



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

NRC Public Meeting with NEI and
Fuel Cycle Industry

March 29, 2012



Meeting Agenda

- 8:30 a.m. Introductions
- 8:35 a.m. Opening Remarks
- 8:45 a.m. Status of the Fuel Cycle Oversight Process
- 9:45 a.m. Discussion about Integrated Safety Analysis Standards and Peer Reviews
- 10:30 a.m. Break
- 10:45 a.m. Post 2011 FCIX Q's & A's and Current Rulemaking on 10 CFR Part 21
- 11:30 a.m. Questions from Members of the Public
- 11:45 p.m. Lunch
- 1:00 p.m. Status of the Rulemaking on 10 CFR Part 74
- 1:30 p.m. Temporary Instruction 2600/015
- 2:30 p.m. Next Steps on the Chemical Security Staff Requirements Memorandum
- 3:30 p.m. Questions from Members of the Public
- 3:45 p.m. End of Open Portion/Start of Closed Portion/Break
- 4:00 p.m. Cyber Security (CLOSED PORTION)
- ▶ 4:30 p.m. Meeting Adjourned



U.S. NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

Status of the Fuel Cycle Oversight Process

Jonathan DeJesus and Kevin Mattern
Office of Nuclear Material Safety and Safeguards



SRM SECY-11-0140

- ▶ Issued on January 5, 2012
- ▶ NRC staff's recommended option – approved
- ▶ Commission comments:
 - ▶ Develop a resource loaded project plan
 - ▶ Proceed with the credit for licensees with effective corrective action programs
 - ▶ Annual progress updates
 - ▶ Cornerstones
 - ▶ Performance Deficiency
 - ▶ Fuel Cycle SDP
 - ▶ Pilot Program



Fuel Cycle Oversight Process

- ▶ **Project Plan**
 - ▶ Outline and Opportunities for Engagement
 - ▶ I. CAP
 - ▶ II. Cornerstones
 - ▶ III. Performance Deficiency
 - ▶ IV. Fuel Cycle SDP
 - ▶ V. Performance Assessment Process
 - ▶ VI. Supplemental Inspection Program
 - ▶ VII. Pilot Program
 - ▶ VIII. Implementation of the FCOP



Fuel Cycle Oversight Process

- ▶ **Corrective Action Program initiative**
 - ▶ Commission approved to proceed
 - ▶ Is NEI/industry willing to generate a draft CAP guidance document for NRC endorsement (see 8/31/2011 letter – ML112490224)?



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

Integrated Safety Analysis Standards and Peer Reviews

Jonathan DeJesus and Dennis Damon
Office of Nuclear Material Safety and Safeguards



SRM M111101B

- ▶ Staff Requirements Memorandum from the November 1, 2011 Commission briefing on the Fuel Cycle Oversight Program
 - ▶ “Provide recommendations to the Commission regarding the use of peer reviews and the development of standards by technical societies to ensure the completeness and quality of the integrated safety analyses.”



Considerations for ISA Standards

- ▶ Industry to develop ISA standard
- ▶ Industry to develop standard on selected ISA topics (human error, common cause failure, and accident sequence screening)
- ▶ NRC revises NUREG-1513 to make it a detailed handbook for performing ISAs
- ▶ NRC updates NUREG-1520 to improve guidance on selected ISA topics
- ▶ Improvement of ISA quality would occur as part of current licensee corrective actions, and NRC oversight and guidance



Considerations for Peer Reviews

- ▶ Industry performs peer reviews.
- ▶ Independent organization from the one responsible of the ISA performs peer review.
- ▶ Industry does not perform peer reviews.



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

Post 2011 FCIX Q's & A's and
Current Rulemaking and Guidance
on 10 CFR Part 21

Sabrina Atack
Office of Nuclear Material Safety and Safeguards



2011 FCIX Questions & Answers

- ▶ In response to questions received during the 2011 Fuel Cycle Information Exchange (FCIX), NMSS staff prepared written responses and posted them online (<http://www.nrc.gov/public-involve/conference-symposia/fcix/fcix-2011-answers.html>). The responses are also available in ADAMS (ML11259A039).
 - ▶ Q's and A's were reviewed by NMSS staff and management and received concurrence from the Office of General Counsel (OGC)
 - ▶ Staff ensured that positions presented were consistent with past positions, where available, such as those provided in NUREG-0302, Revision 1, and other regulatory guidance
-



2011 FCIX Questions & Answers

▶ Key Messages

- ▶ A substantial safety hazard is consistent with a failure to meet the performance requirements of 10 CFR 70.61
- ▶ IROFS that are required in order to limit the risk of credible high and intermediate consequence events and criticality events are basic components
- ▶ Failures in redundant or diverse IROFS must still be evaluated under Part 21, regardless of whether or not a failure of the performance requirements actually occurred
- ▶ Event reports made under Appendix A to Part 70 do not automatically alleviate Part 21 reporting obligations



10 CFR Part 21 Rulemaking

- ▶ On September 29, 2011, NRC staff issued SECY-11-0135 to the Commission to inform them of the staff's intent to pursue rulemaking to 10 CFR Part 21 (ML112430138)

