Fuel Cycle Stakeholders Meeting

March 24, 2021

Public Meeting With Nuclear Energy Institute and Members from the Nuclear Fuel Cycle Industry

Osiris Siurano-Perez, Project Manager
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

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Meeting Category and Public Participation

This is a Category 2 meeting. The public is invited to participate in this meeting by discussing regulatory issues with the Nuclear Regulatory Commission (NRC) staff at designated points.



Agenda - March 24, 2021

Topic	Time	Speakers
Introduction (Purpose, Rules for Meeting)	10:00 AM	Osiris Siurano-Pérez, Project Manager Division of Fuel Management (DFM)
Opening Remarks	10:10 AM	Andrea Kock, Director Division of Fuel Management Office of Nuclear Material Safety and Safeguards U.S. Nuclear Regulatory Commission Janet Schlueter Nuclear Energy Institute (NEI)
 Status of Action Items from October 2020 Meeting Integrated Schedule and Supplement Updates 	10:15 AM	Osiris Siurano-Pérez, Project Manager, DFM
Status of ATF and Advanced Reactor Activities	10:45 AM	Marilyn Díaz, Project Manager, DFM Nima Ashkeboussi, Sr. Director Fuel and Radiation Safety Programs, NEI Ben Holtzman, Senior Project Manager Fuel and Radiation Safety, NEI
Public Q & A	11:15 AM	
Break	11:25 AM	
 Fuel Facility Licensing Status of Smarter Licensing Program COVID Lessons Learned and Beyond What worked well? What can the agency and 	11:40 AM	Donnie Harrison, Senior Level Advisor, DFM Matthew Bartlett, Project Manager, DFM NRC staff/NEI/Industry
the industry do more of, better, or different?		
Public Q & A	12:20 PM	
Lunch Break	12:30 PM	



Agenda - March 24, 2021 (cont.)

Topic	Time	Speakers
 Fuel Facility Oversight Status of the Fuel Cycle Smarter Inspection Program, COVID-19 Public Health Emergency Oversight Activities Assessment, and Operating Experience Program Discussion on Industry Position regarding Safety Margin: Dispositioning Degraded or Failed Management Measures Above and Beyond Regulatory Requirements, and Meeting Performance Criteria 	1:30 PM	Leira Cuadrado, Branch Chief, DFM NEI/Industry
Public Q & A	2:50 PM	
Break	3:00 PM	
Issues of Low Safety Significance	3:10 PM	Donnie Harrison, Senior Level Advisor, DFM NEI/Industry
Current and Future Non-fee Billable Activities	4:00 PM	Kevin Ramsey, Senior Project Manager, DFM NEI/Industry
Public Q & A	4:15 PM	
Closing Remarks and Adjourn	4:25 PM	Andrea Kock, Director Division of Fuel Management Office of Nuclear Material Safety and Safeguards U.S. Nuclear Regulatory Commission Janet Schlueter
		Nuclear Energy Institute (NEI)



Opening Remarks

Andrea Kock, Director
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

Janet Schlueter, Senior Director Fuel and Radiation Safety Nuclear Energy Institute



Fuel Cycle Stakeholders Meeting

Action Items From Previous Meeting

Osiris Siurano-Perez
Project Manager
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards



Action Item 1

- Update the Integrated Schedule chart and Supplement to:
 - reflect future plans for the Part 61 rulemaking
 - include the status of the guidance for the Cat II facilities
- Consider whether other topics need to be added to the regulatory activities list

Action item 2

- NRC Covid-19 response, Remote/Onsite inspections Feedback and Lessons Learned
 - Consider and communicate how NRC will move forward during Phase B
- Remote plus on-site inspections (combined approach): consider what can be improved

Action Item 3

- NUREG-2159, "Acceptable Standard Format and Content for the Material Control and Accounting Plan Required for Special Nuclear Material of Moderate Strategic Significance"
- Consider holding a public meeting on the draft document 3-4 weeks after comment period on the document has started

Action Item 4

 Revisions to IMC 0616: look at whether the revisions changed the interpretation of minor violation vs. SL-IV violations

Action item 5

 NEI suggestion on Inspection Manual Chapter 0616 App B risk-informed guidance for minor/more-than-minor significance is new position

Action Item 6

- Status of non-fee billable work
 - If possible, NRC staff to provide information on:
 - ➤ Breakdown of enforcement activities that are fee-billable
 - ➤ Budgeted vs. expended resources



- Action Item 1
 - Update the Integrated Schedule chart and Supplement to:
 - reflect future plans for the Part 61 rulemaking
 - include the status of the guidance for the Cat II facilities
 - Consider whether other topics need to be added to the regulatory activities list



- NRC Staff Resolution of Item 1
 - Part 61 rulemaking
 - The NRC is currently implementing two Commission-directed rulemaking activities, which are in different stages
 - > 10 CFR Part 61 low level radioactive waste disposal rule
 - ➤ Development of Regulatory Basis for Greater-Than-Class-C waste rule
 - Both would amend 10 CFR Part 61 and have related proposed requirements
 - NRC staff recommended to the Commission to consolidate and integrate into one proposed rule
 - > SECY-20-0098
 - ➤ Information included on the Integrated Schedule Chart and Supplement
 - The staff is awaiting Commission direction on its recommendation and, therefore, future plans are still to be determined



- NRC Staff Resolution of Item 1 (cont.)
 - Include status of guidance for the Cat II facilities on the Integrated Schedule chart and supplement
 - Information on the status of the document is now included on the chart
 - More detailed information included in the supplement



- NRC Staff Resolution of Item 1 (cont.)
 - Consider whether other topics need to be added to the regulatory activities list
 - The staff has included information on the status of the following rulemaking activities
 - Decommissioning Financial Assurance for Sealed and Unsealed Radioactive Material (PRM-30-66; NRC-2017-0159) - SECY-19-0125
 - Advance Notice of Proposed Rulemaking Alternatives to the Use of Credit Ratings (RIN 3150-AJ92) - SECY-20-0056



- NRC Staff Resolution of Item 1 (cont.)
 - Topics added to regulatory activities list
 - Categorical Exclusions from Environmental Review-SECY-20-0065
 - Rulemaking Plan Transforming the NRC
 Environmental Review Process SECY-21-0001
 - Path Forward and Recommendations for Certain Low-Level Radioactive Waste Disposal Rulemakings
 - SECY-20-0098



