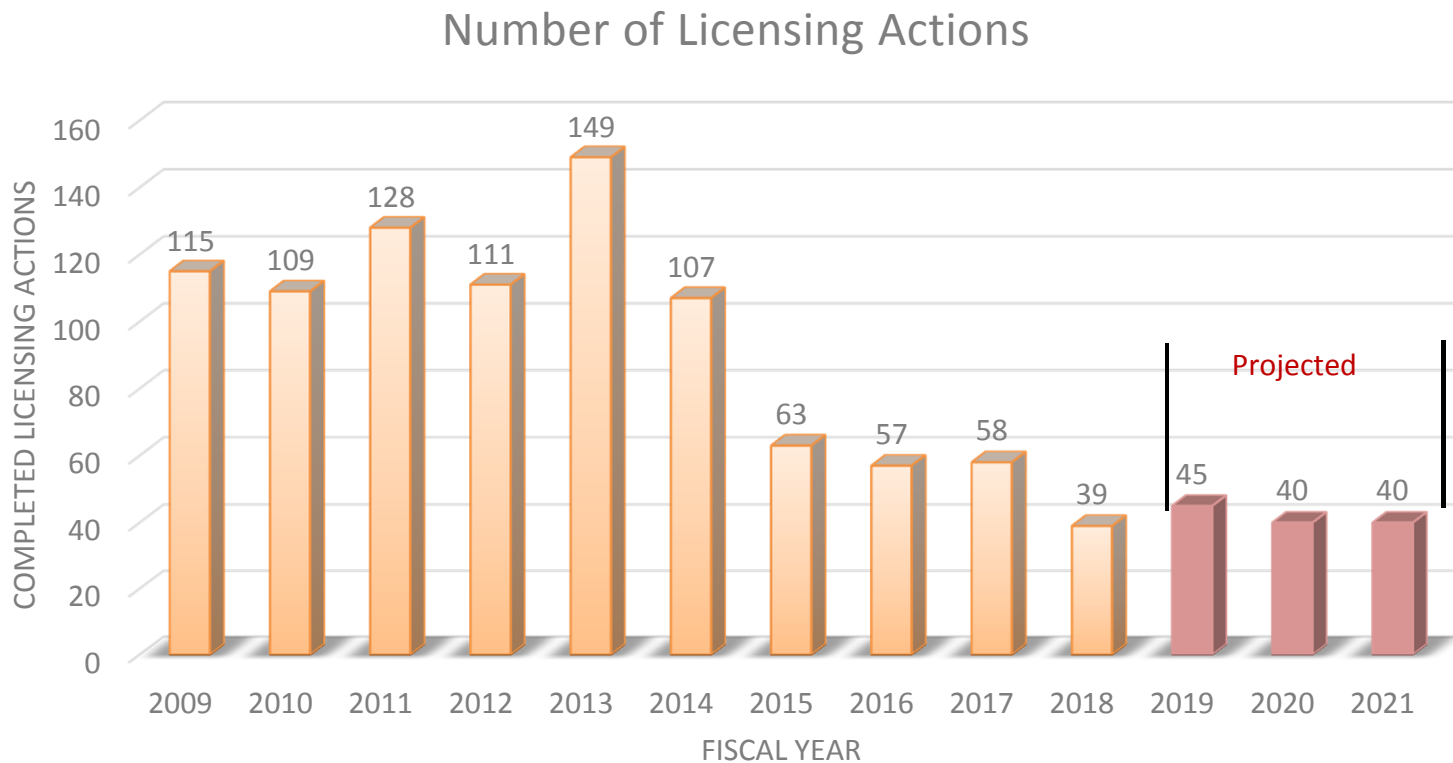
# **Current Fuel Cycle Program Environment**

