

Safeguards for Recycling

October 28, 2009



NUCLEAR
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INSTITUTE

Background

- SECY-05-0143, SRM directs development of safeguards rulemaking plan
- DOE GNEP studies conclude that safeguards regulatory requirements for recycling need improvement (2007-2009)
- NEI task force identifies recycling safeguards as key issue to closing the fuel cycle (2008)
- DOE “attractiveness tables” proposed (2007)
- SECY-08-059, SRM directs limited revision to regulations with later consideration during regulatory development for reprocessing

Safeguards Gaps

- SECY-09-0082, Staff identified gaps
 - Gap 4, Reprocessing Facility Exemption from Cat. 1
 - to be removed during MC&A rulemaking directed by SRM-SECY-08-0059
 - Gap 18, Material Accounting Management
 - to be addressed by incorporation of regulatory guidance
 - Gap 20, Advanced Fuel Cycles and SNM
 - Risk-inform parts 73 and 74 to include other fissile isotopes
 - Gap 8, Risk-Informing Parts 73 & 74 Options
 - Incorporation of attractiveness levels
 - Specific requirements for some operations and shipments

Safeguards Gap Analysis

SECY-09-0082

Gap 4, Reprocessing Facility Exemption from Category 1

- to be removed during MC&A rulemaking directed by SRM-SECY-08-0059
 - High Priority/Low Resources

Industry is not opposed but needs regulatory stability

Safeguards Gap Analysis

SECY-09-0082

Gap 18, Material Accounting Management

- to be addressed by incorporation of regulatory guidance
 - Moderate Priority/High Resources

Industry generally supports staff proposed path forward; however, this topic requires substantial future interaction through technical basis and regulatory development.

Industry supports an approach constructed such that measurement technology does not inadvertently constrain recycling technology.

Safeguards Gap Analysis

SECY-09-0082

Gap 20, Advanced Fuel Cycles and SNM

- Risk-inform parts 73 and 74 to include other fissile isotopes
 - Low Priority until advanced separations are planned/High Resources

Industry agrees this is currently a low priority and should be tabled for future rulemaking when advanced reactors and advanced isotope separations are more imminent

Safeguards Gap Analysis

SECY-09-0082

- Gap 8, Risk-Informing Parts 73 & 74 (U and Pu)
 - Incorporation of attractiveness levels
 - High Priority/High Resources
 - Specific requirements for some operations and shipments
 - High Priority/Low Resources

Industry Perspective on Gap 8

(NEI Letter dated August 7, 2009)

- Industry supports and agrees with NRC staff assessment
- Clear regulatory framework needed for Pu and U safeguards for recycling facility design
- Urgency (2012) driven by MOX fuel shipments
 - Transportation of MOX lead assemblies expected in 2013 to 2014
- Need flexibility to have varying levels of control within a “facility”, on a building basis or even within buildings

Summary

- Industry agrees with NRC's assessment
- Industry supports a near term focus on plutonium and uranium
- Certain areas will require significant engagement between industry, stakeholders, and NRC during the technical basis development