- NRC Staff Resolution of Item 1 (cont.)
 - Topics added to regulatory activities list
 - Proposed Rule: Harmonization of Transportation Safety Requirements with International Atomic Energy Agency Standards (RIN 3150-AJ85; NRC-2016-0179) - Part 71- SECY-16-0093 and SECY-20-0102
 - Other activity
 - Low Safety Significant Issues



- Action Item 2
 - NRC Covid-19 response, Remote/On-site inspections Feedback and Lessons Learned
 - Consider and communicate how NRC will move forward during phase II
 - Remote plus on-site inspections (combined approach): consider what can be improved



- NRC Staff Resolution of Item 2
 - The staff considered actions to address the item
 - Will discuss resolution during this afternoon's discussion on Fuel Facility Oversight
 - Presented by Ms. Leira Cuadrado, Chief, Inspection and Oversight Branch, DFM



- Action Item 3
 - NUREG-2159, "Acceptable Standard Format and Content for the Material Control and Accounting Plan Required for Special Nuclear Material of Moderate Strategic Significance"
 - Consider holding a public meeting on the draft document 3-4 weeks after comment period on the document has started



- NRC Staff Resolution of Item 3
 - The staff has discussed the request
 - Decision still pending



Action Item 4

 Revisions to IMC 0616: look at whether the revisions changed the interpretation of minor violation vs. Severity Level IV violations



- NRC Staff Resolution of Item 4
 - The staff will discuss resolution during discussion on Fuel Facility Oversight
 - Presented by Ms. Leira Cuadrado, Chief, Inspection and Oversight Branch, DFM



- Action Item 5
 - NEI suggestion on Inspection Manual Chapter 0616 App B: risk-informed guidance for minor/more-than-minor significance is new position



- NRC Staff Resolution of Item 5
 - The staff will further discuss the issue and the actions taken to address it during discussion on Fuel Facility Oversight
 - Presented by Ms. Leira Cuadrado, Chief, Inspection and Oversight Branch, DFM



- Action Item 6
 - Status of non-fee billable work
 - If possible, NRC staff to provide information on:
 - > Breakdown of enforcement activities that are fee-billable
 - > Budgeted vs. expended resources



- NRC Staff Resolution of Item 6a
 - Provide information on breakdown of enforcement activities that are fee-billable
 - 10 CFR 170.21, Footnote 1
 - ➤ Used to state that fees would not be charged for orders related to civil penalties, or other civil sanctions, or for amendments resulting specifically from the requirements of these orders
 - 10 CFR 170.31, Footnote 2
 - Used to contain similar language
 - Fiscal Year 2020 Final Fee Rule (August 18, 2020)
 - ➤ Deleted fee exceptions set forth in footnote 1 to 10 CFR 170.21, and footnote 2 to 10 CFR 170.31



- NRC Staff Resolution of Item 6a (cont.)
 - Breakdown of enforcement activities that are fee-billable
 - Follow-up services provided by NRC in connection with the order (such as inspections and document-review activities) are billed
 - Activities primarily benefit a specific licensee (maintain license in good standing and contribute to public confidence)
 - NRC retains ability under 10 CFR 170.11 to grant a fee exemption when circumstances exist in which charging fees for follow-up activities related to an order would be unfair
 - Removing fee exceptions will not change policy regarding recovery of costs associated with preparing an order
 Costs will continue to be recovered through annual fees



- NRC Staff Resolution of Item 6b
 - Provide information on budgeted vs. expended resources
 - Burn data will be provided during presentation on non-fee billable activities
 - Presented by Mr. Kevin Ramsey, Project Manager, Fuel Facility Licensing Branch
 - Budget formulation addressed in Fiscal Year 2020 final Fee Rule
 - Commenters expressed desire for industry to be involved with NRC directly during development of its budget
 - ➤ NRC responded that it is not appropriate for regulated entities, nongovernment organizations, and members of the public to be involved in NRC's budget formulation



Integrated Schedule Chart and Supplement Updates

Osiris Siurano-Perez
Project Manager
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards



Integrated Schedule Chart and Supplement Updates

- Updated March 15, 2020
 - Additional information on regulatory activities and other activities incorporated
 - Action item from October 2020 meeting
 - Information for all previously listed activities updated



- Information on status of all listed activities
 - Updated as of March 15, 2021
- Additional activities impacting fuel facilities listed
 - Rulemaking Activities
 - Decommissioning Financial Assurance for Sealed and Unsealed Radioactive Material (PRM-30-66; NRC-2017-0159) - (SECY-19-0125)
 - Advance Notice of Proposed Rulemaking Alternatives to the Use of Credit Ratings (RIN 3150-AJ92) (SECY-16-0009, SECY-20-0056)
 - Categorical Exclusions from Environmental Review (SECY-20-0065)

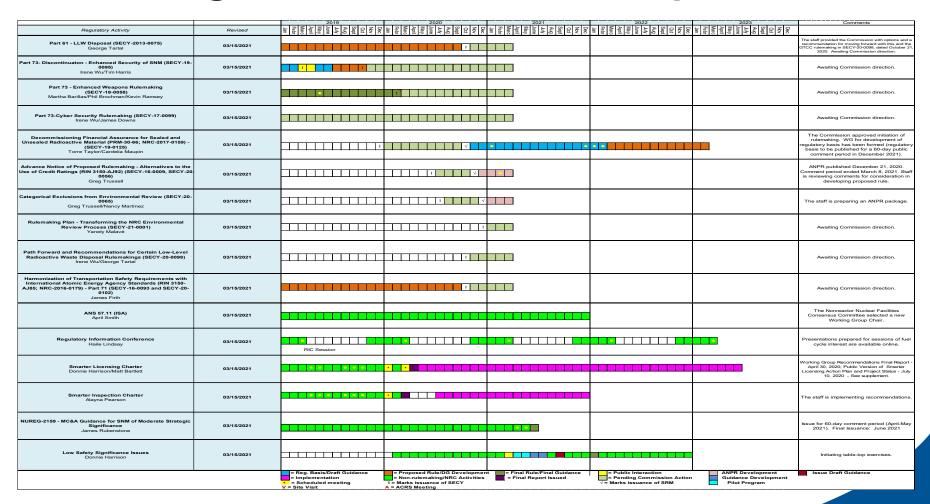


- Additional activities impacting fuel facilities listed
 - Rulemaking Activities
 - Rulemaking Plan Transforming the NRC Environmental Review Process (SECY-21-0001)
 - Path Forward and Recommendations for Certain Low-Level Radioactive Waste Disposal Rulemakings (SECY-20-0098)
 - Harmonization of Transportation Safety Requirements with International Atomic Energy Agency Standards (RIN 3150-AJ85; NRC-2016-0179) - Part 71 (SECY-16-0093 and SECY-20-0102)



- Additional activities impacting fuel facilities listed
 - Other Activities
 - NUREG-2159 MC&A Guidance for SNM of Moderate Strategic Significance
 - Low Safety Significance Issues (LSSI)





- See Portable Document Format (PDF) under ADAMS Accession Number ML21082A400.
- See ADAMS Accession Number ML21082A424 for a detailed summary of the changes.