Mike King, Director

Division of Fuel Cycle Safety, Safeguards,  
and Environmental Review,

NMSS

# Focusing on the Anticipated Licensing Workload



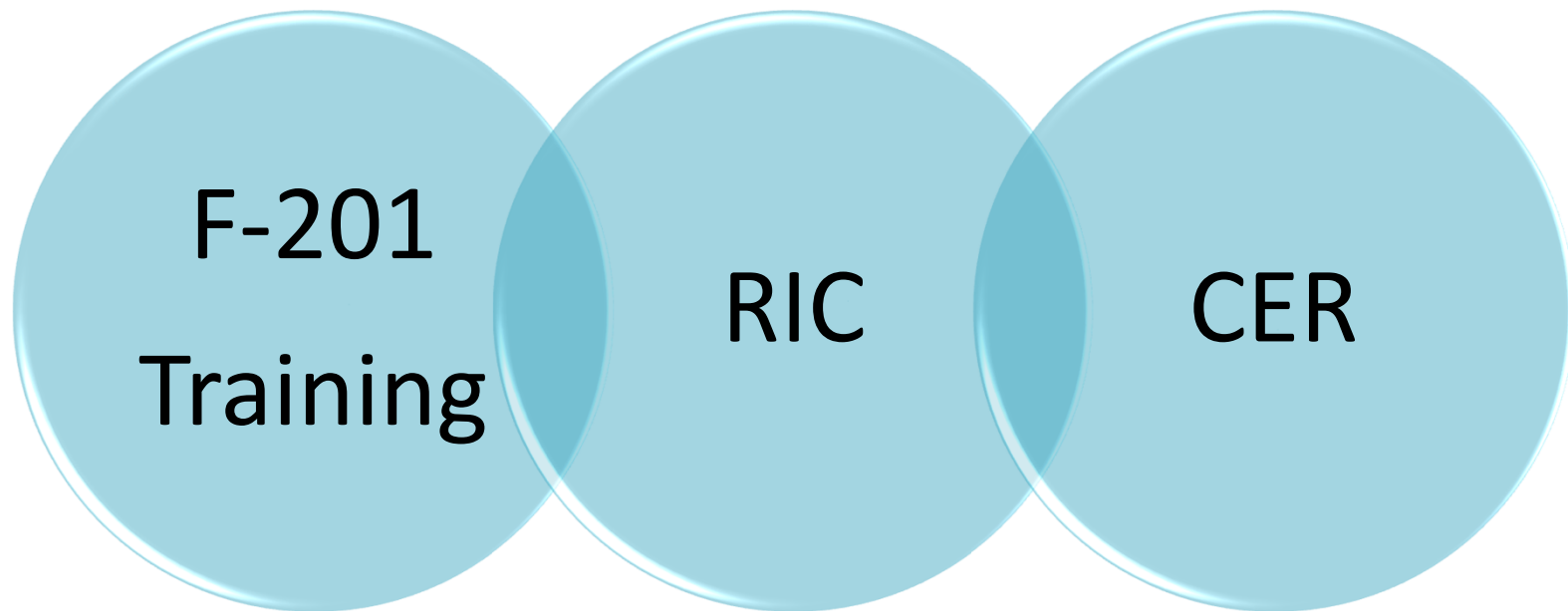
# Successfully Implemented Fuel Cycle Licensing Programs

- Performed internal licensing process reviews
- Implemented enhancements to the licensing program
- Continued to leverage knowledge management activities

# Successfully Implemented Fuel Cycle Oversight Programs

- Established a formal self-assessment program
- Leveraged operating experience to improve the oversight program
- Launched an initiative to evaluate our existing suite of safety and safeguards inspections

# Improving Regulatory Activities through Stakeholder Outreach



# Ensuring the Safety and Security of Fuel Facilities

- Implementing strategies to risk-inform the licensing and inspection program
- Modernizing our decision-making
- Supporting medical isotope, accident tolerant fuel, and advanced reactors licensing activities



# Fuel Cycle Inspection Program Activities

LaDonna Suggs, Director  
Division of Fuel Facility Inspection,  
Region II

# Focusing on the Mission and Stakeholder Outreach





# Enhanced Inspection Processes and Optimized Organizational Effectiveness

- Enhanced the core inspection program
  - Developed a focus area matrix
  - Shifted annual fire protection and operations to resident inspectors
  - Improved the *Licensee Performance Review* process
- Implemented reorganization aligning with agency goals and improving staff-to-supervisor ratio