- ▶ Issuance of the rule will be complemented by two regulatory guides:
 - ▶ DG-1291, "Evaluating Deviations and Reporting Defects and Noncompliance"
 - ▶ DG-1292, "Sampling and Dedication of Commercial Grade Items"

- ▶ The staff has had multiple public meetings to discuss the rulemaking efforts and to solicit feedback
 - ▶ August 1, 2011 (meeting summary: ML112650090)
 - ▶ January 26, 2012 (meeting summary: ML12027A133)

- ▶ NRC staff has identified the 25 areas of the rule that may be subject to improvement through rulemaking. They fall into three categories:
 - ▶ Administrative Changes
 - ▶ Evaluating and Reporting
 - ▶ Commercial-Grade Dedication



10 CFR Part 21 Rulemaking

- ▶ Specific Topics from the “Areas of Improvement” that relate to fuel cycle facilities:
 - ▶ Definition of critical characteristics and dedicating entity for nonreactor facilities
 - ▶ Definition of dedication for nonreactor facilities
 - ▶ Dedication requirements (in the rule) and guidance (in the DGs)
 - ▶ Definition of commercial grade item for nonreactor facilities
 - ▶ Lack of clarity in the definition of basic component for nonreactor facilities
 - ▶ Acceptable forms of written notification under 10 CFR 21.21(d)(2)
 - ▶ Definitions for Part 76 facilities (i.e. Basic Component, Substantial Safety Hazard) – Administrative Change



10 CFR Part 21 Rulemaking

- ▶ Staff completion of the regulatory basis for the rulemaking is scheduled for September 2012
- ▶ Once the regulatory basis has been completed, an opportunity for public comment will be provided
- ▶ Interested parties can stay informed of pertinent actions related to the rule change by subscribing to updates on the following webpage:
<http://www.nrc.gov/reading-rm/doc-collections/cfr/part021/>



10 CFR Part 21 Guidance

- ▶ NMSS has developed a Regulatory Issue Summary (RIS) focused on Part 21 implementation for non-reactor stakeholders
- ▶ The RIS will be issued for public comment in the Federal Register
- ▶ The Post FCIX Q's and A's are included as an enclosure to the RIS as many topics correlate with the RIS content
- ▶ The RIS content also addresses many topics that are relevant to the ongoing Part 21 rulemaking initiative



10 CFR Part 21 Guidance

▶ Primary Topics of Draft RIS

- ▶ Applicability of Part 21 and Independence from Quality Assurance Requirements
- ▶ Definitions
- ▶ Evaluation and Reporting
- ▶ 10 CFR Part 21 and Other Material Licensee Reporting Requirements
- ▶ Flowdown of 10 CFR Part 21 to Subtier Suppliers
- ▶ Applicability of 10 CFR Part 21 to International Vendors



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

Status of the Rulemaking on 10 CFR Part 74

Peter Habighorst/Tom Pham
Office of Nuclear Material Safety and Safeguards



SECY-11-0175: Amendments to Material Control and Accounting Regulations

- ▶ The draft rule was submitted to the Commission on December 15, 2011.
- ▶ 4 Commissioners have voted.
- ▶ Staff will hold a public meeting during the comment period on the proposed rule. Date and location of the meeting will be announced.



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

Temporary Instruction 2600/015

Thomas Hiltz and Marvin Sykes
Office of Nuclear Material Safety and Safeguards and Region II



Temporary Instruction 2600/015

- ▶ TI 2600/015 issued on September 30, 2011.
- ▶ TI has been completed at four facilities.



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

Next Steps on the Chemical Security SRM

James Hammelman and Joseph Rivers

Offices of Nuclear Material Safety and Safeguards and Nuclear Security and Incident Response



Topics

- ▶ MOU with DHS
- ▶ SRM Actions
- ▶ Data Collection
- ▶ Data Analysis
- ▶ Interaction with Industry
- ▶ Summary



MOU with DHS

- ▶ Discusses interaction between NRC and DHS related to chemical security
- ▶ Identifies which NRC regulated facilities are exempt, either in whole or in part
- ▶ Identifies that fuel cycle facilities are exempt from DHS CFATS
- ▶ NRC is responsible for regulating the security of chemicals within the OCA



SRM Actions

- ▶ Collect data from fuel cycle facilities related to chemicals and associated security
- ▶ Consider safety/security interface, to include security derived from safety measures
- ▶ Determine tiering of facilities based on potential consequences of chemicals (similar to DHS tiering)
- ▶ Determine if security gaps exist for chemicals
- ▶ Interact with licensees at a workshop to identify security measures to fill gaps
- ▶ Brief TAs and prepare a Commission Paper



Path Forward

- ▶ Collect data
- ▶ Analyze data to determine if security gaps exist
- ▶ Inform Commission of results of analysis
- ▶ Interact with industry to identify approaches to fill security gaps
- ▶ Provide Commission with Notation Vote Paper