Integrated Schedule Supplement Updates

- All sections revised
- Included information on new listed activities



Updates to Integrated Schedule Chart and Supplement

- Updated information
 - Fuel Facility Stakeholders Meeting
 - https://www.nrc.gov/materials/fuel-cycle-fac/regs-guidescomm.html#cumeffects
 - Integrated Schedule (Chart)
 - https://www.nrc.gov/docs/ML2108/ML21082A400.pdf
 - Summary of changes to previously listed activities (October 2020-March 2021)
 - ADAMS Accession Number ML21082A424
 - Integrated Schedule Supplement
 - https://www.nrc.gov/docs/ML2108/ML21082A417.pdf



Updates to Integrated Schedule Chart and Supplement

QUESTIONS/COMMENTS

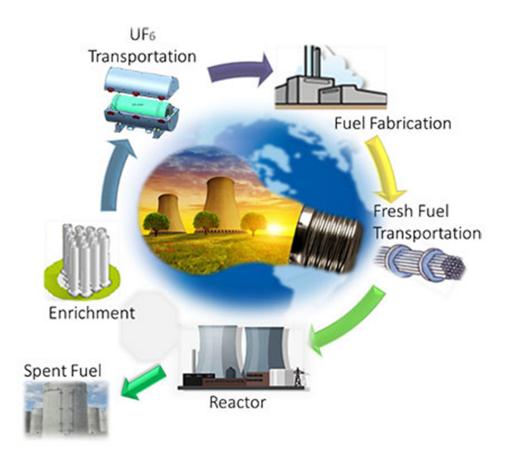


Status of Accident Tolerant Fuel and Advanced Reactor Activities

Marilyn Diaz-Maldonado, Project Manager
Fuel Facility Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards



Status of Accident Tolerant Fuel





Status of Accident Tolerant Fuel

- Actions and Activities Completed
 - July 23, 2020: ATF Public Website created
 - Literature Reviews Completed
 - FeCrAl cladding transportation
 - Chromium-coated cladding transportation
 - Spent fuel for cladding technologies
 - Assessment of existing transportation packages for use with High Assay Low Enriched Uranium (HALEU)
 - March 9, 2011: Regulatory Information
 Conference Session

Contact:

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Status of Accident Tolerant Fuel

- Licensing Actions Completed
 - Fuel Facility
 - Louisiana Energy Services Enrichment to 5.5%
 - Global Nuclear Fuels (GNF) Minimum margin of subcriticality for enrichments up to 8%
 - Transportation
 - GNF FeCrAl assemblies
 - GE-H Irradiated ATF to Oak Ridge National Laboratory
 - Framatome Atrium 10 eATF to Monticello Nuclear Generating Plant
 - Westinghouse ATF and 7% enriched fuel



Status of Accident Tolerant Fuel

- August 26, 2019 NRC Letter to Nuclear Energy Institute (ML19235A261): timeline for NRC reviews to support industry's 2023 ATF goal
 - NRC must receive a fuel facility application up to 2 years prior to deployment (amendment to existing license)
 - NRC must receive a certificate of compliance(CoC) application for UF₆ transportation container up to 2 years for a new certificate prior deployment
 - NRC must receive a CoC application for fresh fuel transportation container up to 1.5 years prior deployment
- The NRC is conducting research on criticality benchmarking data for higher enrichments and ATF cladding material properties



Status of Advanced Reactor Fuels





Status of Advanced Reactor Fuels

- Continuing to assess our regulatory framework to identify data needs and/or challenges
- Developing strategy for research needed to obtain information to support NRC reviews
- Assessing existing guidance to identify potential gaps that must be addressed to support advanced reactor fuel designs
 - Updating NRC guidance for material control and accounting for Category II fuel cycle facilities



Status of Advanced Reactor Fuels

- Monitoring U.S. Department of Energy (DOE) activities and industry's plans
- Engaged advanced reactor developers via letter to communicate timelines
 - NRC must receive a fuel facility application up to 3 years prior to deployment (1.5-3 years of review)
 - NRC must receive a CoC for a transportation container up to 6 months for an existing certificate (amend CoC), or up to 2 years for a new certificate before deployment.



Advanced Reactor Fuels Activities Completed

Report Title	Accession Numbers
Review of Operating Experience for Transportation of Fresh (Unirradiated) Advanced Reactor Fuel Types (CNWRA, 2021)	ML20184A151
Potential Challenges with Transportation of Fresh (Unirradiated) Advanced Reactor Fuel Types (CNWRA, 2021)	ML20209A541
Storage Experience with Spent (Irradiated) Advanced Reactor Fuel Types (CNWRA, 2021)	ML20211L885
Potential Challenges with Storage of Spent (Irradiated) Advanced Reactor Fuel Types (CNWRA, 2021)	ML20022A217
Transportation Experience and Potential Challenges with Transportation of Spent (Irradiated) Advanced Reactor Fuel Types (CNWRA, 2021)	ML20237F393
Disposal Options and Potential Challenges to Waste Packages and Waste Forms in Disposal of Spent (Irradiated) Advanced Reactor Fuel Types (CNWRA, 2021)	ML20237F397
Potential Information Needs Associated With Transportation Of Fresh (Unirradiated) Advanced Reactor Fuel Types (CNWRA, 2021)	ML21021A326
Review of Hazards for Molten Salt Reactor Fuel Processing Operations (ORNL, 2019)	ML19205A386
Metal Fuel Fabrication Safety and Hazards Final Report (PNNL, 2019)	ML19193A057
Model Materials Controls and Accounting Plan for Pebble Bed Reactors (ORNL, 2020)	ML20112F355



EARLY ENAGAGEMENT IS KEY!