# Sharpening the Saw

- Leveraging cross-office Communities of Practice and information technology
- Bolstering support of inspector cross-qualification in multiple business lines
- Collaborating with the Program Office to implement strategies to address challenges and identify areas of transformation



# International Atomic Energy Agency Safeguards Activities Updates

James Rubenstone, Chief

Material Control & Accounting Branch,  
Division of Fuel Cycle Safety, Safeguards,  
and Environmental Review,

NMSS

# Implementing International Safeguards at NRC-Licensed Facilities

- U.S. agreements with IAEA and our nuclear trading partners provide for safeguards commitments at NRC-licensed facilities
- NMSS works closely with other NRC Offices and with our interagency partners
- NMSS manages the NRC support for and use of NMMSS

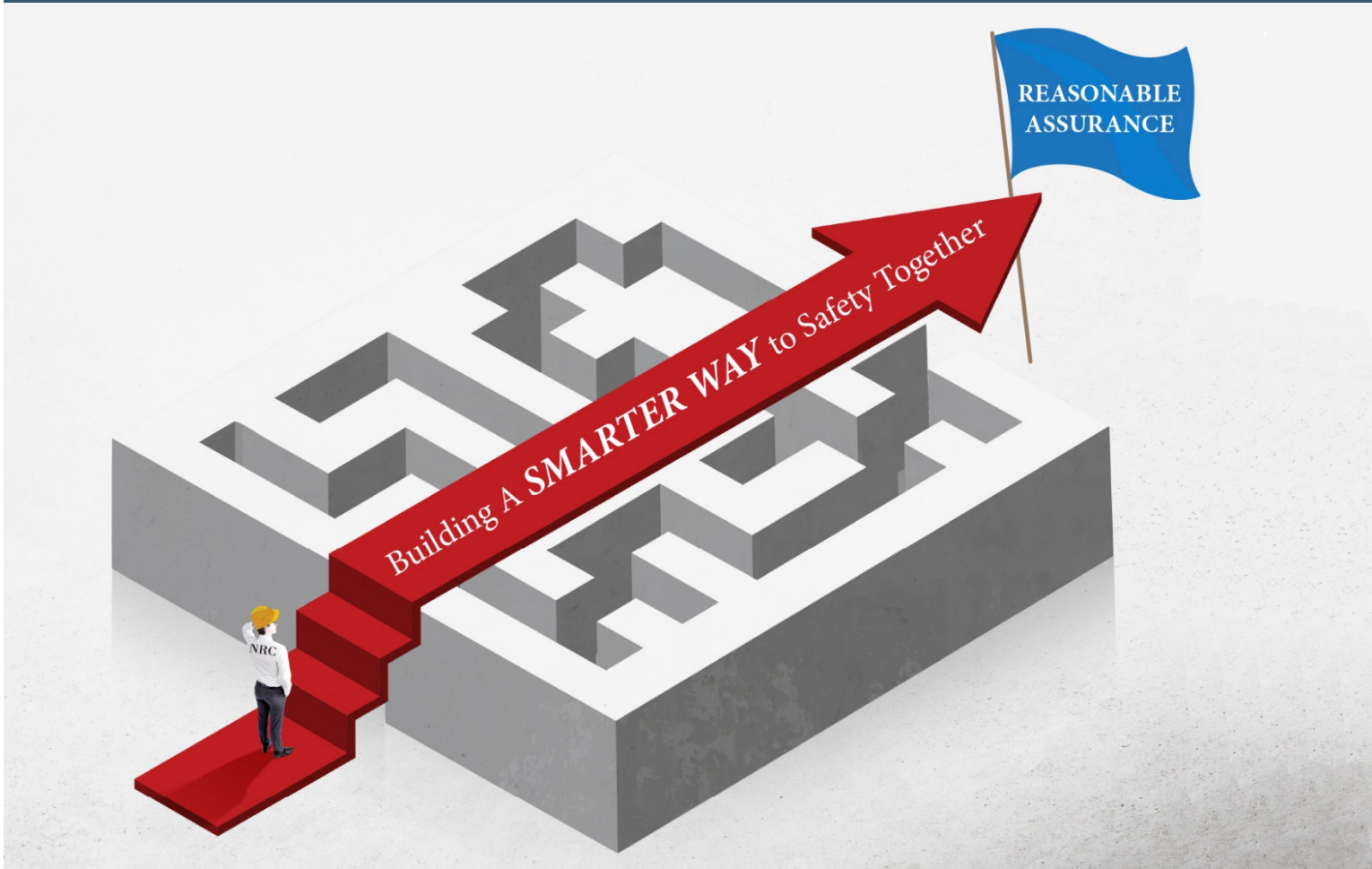
# **Achieving the U.S.-IAEA Caribbean Territories Safeguards Agreement**