Data Collection

- ▶ **Information on Chemicals**
 - ▶ Inventory of chemicals of interest
 - ▶ Locations, quantities and concentrations
- ▶ **Existing Security**
 - ▶ Security required by NRC
 - ▶ Additional security measures that may exist at facility
- ▶ **Safety Measures that Contribute to Security**

Chemicals Identified in Previous Study at Fuel Cycle Facilities



- ▶ Ammonia
- ▶ Ammonium Hydroxide
- ▶ Chlorine
- ▶ Chlorine Trifluoride
- ▶ Fluorine
- ▶ Hydrogen
- ▶ Hydrogen Chloride
- ▶ Hydrogen Fluoride
- ▶ Hydrogen Peroxide
- ▶ Iodine Pentafluoride
- ▶ Natural gas (methane)
- ▶ Nitric Acid
- ▶ Sulfur Dioxide
- ▶ Triethanolamine
- ▶ Uranium Hexafluoride
- ▶ Sulfuric Acid



18 DHS Risk-Based Performance Standards (RBPS)

1. Restrict Area Perimeter
2. Secure Site Assets
3. Screen and Control Access
4. Deter, Detect, and Delay
5. Shipping, Receipt, and Storage
6. Theft or Diversion
7. Sabotage
8. Cyber
9. Response
10. Monitoring
11. Training
12. Personnel Surety
13. Elevated Threats
14. Specific Threats, Vulnerabilities, and Risks
15. Reporting Significant Security Events
16. Significant Security Incidents and Suspicious Activities
17. Officials and Organization
18. Records



Potential Data Collection Methods

- ▶ Request for Information from licensees
 - ▶ Develop questionnaire
 - ▶ Submit to licensees
 - ▶ Review data received from licensees
 - ▶ Site visit to validate data received (< 1 day)
- ▶ NRC collection of information via site visits
 - ▶ Develop data checklist
 - ▶ Forward checklist to licensees prior to site visit
 - ▶ Conduct site visit to gather information (< 1 day)
 - ▶ Compile data and prepare report of observations
 - ▶ Provide report of observations to licensee for comment
 - ▶ Incorporate comments



Data Analysis

- ▶ Identify “tiering” of facility/chemicals – similar to DHS tiering
- ▶ Identify security measures that afford protection of chemicals
- ▶ Assess adequacy of security for chemicals
 - ▶ Compare against CFATS RBPS
 - ▶ Consider measures DHS has approved for chemical facilities
- ▶ Identify general performance measures that would increase security to adequate levels
 - ▶ Consider how they would fit into facility’s overall security program



Inform Commission

- ▶ **Briefing to Commission Technical Assistants or Commissioner Assistants Note**
 - ▶ Summarize data collection and analysis
 - ▶ Provide a summary of the results
 - ▶ Inform regarding any security gaps identified
 - ▶ Inform regarding the status of DHS' implementation of CFATS
- ▶ **Following industry interaction, Commission Paper**
 - ▶ Describe staff's assessment of the security measures needed to provide adequate protection of chemicals
 - ▶ Propose security measures that would fill existing gaps at NRC licensed facilities
 - ▶ Identify potential regulatory approaches to address chemical security



Industry Interaction

- ▶ Conduct a workshop with NEI and licensees
- ▶ Discuss the results of the data collection and analysis
- ▶ Discuss general performance measures identified by NRC staff
- ▶ Seek feedback from industry regarding alternate approaches
- ▶ Discuss potential approaches for implementation



Summary of NRC-Industry Interaction

- ▶ Data collection once approach is determined
- ▶ Discuss the results of the vulnerability analysis
- ▶ Seek industry suggestions regarding security upgrades where required
- ▶ Discuss potential approaches for implementing and maintaining security



Acronyms

- ▶ 10 CFR – Title 10 of the *Code of Federal Regulations*
- ▶ ADAMS – Agencywide Documents Access and Management System
- ▶ CAP – Corrective Action Program
- ▶ CFATS – Chemical Facility Anti-Terrorism Standards
- ▶ DG – Draft Guide
- ▶ DHS – U.S. Department of Homeland Security
- ▶ FCIX – Fuel Cycle Information Exchange
- ▶ FCOP – Fuel Cycle Oversight Process
- ▶ IROFS – Items Relied On For Safety
- ▶ ISA – Integrated Safety Analysis
- ▶ MOU – Memorandum of Understanding



Acronyms (continued)

- ▶ NEI – Nuclear Energy Institute
 - ▶ NMSS – Nuclear Material Safety and Safeguards, Office of
 - ▶ NRC – U.S. Nuclear Regulatory Commission
 - ▶ OCA – Owner Controlled Area
 - ▶ OGC – Office of the General Counsel
 - ▶ Q's & A's – Questions and Answers
 - ▶ RBPS – Risk-Based Performance Standards
 - ▶ RIS – Regulatory Issue Summary
 - ▶ SDP – Significance Determination Process
 - ▶ SRM – Staff Requirements Memorandum
 - ▶ TAs – Technical Assistants
 - ▶ TI – Temporary Instruction
-