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Accident Tolerant Fuel

Nima Ashkeboussi, Sr. Director Fuel and Radiation Safety Programs Nuclear Energy Institute

Ben Holtzman, Senior Project Manager Fuel and Radiation Safety Nuclear Energy Institute



Fuel Cycle Facilities Stakeholder Public Meeting

Accident Tolerant Fuel

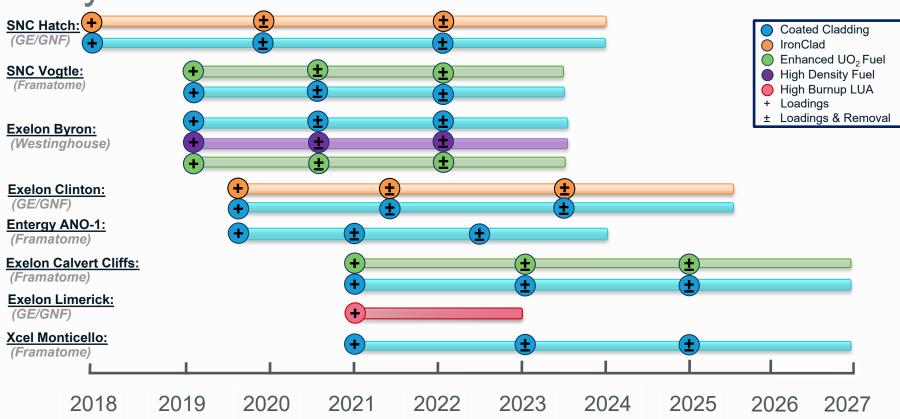
March 24th, 2021







Key U.S. ATF Fuel Milestones



Industry ATF Test Sample Shipment Plans



Quarter Shipped	Reactor Site	Vendor	Shipping Container	Lab Destination	ATF Materials
Q4 2020	SNC	GNF	GE 2000	Primary: ORNL	ARMOR
	Hatch			Secondary: N/A	IronClad
Q3 2021	Exelon Westingho		e Traveler	Primary: INL Secondary: PNNL, ORNL	High Burnup Opt ZIRLO
		Westinghouse			Coated Cladding
	Byron				Axiom
Q4 2022	SNC	SNC Hatch	GE 2000	Primary: ORNL	ARMOR
	Hatch			Secondary: N/A	IronClad

Questions

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Questions?





Public Participation

At this time, the public is afforded an opportunity to ask questions and/or provide comments on the following topics:

- Status of Action Items from October 2020
 Meeting
- Integrated Schedule and Supplement Updates
- Status of Accident Tolerant Fuel and Advanced Reactor Activities



Matthew Bartlett, Project Manager
Fuel Facility Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

Donnie Harrison, Senior Level Advisor
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards



Status Update

- Near Term recommendations incorporated into Division Instructions (DI):
 - Updated DIs for Licensing Overview, Acceptance Review Process, Requests for Additional Information (RAIs), and Safety Evaluation Reports (SERs)
 - Make smarter licensing DIs publicly available by mid-2021
- Schedule update
 - Near-Term by mid-2021
 - Mid-Term late-2021
 - Long-Term 2022 and beyond as resources are available

Contact:

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Contact:

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Near-Term Activities

- Encourage early and routine interactions between the project manager and applicants/licensees during a review
- Provide opportunities for early understanding of application by reviewers (e.g., pre-application - early review site visits)
- Provide an overall schedule and resource estimate in the acceptance letter
- Develop high-quality RAIs to seek the information needed to reach a regulatory determination
- Enable staff to expedite or extend portions of the review when appropriate.



Mid-Term Activities

- Develop internal job aids to improve review efficiency
- Ensure appropriate scoping of each review, document the basis in the SER, and scale the effort accordingly
- Facilitate inspector involvement in the licensing process



Long-Term Activities

- Update guidance for license renewals
- Create a repository of guidance applicable to each facility type
- Develop a standard review plan for greater than critical mass licensees/applicants
- Identify and apply lessons learned from reviews of largescope applications for use on future new technologies/applications



QUESTIONS/COMMENTS



Public Participation

At this time, the public is afforded an opportunity to ask questions and/or provide comments on the following topics:

- Fuel Facility Licensing
 - Status of Smarter Licensing Program
 - COVID Lessons Learned and Beyond



Fuel Facility Oversight

Leira Cuadrado-Caraballo, Branch Chief
Inspection and Oversight Branch
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards



Smarter Inspection Program Status of Inspection Modifications

- Working Group (WG) conducted a holistic assessment of the fuel cycle oversight program to:
 - Improve effectiveness and efficiency
 - Further integrate risk-informed insights to ensure that the appropriate focus is applied to the areas most important to safety
- Division of Fuel Management Director approved (<u>ML20079E064</u>) the WG's recommendations (<u>ML20078P093</u>) on March 19, 2020



Contact:

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Smarter Inspection Program Status of Inspection Modifications

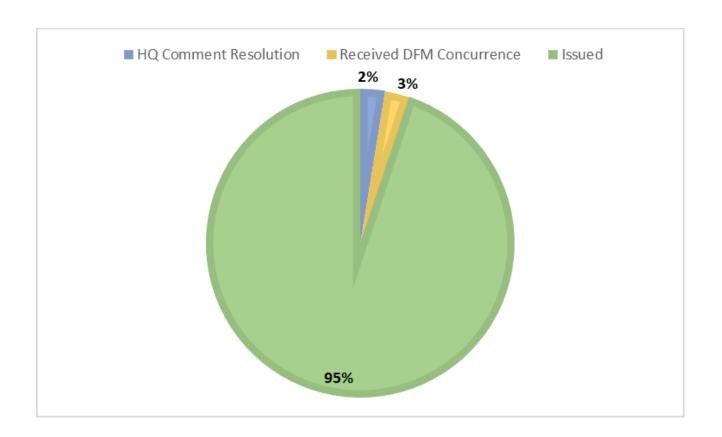
- Revise fuel cycle inspection guidance documents
 - Adjust the <u>frequency</u> of inspections + <u>number of hours</u>, according to the risk of the activity
 - Reduce inspection frequency for facilities with an approved corrective action program

RECOMMENDATIONS

 To date, 38 inspection guidance documents have been revised and issued, and training sessions have been conducted to familiarize staff with the revisions and ensure common understanding of any new and revised guidance



Smarter Inspection Program Status of Revisions





Smarter Inspection Program Proposed Changes

Retirement of Guidance Documents

Retiring Guidance Documents	Information Incorporated Into
IP 88025, "Maintenance and Surveillance of Safety Controls"	 IP 88020, "Operational Safety" IP 88015, "Nuclear Criticality Safety" IP 88030, "Radiation Protection"
IP 88035, "Radioactive Waste Processing, Handling, Storage, and Transportation"	 IP 88030, "Radiation Protection" IP 88045, "Effluent Control and Environmental Protection"
IP 88054, "Fire Protection Triennial"	IP 88055, "Fire Protection"