- Fulfills U.S. commitments with the IAEA to report on nuclear material in the U.S. Caribbean Territories
- All affected licensees reported as required
- U.S. provided the initial report to IAEA on schedule in August 2018

# Readiness to Address Brexit Impacts on U.S.-U.K. Nuclear Trade

- U.S. nuclear trade with Euratom countries (including U.K. and 27 others) is under an Agreement for Nuclear Cooperation (123 Agreement)
- Interagency and NRC goal is to minimize the disruption of U.S.-U.K. trade in nuclear material and equipment in the event of Brexit

# TRANSFORMING THE NRC



# Questions





# **Nuclear Materials Users Business Line**

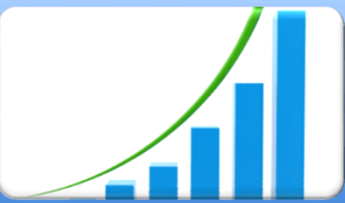
Steven West

Deputy Executive Director for Materials, Waste,  
Research, State, Tribal, Compliance,  
Administration and Human Capital Programs

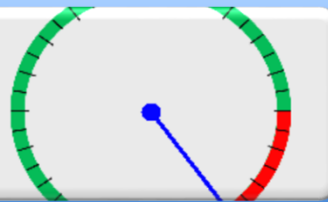
# Strategic Focus Areas Driven by Innovation and Transformation



Re-evaluating roles and responsibilities within the National Materials Program



Improving the efficiency of IMPEP program and processes



Risk-informing the oversight process



Preparing for emerging medical technologies

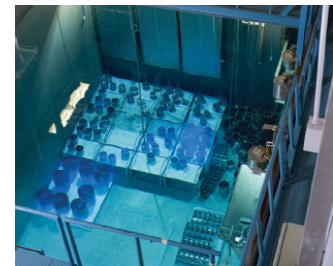


# Overview of Nuclear Materials Users Business Line

John Lubinski, Director  
Office of Nuclear Material Safety  
and Safeguards

# Ensuring Safety Over a Broad Range of Activities

- Our work supports the safe and beneficial use of radioactive material in medical, industrial, and academic applications
- We oversee more than 2500 materials licenses



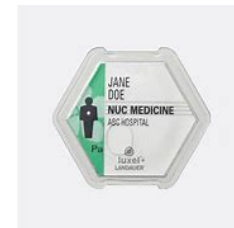
# Prioritizing our Work to Meet Our Mission in a Changing Environment

- Effective implementation of programs related to inspection and licensing, State and Tribal coordination, and source security
- Complete review of the State of Vermont Agreement State application
- Assess the roles and responsibilities within the National Materials Program
- Prepare for new medical technologies

# Utilizing risk insights to inform our regulatory activities

Reasonable assurance of adequate protection through updating:

- inspection manuals and inspection procedures, and
- rules to be more informed by risk and support the use of new technologies





# Status of the National Materials Program

Andrea Kock, Director  
Division of Materials Safety, Security, State,  
and Tribal Programs

