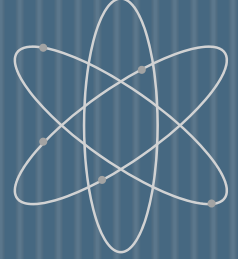




# Decommissioning Developments: Implications for Uranium Recovery Facilities

Tyson R. Smith  
Uranium Recovery Workshop  
April 29-30, 2008

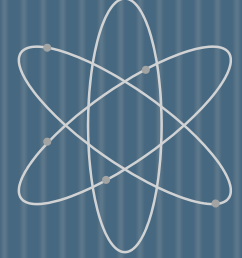


## “Decommissioning Planning; Proposed Rule”

73 Fed. Reg. 3812 (Jan. 22, 2008)

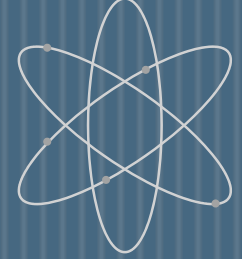
- Objective: to “reduce the likelihood that any current operating facility will become a legacy site.”
- Applies to power reactor and materials licensees (e.g., all Part 40 licensees).
- Comments currently due May 8, 2008

# Rulemaking Documentation



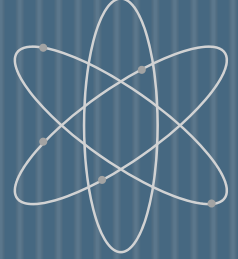
- PRM Supporting Analyses
  - Draft Regulatory Analysis (December 2007)
  - Draft Environmental Assessment (December 2007)
  - Draft OMB Paperwork Reduction Act Supportive Statement (Comments Feb. 21, 2008)
- Draft Guidance
  - Implementing Survey and Monitoring Requirements Guidance (January 2008)
  - Financial Assurance Guidance (January 2008)
  - Comments on Draft Guidance (May 8, 2008)

# Decommissioning Planning: Proposed Rule



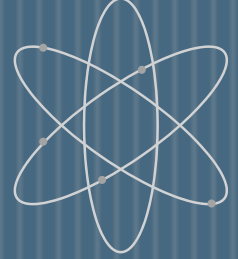
- **History**
  - 2003 Commission approves development of proposed rule
  - 2003 to 2004 NRC Integrated Decommissioning Improvement Plan
  - 2005 to 2006 Inadvertent liquid releases (e.g., tritium)
  - January 2007 NRC workshop on decommissioning funding
  - October 2007 Draft proposed rule sent to Commission
  - December 2007 Commission approves proposed rule and guidance
  - January 2008 Proposed rule published in Federal Register

# Decommissioning Planning: Proposed Rule



- Overview
  - New operational requirements designed to minimize the introduction of contamination into subsurface soils
  - New site and subsurface survey obligations during operation
  - New records and records retention requirements
  - Elimination of certain decommissioning funding assurance options
  - New reporting obligations regarding decommissioning costs

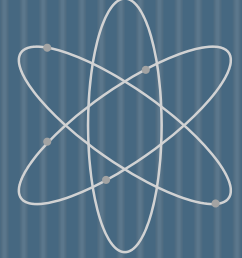
# Decommissioning Planning: Proposed Rule



- Statements of Consideration & Regulatory Analysis
  - Backfit Analysis: NRC asserts that rulemaking is only a clarification of existing requirements or reporting of information using *existing* equipment and procedures
  - NRC asserts that rule will not impact conversion facilities, uranium mills, or solution mining facilities
- Reality
  - New survey and monitoring requirements
  - New reporting and recordkeeping requirements
  - Creates significant cost and regulatory uncertainty

# Controls on Current Operations

## 10 C.F.R. § 20.1406(c)

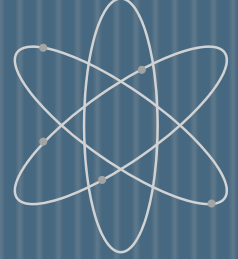


*Licensees shall, to the extent practical, conduct operations to minimize the introduction of residual radioactivity into the site, including the subsurface, in accordance with the existing radiation protection requirements in Subpart B and radiological criteria for license termination in Subpart E of this part.*

- Operational Restrictions
  - Applies to current licensees
  - Adds controls during operation
- Proposed Guidance
  - Evaluate systems, structures and components' processes, barriers, configurations, especially those not visible, for leak potential
  - Provide for leak detection, install sumps and berms, identify areas of potential concentration, and establish operating procedures

# Survey Requirements

## 10 C.F.R. §§ 20.1501(a) and (b)



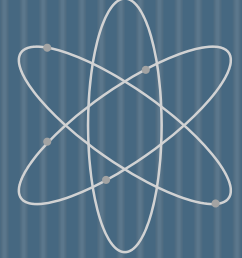
- (a) Each licensee shall make . . . surveys of areas, including the subsurface, that (2) are reasonable under the circumstances to evaluate . . . (ii) concentrations or quantities of residual radioactivity; and (iii) the potential radiological hazards of the radiation levels and residual radioactivity detected.*
- (b) Records from surveys describing the location and amount of subsurface residual radioactivity identified at the site must be kept with records important for decommissioning*