Smarter Inspection Program Planned Actions for 2021

- Issuance of publicly available closure memorandum
- The following actions will be tracked internally:
 - Complete assessment of the scope of the resident inspector program (FY21 Q3)
 - Formalize process to incorporate operating experience into inspection program after revision of inspection guidance documents (FY21 Q3 – FY22 Q1)
 - Spinoff effort: conduct an assessment of the operating experience program (FY21 Q3 – FY22 Q1)



COVID-19 Public Health Emergency Oversight Activities Assessment



Approach

Phase A

➤ Assess inspection-related activities during the public health emergency (PHE) and make recommendations to enhance guidance and practices currently in place to facilitate inspection activities

Phase B

Assess inspection-related activities during the PHE and make recommendations to enhance guidance and practices during normal implementation of the inspection programs

Phase C

Implement any recommendations approved by management



Phase A

- Consisted of survey to all inspectors in the Nuclear Material and Waste Safety Programs and feedback from townhall meetings
- During Phase A:
 - Shared results from survey at inspector townhall meetings
 - Summarized feedback in Phase A report



Highlights from Phase A

Inspection Best Practices during the PHE

- Plan and communicate often and early for inspections
- Be flexible on inspection duration
- During/Immediately after the remote inspection portion write up detailed notes on exactly what needs to be inspected during the on-site portion
- Conduct as much document review remotely



Highlights from Phase A

Inspection Challenges during the PHE

- Document sharing
- Guidance for remote inspections
- Getting COVID-tested
- Social distance and facial coverings
- Travel-related limitations and challenges
- Conducting remote inspections



Phase B

- Evaluate the various practices, adjustments, processes, and inspection techniques utilized to implement the nuclear materials and waste oversight programs during the COVID-19 PHE and develop recommendations to:
 - enhance the implementation of these programs during the current, ongoing COVID-19 PHE;
 - ensure inspection programs are adequately prepared for future PHEs; and
 - utilize experiences during COVID-19 to enhance any aspects of the current framework for the oversight programs (e.g., inspection planning practices, guidance, communications) to ensure we continue to implement comprehensive, consistent, resilient, and modern oversight programs into the future.



Roundtable Discussion Dispositioning Degraded or Failed Management Measures and Meeting Performance Criteria

U.S. Nuclear Regulatory Commission Staff

- Andrea Kock, Director, Division of Fuel Management
- LaDonna Suggs, Director, Division of Fuel Facility Inspection
- Leira Cuadrado, Chief, Inspection and Oversight Branch
- Eric Michel, Chief, Projects Branch 2, Region II
- Robert Williams, Projects Branch 1, Region II



Staff's Position

 In licensing and inspection space, the staff evaluates the licensee or applicant's Integrated Safety Analysis (ISA) Summary and associated safety programs, including management measures, to determine whether reasonable assurance exists that the applicant has established an ISA program and safety programs that are, and will continue to be, in compliance with 10 CFR Part 70, Subpart H.



Staff's Position

- Licensees determine what controls or control systems are necessary to meet the performance requirements of 10 CFR Part 70.61.
- Once the licensee designates a control or control system as an item relied on for safety (IROFS), it falls within the envelope of the safety program required by 10 CFR 70.62.



Management Measures Compliance

 A licensee fails to meet 70.62(d) when management measures are inadequately designed, implemented, or maintained, such that they will not ensure that IROFS are available and reliable to perform their function when needed, even when the performance requirements of 70.61(b), (c), and (d) are satisfied.



Why is it important to comply with management measures even when performance requirements of 70.61 are met?

 One of the results of an ISA is the identification of controls, both engineered and administrative, that are needed to limit or prevent accidents or mitigate their effects. The identification of controls, however, is not sufficient to guarantee an adequate level of safety. In addition, an effective management system is needed to ensure that, when called on, these controls are in place and are operating properly.



 An ISA may be capable of identifying potential accidents and the controls needed to prevent them, but it cannot ensure effective implementation of the controls and their proper operation. Without a strong management control system in place, the safety of a facility cannot be ensured.



Assessing Significance

- Per the Enforcement Policy, SL IV violations include a failure to meet the requirements of Part 70.61, "Performance Requirements," (including Part 70.61(e)) that does not result in SL I, II, or III.
- IMC 0616 Appendix B complements the enforcement policy by providing a framework for assessing the impacts to safety when determining the significance of certain violations.

Assessing Significance

- A failure of a management measure that does not result in the failure of an IROFS in many cases is a low safety significance violation and is often dispositioned as having minor significance.
- There may be instances in which a failed management measure that does not result in the failure of an IROFS could result in a more than minor violation, for example if deemed to be a programmatic deficiency.

Assessing Significance

A failure to meet the requirements of 10 CFR 70.61(e) (failure of an IROFS) as a result of the failure to meet 70.62(d) (management measures) will likely result in a SL IV or minor violation even if the performance requirements of 70.61 (b), (c), and (d) are met.



Inspection Manual Chapter 0616 Appendix B Examples

 Staff applies risk-informed decision-making in the assessment of the significance of noncompliances. In assessing whether there is a negligible or substantial change in risk, the staff takes a comprehensive approach and evaluates the significance of a non-compliance on a caseby-case basis and with involvement of experts in the technical area being evaluated, in inspection practices, and in enforcement.



Inspection Manual Chapter 0616 Appendix B Examples

- This comprehensive approach is reflected in the examples of Appendix B of IMC 0616, including example 1j.
- Staff removing "not a violation if" statements.

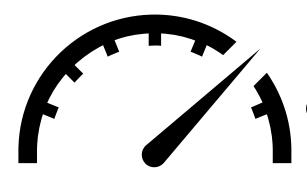


Fuel Facility Oversight

QUESTIONS/COMMENTS



Issues of Low Safety Significance



Donnie Harrison, Senior Level Advisor
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards



Low Safety Significance Issue Resolution

Low Safety Significant Issue Resolution (LSSIR)

Contact:

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NMSS/DFM

301-415-2470

What is being addressed?

Licensing basis questions of very low safety significance that, in some cases, result in an excessive effort (resources and time) to resolve

What is the objective?