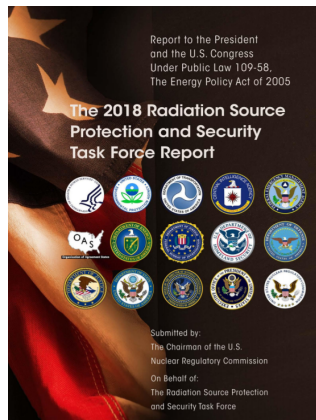
# Mission Focused in a Changing Environment

- Coordinating with the Food and Drug Administration on emerging medical technologies
- Working collaboratively with Agreement States to:
  - ensure a common understanding of the program;
  - prioritize activities; and
  - evaluate roles and responsibilities under the National Materials Program



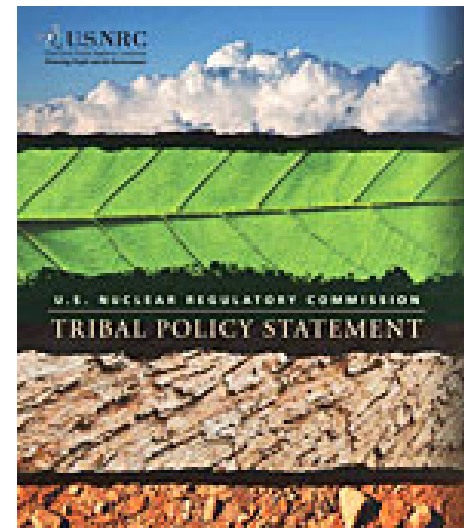
# Ensuring Effective Source Security through Coordination

- Ensuring infrastructure for source security remains robust
  - Completion of the Radiation Source Protection Task Force quadrennial report
  - Comprehensive review and response to the Government Accountability Office report on source security
  - Evaluation of Category 3 source security



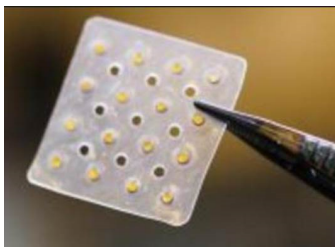
# Effective Implementation of the Tribal Policy Statement

- Continued outreach to tribes
- Completed the Tribal Protocol Manual
- Made significant enhancements to the Tribal Program



# Enabling the Safe Use of Emerging Medical Technologies

- Flexible regulatory framework supports efficient review of new technologies
- We are effectively engaging our stakeholders to evaluate existing training and experience requirements due to an increased use of new radiopharmaceuticals

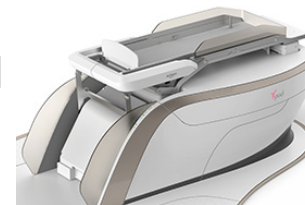


CivaSheet



Oncosil

GammaPod



Masep Infini





# **Integrated Materials Performance Evaluation Program (IMPEP) Trends and Agreement States Program Topics**

Paul Michalak, Chief

Agreement State and Liaison Programs Branch

# IMPEP Continues to be Effective and Performance is Strong

- There is strong Agreement State participation in IMPEP reviews and team member training
- Most programs evaluated in 2018 were determined to be adequate and compatible
- All four regional materials programs were found adequate
- Overall NRC and Agreement State performance indicates public health and safety are protected



# Ensured the Effectiveness and Efficiency of IMPEP

- Completed a focused self-assessment of IMPEP
- Finalized a revision to the primary guidance document used in IMPEP
- Established a group to examine streamlining the IMPEP process
- Implemented an annual IMPEP team leader workshop to maintain review consistency

# Addressing Areas of Interest to the Agreement States

- The NRC has successfully met the training needs of the Agreement States
- There is active participation of Agreement States in National Materials Program activities
- We are further integrating the Agreement States into the rulemaking process

# Wyoming is now the 38<sup>th</sup> Agreement State

- Wyoming Agreement became effective on September 30, 2018
- Transfer of all agency records related to the agreement is completed
- June 2019 meeting scheduled with the State to discuss program implementation status