### ● Subsurface Investigation

- Adds more controls during operation (e.g., spill monitoring and response where potential migration outside of process buildings)
- Records relating to location and amount of subsurface contamination
  - New definition of "residual radioactivity" includes any material that has been introduced to the site as a result of licensee activities
  - Defines subsurface as depths greater than 15 cm

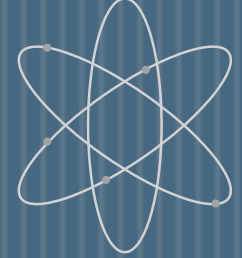


# Scope of Survey Obligations



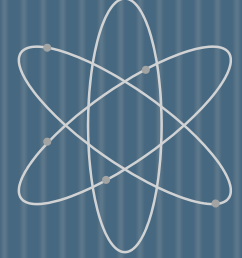
- Subsurface Investigations – Surveys
  - “Reasonable under the circumstances...”
    - Licensees would need to defend “reasonable”
    - Mechanism and timing for NRC review not clear
  - Site physical characterization
    - Subsurface structure and properties
    - Updated for site changes
    - Guidance suggests an evaluation that is more onerous than needed to determine scope/significance of residual radioactivity
  - Support decommissioning cost estimate
    - Estimate volume of on-site subsurface material containing residual activity that will require remediation to meet (unrestricted) decommissioning criteria

# Monitoring Programs



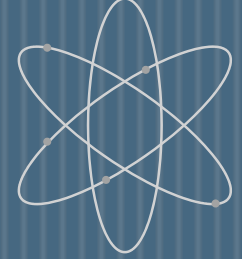
- Subsurface Investigations - Monitoring
  - Groundwater monitoring
    - Baseline conditions
    - Site conceptual model
    - Demonstrate future compliance with regulations
    - Identify and locate contaminants of interest
    - QA/QC program
  - Soil monitoring and characterization based on existing decommissioning guidance (e.g., MARSSIM)
    - Guidance suggests "routine monitoring" that is more onerous than needed to assess potential groundwater implications
  - Develop response plan for events (e.g., increased monitoring)

# Key Uncertainties for Part 40 Facilities



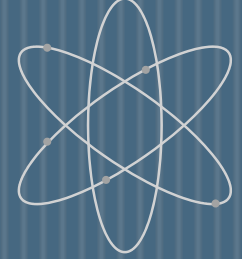
- Fails to take into account special considerations associated with Part 40 licensees:
  - Near-surface release mode
  - Low residual radionuclide concentrations
  - Favorable chemical properties of uranium (low solubility of U308, strong retention in near surface soils, low potential for subsurface migration)
  - No discussion of ISR implications
- Rule does not recognize distinction between practices (activities going forward) and interventions (addressing consequence of past operations)

# Decommissioning Planning: Proposed Rule



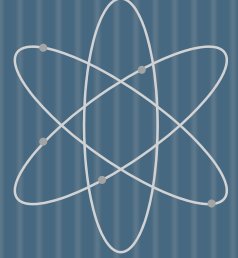
- Decommissioning Funding Assurance
  - Changes for materials licensees
    - Require triennial updates to decommissioning cost estimate
    - Must demonstrate ability to meet restricted release criteria *before* relying on that option when providing funding assurance
      - Estimate volume of on-site subsurface material containing residual activity that will require remediation to meet decommissioning criteria
      - Standards for reviewing "demonstration" are unclear
    - Must consider operational events when establishing decommissioning funding
    - Cost estimate must specifically include contractor overhead, profit, and contingency factor (at least 25%)

# Decommissioning Funding Assurance



- Affects both reactors and materials licensees
- Key modifications to funding requirements include:
  - Only trusts for restricted release and limited to 1% rate of return
  - Only trusts for prepayment option
  - Immediate payment into standby trust if fail financial tests
  - Joint/several liability for decommissioning costs (not just guaranty amount)
  - Permits consideration of intangible assets for parent/self guarantees
    - Coupled with increased bond assurance (investment grade, and uninsured, uncollateralized, unencumbered)
  - Parent company must use CPA certifications rather than company certifications

# What is next...



- NEI Decommissioning Taskforce
  - Comments to OMB on Proposed Rule Information Collection Requirements (February 21, 2008)
    - Argue new unjustified information collection requirements
    - Failure to satisfy Paperwork Reduction Act
  - Comments to NRC due on May 8, 2008
- Other Comments
  - Prepared comment template specific to Part 40 licensees
  - Looking for support from other Part 40 licensees
  - If interested, contact [trsmith@winston.com](mailto:trsmith@winston.com)



# Questions or Comments?

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(202) 282-5756