Put in place process enhancements to mitigate (risk-inform) these situations

Concept of the Universe of Issues

Safety Significant

Existing Processes

Evaluate issue to determine regulatory actions:

- Generic Issue Screening
- Order
- Backfit (72.62)
- TAR

Clearly NOT in Licensing Basis

Limited effort to determine issue is likely outside icensing basis & is of (very) low safety significance:

Stop Pursuing to Full Resolution

Re-focus Resources

Potential Near-Term Improvements

Continual Improvement

Address issue with appropriate regulatory tools:

- Enforcement
- Order
- Consider Prompt Corrective Action

Clearly in Licensing Basis

Address issue with appropriate tools (achieve compliance or change licensing basis) such as:

- Corrective Action
- Enforcement Discretion
- Change Licensing Basis (72.7 Exemption, 72.56 Amendment, etc.)
- Change Requirement (Rulemaking)

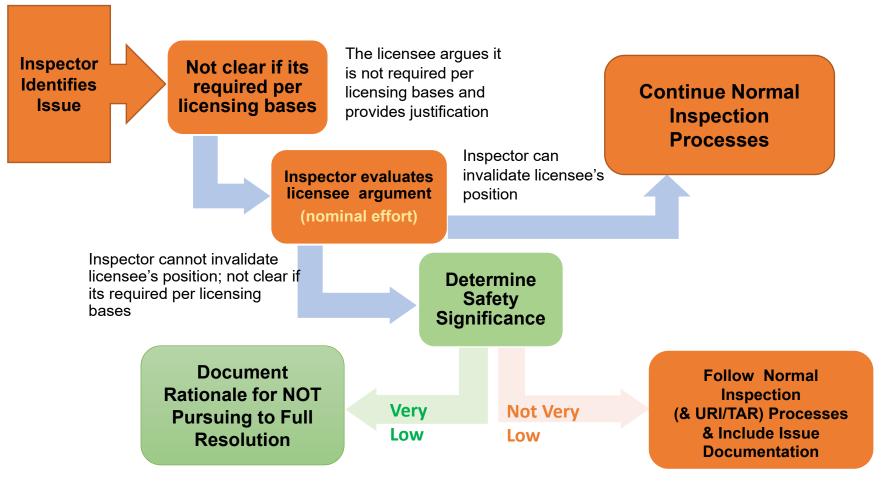
Longer-Term Solutions

Low Safety Significant

Background

- Working team formed across NMSS business lines and including representatives from each of the Regions to share insights on implementing a consistent approach while recognizing differences in business lines and recently added regional representatives
 - Andrea Kock (NMSS Leadership Champion)
 - Mirabelle Shoemaker (Project Coordination)
 - Donnie Harrison (Technical Coordination)

CONCEPT OF INSPECTION PROCESS ON LICENSING BASIS ISSUES



LSSIR – Inspection

Document Rationale for NOT Pursuing Full Resolution



Documentation is different than findings like determining more/less than minor



Issue is not formally resolved, but provides the information/rationale for not pursuing it further and no direct effort is spent trying to close issue



If new information arises that indicates issue is within licensing basis or is not of very LSS then it can be revisited

LSSIR – Inspection



High-level "Enabling Guidance" proposed for a number of Inspection Manual Chapters



Aspects of inspection scoping and issue screening could also address LSSIR



Draft progressive screening questions with supporting frequency-consequence matrices developed to help screening process

Tabletop
Exercises to Test
and Refine
Process

LSSIR – Inspection

Welcome Industry examples – Send to

Mirabelle.Shoemaker@nrc.gov



Preparing for tabletop exercises



Very few issues identified - mining TAR and URI logs



Tabletop exercises being implemented in a phased approach: Fuel Cycle imminent, followed by Spent Fuel

LSSIR – Licensing Action Reviews



Similar concepts being implemented in TAR Process



Similar concepts could be implemented for Licensing Review Focus, Scope, and Level of Detail



Concept fits with holding early internal Assignment & Alignment meetings

Concept of the Universe of Issues

Safety Significant

Existing Processes

Evaluate issue to determine regulatory actions:

- Generic Issue Screening
- Order
- Backfit (72.62)
- TAR

Clearly NOT in Licensing Basis

Limited effort to determine issue is likely outside licensing basis & is of (very) low safety significance:

- Stop Pursuing to Full Resolution
- Document Decision with Bases
- Re-focus Resources

Potential Near-Term Improvements

Continual Improvement

Address issue with appropriate regulatory tools:

- Enforcement
- Order
- Consider Prompt Corrective Action

Clearly in Licensing Basis

Address issue with appropriate tools (achieve compliance or change licensing basis) such as []

- Corrective Action 5
- Enforcement Discretion
- Change Licensing Basis (72.7 Exemption, 72.56 Amendment, etc.)
- Change Requirement (Rulemaking)

Longer-Term Solutions

Low Safety Significar

Time to Start Thinking

Risk Informed Process for Evaluation (RIPE) – Licensing

The Next Phase



NRR has been developing streamlined process to address VLSSIR within licensing basis arena (lower right quadrant)



NRR currently needing PRA capability/adequacy beyond standard risk-informed applications – must have experience in 10 CFR 50.69/TS Initiative 4B



NMSS experience in LSSIR may inform efforts in RIPE. What analysis is needed to show insignificance? Is it only safety or includes "regulatory significance" (e.g., reporting, tracking, etc.)?

Discussion & Questions



Current and Future Non-fee Billable Activities

Kevin Ramsey, Senior Project Manager
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards



Budget vs. Utilization (Oct - Feb)

Product Line	Budget FTE	Utilization FTE	End of Year Proj FTE
Event Response	2.0	0.5	1.2
Generic Homeland Security	3.0	1.2	2.8
International Activities	7.0	3.0	7.1
Licensing	19.0	8.7	20.3
Oversight	26.0	11.4	26.6
Rulemaking	1.0	0.4	0.9
Mission Support	14.0	6.2	14.5
Training	1.0	0.2	0.6
TOTAL	73.0	31.7	74.0

Contact:

Kevin Ramsey <u>Kevin.Ramsey@nrc.gov</u> NMSS/DFM/FFLB 301-415-7506



- Product Line 1 Event Response
 - Event Response Operations
 - Incident Response Exercises
- Product Line 2 Generic Homeland Security (Off Fee Base)
- Product Line 3 International Activities (Off Fee Base)
 - Conventions & Treaties
 - Import/Export Licensing
 - International Cooperation
 - International Liaison



- Product Line 4 Licensing
 - Smarter Licensing Program (607 hours)
 - Guidance for MC&A at Cat II (504 hours)
 - Licensing Assistant Support for Safety/Security (443 hours)
 - NMSS/REFS Technical Assistant (328 hours)
 - Stakeholder Meeting (257 hours)
 - Licensing Assistant Support for Environmental (219 hours)