# Significant Progress on Vermont Agreement State Application

- Vermont's radioactive materials regulations were approved in January 2019
- Vermont submitted its formal application to become an Agreement State
- Working with Vermont to complete the Agreement process with an effective agreement date of October 1, 2019

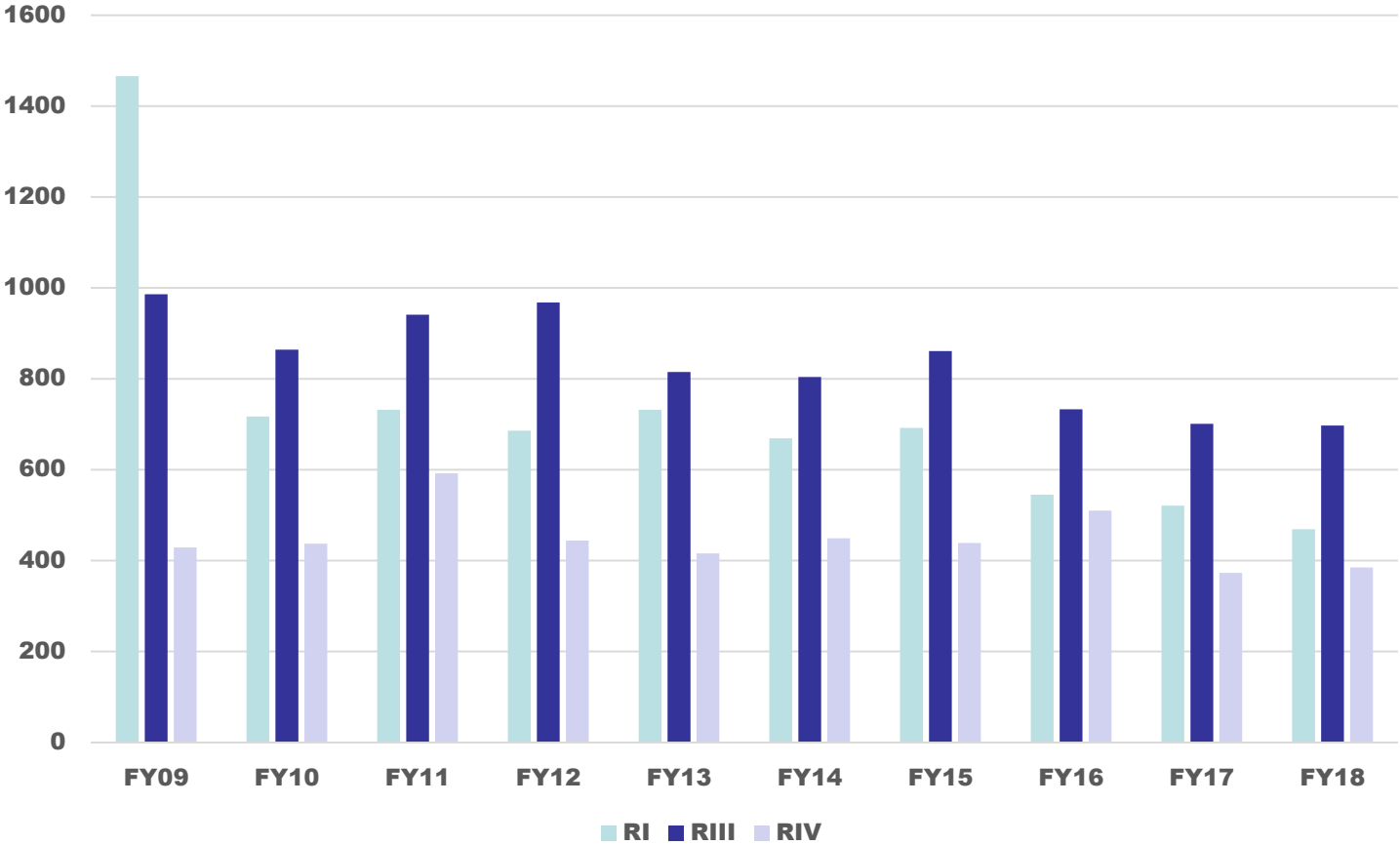


# Regional Materials Licensing and Inspection Program Activities

Joseph L. Nick, Deputy Director  
Division of Nuclear Materials Safety, Region I

# Licensing Trends

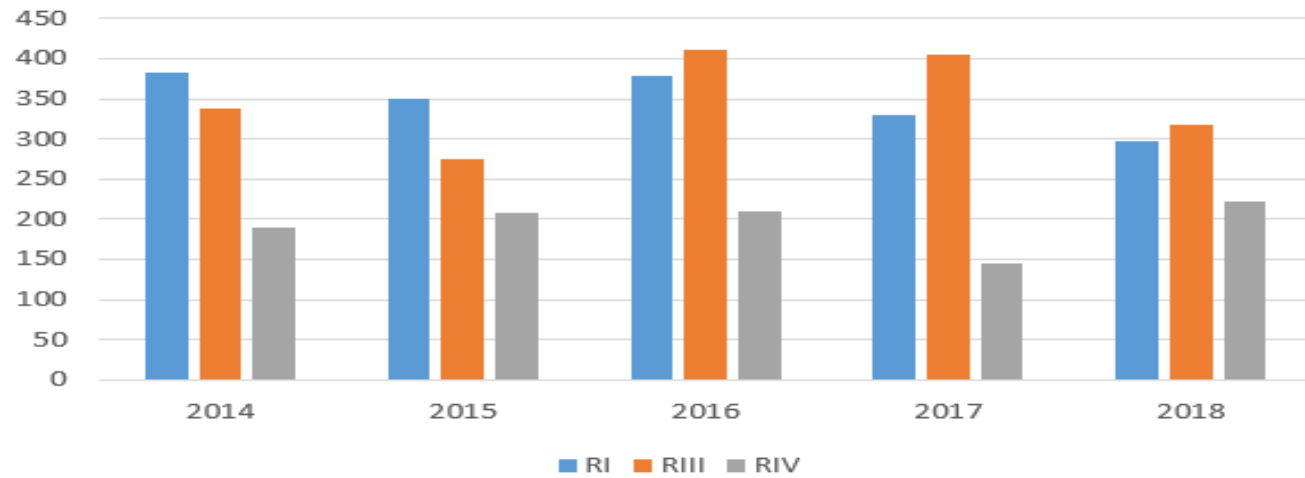
## Licensing Actions Completed in the Regions