- Product Line 5 Oversight
 - DFFI Office Tasks (1,819 hours)
 - DFFI Meetings (890 hours)
 - Smarter Inspection Program (813 hours)
 - Risk Informed Inspection Program (772 hours)
 - Enforcement (747 hours)
 - Allegations and Investigations (279 hours)
 - DFFI Technical Assistant (222 hours)
 - Develop/Test Report Generation in RPS (175 hours)



- Product Line 7 Rulemaking
 - Pre-Rulemaking (27 hours)
 - Proposed Rules (37 hours)
 - Final Rules (12 hours)
 - Rulemaking Support (175 hours)
- Product Line M Support Staff
 - Non-Supervisory Staff (685 hours)
 - Supervisory Staff (5,573 hours)
 - Administrative Assistants (1,048 hours)



Future Non-Billable Work in the Fuel Facilities Business Line

• FY 2022

- Commission meetings and drop-in meetings
- New NUREG-2212, Guidance For New Applications For Materials Licenses of Greater Than Critical Mass
- Renew existing license for 2 fee-exempt universities
- Smarter Licensing Long-term actions and periodic review of guidance
- Smarter Inspection Long-term actions and periodic review of guidance
- Annual Fee Rule
- RROAR Rulemaking
- Aligning on Authorizing Official responsibilities
- Operating Experience Review
- COVID Lessons Learned



Future Non-Billable Work in the Fuel Facilities Business Line

• FY 2023

- Commission meetings and drop-in meetings
- Update NUREG-1520, Standard Review Plan for Fuel Cycle Facilities License Applications
- Updating NUREG-1748, Environmental Review Guidance
- Issue new license for 1 fee-exempt university
- Renew existing license for 1 fee-exempt university
- Potential hearing for new license
- Operating Experience Review
- Annual Fee Rule



Current and Future Non-fee Billable Activities

QUESTIONS/COMMENTS



Public Participation

At this time, the public is afforded an opportunity to ask questions and/or provide comments on the following topics:

- Issues of Low Safety Significance
- Current and Future Non-fee Billable Activities



Closing Remarks March 24, 2021

Andrea Kock, Director
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

Janet Schlueter, Senior Director Fuel and Radiation Safety Nuclear Energy Institute



Fuel Cycle Stakeholders Meeting

March 25, 2021

Public Meeting With Nuclear Energy Institute and Members from the Nuclear Fuel Cycle Industry

Osiris Siurano-Perez, Project Manager
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

Email: Osiris.Siurano-Perez@nrc.gov

Phone: 301-415-7827



Meeting Category and Public Participation

This is a Category 2 meeting. The public is invited to participate in this meeting by discussing regulatory issues with the Nuclear Regulatory Commission (NRC) staff at designated points.



Agenda - March 25, 2021

Topic	Time	Presenter
Introduction (Purpose/Rules)	10:00 AM	Osiris Siurano-Pérez, Project Manager, DFM
Opening Remarks	10:10 AM	Andrea Kock, Director Division of Fuel Management Office of Nuclear Material Safety and Safeguards U.S. Nuclear Regulatory Commission Janet Schlueter Nuclear Energy Institute (NEI)
Retrospective Review of Administrative Requirements (RROAR)	10:15 AM	Andrew Carrera, Health Physicist, REFS
Termination of Interagency Agreement with U.S. Department of Energy	10:30 AM	James Downs, Project Manager, DFM Keith Everly, Senior Program Manager, NSIR
Security for Facilities Possessing Category II Special Nuclear Material	10:45 AM	Tim Harris, Senior Program Manager, NSIR
Public Q & A	11:05 AM	
Break	11:15 AM	
Division of Fuel Management Strategic Priorities	11:30 AM	NRC staff/NEI
Public Q & A	12:00 PM	
Summary of Discussions and Action Items	12:10 PM	Osiris Siurano-Pérez, Project Manager, DFM
Closing Remarks and Adjourn	12:25 PM	Andrea Kock, Director Division of Fuel Management Office of Nuclear Material Safety and Safeguards U.S. Nuclear Regulatory Commission Janet Schlueter Nuclear Energy Institute (NEI)



Opening Remarks

Andrea Kock, Director
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

Janet Schlueter, Senior Director Fuel and Radiation Safety Nuclear Energy Institute





Andrew Carrera, Health Physicist
Materials, Rulemaking, and
Project Management Branch
Division of Rulemaking,
Environmental, and Financial
Support
Office of Nuclear Material Safety
and Safeguards



RETROSPECTIVE REVIEW OF ADMINISTRATIVE REQUIREMENTS (RROAR) BY THE NUMBERS



RETROSPECTIVE REVIEW OF ADMINISTRATIVE REQUIREMENTS (RROAR)

Next Steps



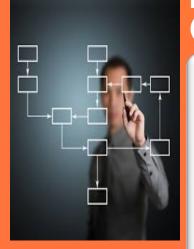
Information
SECY paper,
with the RROAR
Comment
Evaluation
Summary
enclosure
(April, 2021)







Further stakeholder engagements during the rulemaking process



Rulemaking plan(s) (Late 2021)



Termination of Interagency Agreement with U.S. Department of Energy for Authorizing Official and Technical Support Functions for Classified Networks at U.S. Nuclear Regulatory Commission Licensed Enrichment Facilities

James Downs, Senior Project Manager
Fuel Facility Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

J. Keith Everly, Senior Program Manager
Information Security Branch
Division of Security Operations
Office of Nuclear Security and Incident Response



RECENT EVENTS

- U.S. Department of Energy (DOE)'s actions:
 - September 23, 2020, the Office of Nuclear Energy, DOE (DOE/NE) unexpectedly sent the U.S. Nuclear Regulatory Commission (NRC) a notice to terminate the Memorandum of Understanding (MOU) as of March 22, 2021.
 - December 1, 4, & 23 2020, DOE/NE abruptly sent NRC notice to terminate the Interagency Agreements (IAAs) 30 days from the date(s) of the letters. Termination of the IAAs resulted in two primary risks:
 - 1) Validity of existing authority to operate (i.e., facilities may not be able to operate their classified networks until a new Authorizing Official (AO) was established and an interim authority to operate was issued).
 - 2) Unavailability of technical assistance related to NRC licensing activities associated with classified networks.
- **First risk** was mitigated by appointing Dave Nelson, the NRC's Office of the Chief Information Officer (OCIO), being appointed as interim AO by the NRC Executive Director of Operations (OEDO).
 - Prior arrangement with DOE occurred, in part, to avoid the potential appearance of a conflict of interest.
 The NRC OGC has not identified any legal prohibition for the NRC to serve as the AO for licensee classified networks.
 - The NRC Office of Nuclear Security and Incident Response (NSIR) and OCIO staff reviewed materials associated with DOE's authorization of these networks, performed a risk analysis, and provided recommendation to authorize the networks to operate to Dave Nelson who issued an interim authority to operate for the classified networks at each of three enrichment licensees.
- **Second risk** was mitigated through obtaining short term support (9 months) by modifying an existing IAA with DOE's Office of Science (DOE/SC).
 - The DOE/SC will provide technical assistance to NRC's AO in conducting evaluations of the classified Information
 Technology (IT) systems at the enrichment licensees (e.g., major network rollout as part of the HALEU project at Centrus,
 amendment involving the installation of a security monitoring system on the classified network and a revision to the
 associated Information System Security Plans for Louisiana Energy Services (LES), and some routine activities such as
 medical device screening).

Contact:

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NMSS/DFM/FFLB
301-415-7744

Contact:

J. Keith Everly
Keith.Everly@nrc.gov
NSIR/DSO/ISB
301-415-7048



LONG-TERM SOLUTIONS – COMMITMENTS IDENTIFIED

Upon DOE/NE termination of the IAAs, the NRC staff identified the need to secure long-term support for the following technical functions (previously performed under IAAs with DOE/NE):

- Authorizing Official;
- Telecommunications Electronics Materials Protected from Emanating Spurious Transmissions (TEMPEST) inspections;
- Technical subject matter expert (SME) support in the review of classified IT security plans;
- IT network inspections;
- Physical Inspections (includes armed response, Counter Intelligence (CI), Operations security (OPSEC), Foreign Visitor/Assignee Screening, physical inventory);
- Communication Security (COMSEC) account and equipment management; and
- Medical device authorization.



LONG-TERM SOLUTION – AUTHORIZING OFFICIAL FUNCTION

(Recommendations made to NRC EDO on 02/25/2021)

After considering the pros and cons of different solutions, the NRC staff recommended:

- Assignment of AO responsibility
 - AO function be transitioned to NSIR; and
 - Senior agency official associated having this function will be the NSIR Office Director.
- Long-term path forward
 - Transition of AO from OCIO to NSIR expected late summer 2021; and
 - Training will provided by OCIO to NSIR.
- Collaboration will continue between OCIO and NSIR, as needed.



LONG-TERM SOLUTION – TECHNICAL SUPPORT FUNCTIONS

(Recommendations made to NRC EDO on 02/25/2021)

After considering the pros and cons of different solutions, the NRC staff recommended:

- Functions to be performed by NRC staff
 - TEMPEST;
 - Physical Inspection; and
 - Medical Device Approvals.
- Functions to be performed through NRC contract or IAA
 - Technical SME Support (commercial contract);
 - IT Network Inspection (commercial contract); and
 - COMSEC (IAAs with DOE/SC).



Security for Facilities Possessing Category II Special Nuclear Material

Tim Harris, Senior Program Manager

Materials Security Branch

Division of Physical and Cyber Security Policy

Office of Nuclear Security and Incident Response



Security for Facilities Possessing Category II Special Nuclear Material

Current Approach

- Use a risk-informed analysis on a case-by-case basis
 - 2015 Final Regulatory Basis for the Enhance Security of SNM Rulemaking (ML14321A007)
 - Consistent with SECY-04-0222 "Decision-making Framework for Materials and RTR Vulnerability Assessments" (ML043080303)
- Use site-specific license conditions
- Ensure that requirements are fairly and reasonably applied
 - Planned Q&A Communication Document
- Continue to interface with the interagency community

Contact:

Tim Harris <u>Tim.Harris@nrc.gov</u> NSIR/DPCP/MSB 301-287-3594



Security for Facilities Possessing Category II Special Nuclear Material

Pre-application Discussions

- Applicant describes
 - Facility setting, facility processes, types of materials (physical/chemical forms, enrichment, quantity), facility layout, and material flow (transportation, storage, use)
- Staff describes
 - Applicable regulatory requirements, available guidance, available reference material, and information protection



Security for Facilities Possessing Category II Special Nuclear Material

Supplemental Measures

- Discussions will be iterative and interactive
- Potential supplemental security measures will be site-specific
- Security could be zoned/partitioned
- Security can be achieved in multiple ways that balance the need to detect, assess, and delay potential adversaries and effectively respond to potential threats
- Applied fairly and reasonably



Security for Facilities Possessing Category II Special Nuclear Material

QUESTIONS/COMMENTS



Public Participation

At this time, the public is afforded an opportunity to ask questions and/or provide comments on the following topics:

- Retrospective Review of Administrative Requirements (RROAR)
- Termination of Interagency Agreement with DOE
- Security for Category II Facilities



Roundtable Discussion

Division of Fuel Management Strategic Priorities

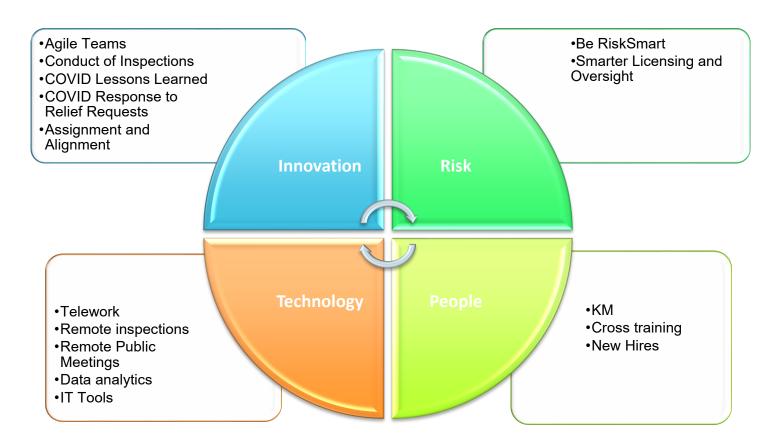


Division of Fuel Management Strategic Priorities

Continuing the Journey to Becoming a **More Modern Risk Informed Regulator** Using Tools to Assist Us in Our Decision Making **Communicating the Work We Do Focus on Our People Preparing for the Future of Spent Fuel and Fuel Cycle**



Transforming through...



Public Participation

At this time, the public is afforded an opportunity to ask questions and/or provide comments on the following topics:

Office of Nuclear Material Safety and Safeguards:
 New Initiatives



Fuel Cycle Stakeholders Meeting

Summary of Discussions and Action Items

Osiris Siurano-Perez, Project Manager
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards



Closing Remarks

Andrea Kock, Director
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

Janet Schlueter, Senior Director Fuel and Radiation Safety Nuclear Energy Institute