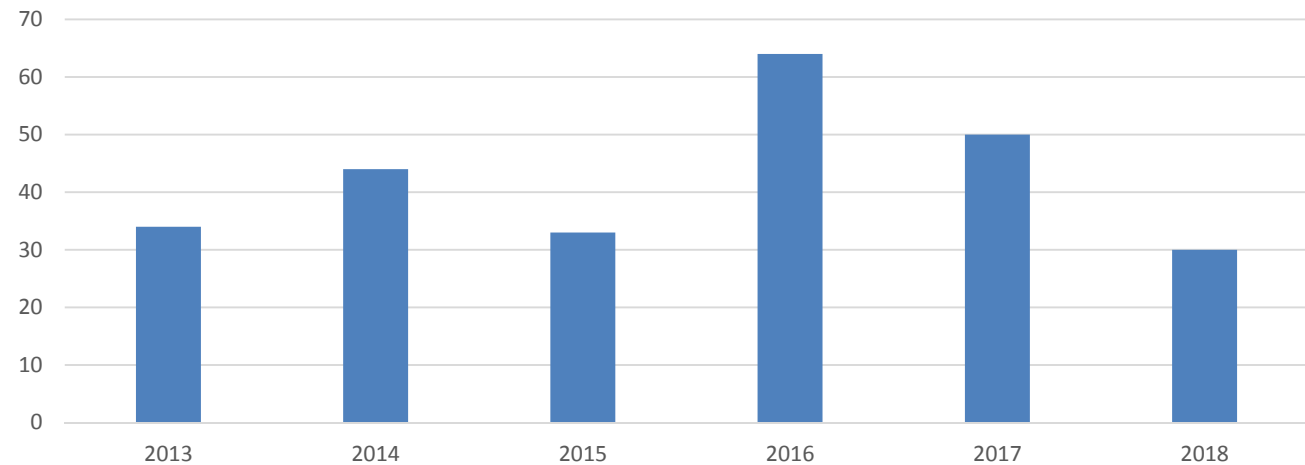
# Inspection and Enforcement Trends



Inspection Totals by Fiscal Year



Number of Escalated Actions



# Regional Licensing and Inspection of New and Emerging Technologies



Radionuclide	Physical Half-Life (days) <sup>1</sup>
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# Value-Added Safety Accomplishments



## Source Collection and Threat Reduction Program **SCATR**



## Do You Have Unwanted Sources?

### The SCATR Program:

- ☼ Solicits registration of any radium and other non-transuranic radioactive material acceptable for commercial disposal
- ☼ Establishes collection campaigns with assistance of radiation control agencies, user groups and certain manufacturers
- ☼ Assists in funding disposition of collected materials
- ☼ Notifies owners of other opportunities for disposition as they arise

Register Them at <http://osrp.lanl.gov>



Sources eligible for the Off-Site Recovery Project and/or the SCATR Program should be registered at <http://osrp.lanl.gov>



For more information about CRCPD assistance, see [www.crcpd.org/StateServices/SCATR.aspx](http://www.crcpd.org/StateServices/SCATR.aspx)

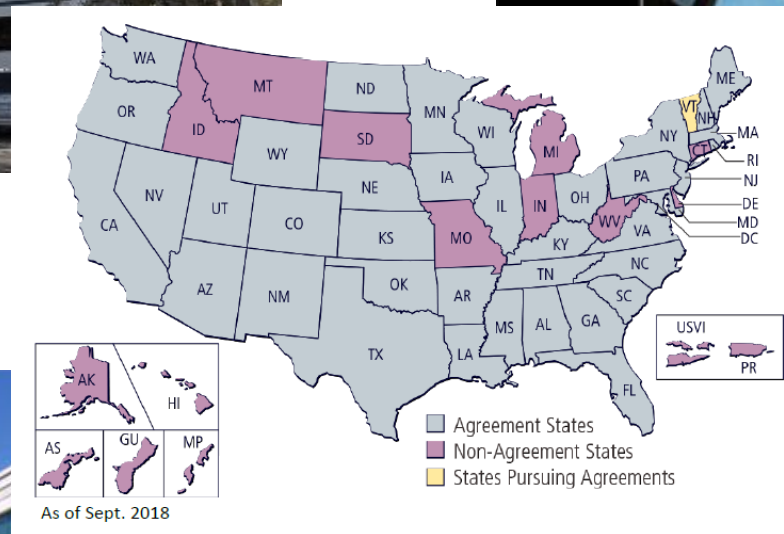


Register Your Sources Now!



- Sponsored by:
- National Nuclear Security Administration
  - Los Alamos National Laboratory
  - Conference of Radiation Control Program Directors, Inc.

# Regional Coordination and Teamwork



# Looking Forward



Modern risk-informed  
regulator



Enhanced partnership with  
the Agreement States



Accomplishing our mission  
in smarter ways



# Acronyms

- ACMUI – Advisory Committee on the Medical Uses of Isotopes
- CER – Cumulative Effects of Regulation
- DFFI – Division of Fuel Facility Inspection
- Euratom – European Atomic Energy Community
- FCSE – Division of Fuel Cycle Safety, Safeguards, and Environmental Review
- FTE – Full Time Equivalent
- FY – Fiscal Year
- IAEA – International Atomic Energy Agency
- IMPEP – Integrated Materials Performance Evaluation Program
- NMMSS – Nuclear Material Management and Safeguards System
- NMSS – Office of Nuclear Material Safety and Safeguards
- RIC – Regulatory Information Conference
- SA – State Agreements Procedure Series