



Overview of NRC's Uranium Recovery Inspection Program

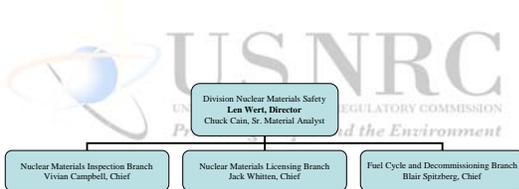
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Topics to be Discussed

- RIV Inspection Organization
- Transportation Regulations
- Overview of Enforcement Process
- NRC Expectations for Bioassay Programs

REGION IV DNMS ORGANIZATION



Inspection Planning Process

Inspection frequency:

- Once or twice per year at operating sites
- Every two years at facilities in reclamation and standby, unless onsite activities, operating conditions or performance indicates otherwise
- Every three years at inactive facilities

Focus of Inspections

Focus will be on risk significant activities:

- Yellowcake dryer operations
- Decommissioning & reclamation
 - Facility demolition & dismantlement
 - Tailings & pond construction
 - Radon flux measurements
- Routine operations (radiation protection)
- 11e.(2) disposal
- Environmental & effluent monitoring

Focus of Inspections, con't.

- HQ project manager will typically participate with inspections of ISLs



Types of Inspections

- Pre-operational
- Operational, including facilities in standby and reclamation
- Final/Closeout, reclamation activities complete
- Currently, 12 inspections are planned for 2007, up from 7 in 2006



NRC Inspection Manual Chapters

- MC 2641, In-Situ Leach Facilities
- MC 2801, Uranium Mill 11e.(2) Byproduct Material Disposal Site and Facility Inspection Program
- MC 2602, Decommissioning Oversight and Inspection Program for Fuel Cycle Facilities and Materials Licensees (Sequoyah Fuels Corp.)

Inspection Process

- At beginning of FY, RIV develops a Master Inspection Plan
- For each inspection – we prepare an inspection planner & inspection plan, notify NRC PM & licensee
- Conduct inspection IAW Inspection Plan/Manual Chapter guidance
- Conduct onsite, preliminary exit briefing
- Inspectors defend findings in weekly debriefing
- If there are any changes to findings, we will re-exit with licensee
- NRC issues inspection report, an agency decision
- Negative findings are handled IAW NRC's enforcement process (discussed later)

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Overall

- We encourage communications between licensees and HQ/Region on inspection related technical and compliance issues. We've traditionally received good communications and cooperation from licensees
- Inspections are typically announced; however, unannounced inspections will be conducted in the future!

Transportation Issues



Transportation Regulations

- Regulation 10 CFR 71.5, Transportation of Licensed Material, states that NRC licensees shall comply with DOT regulations
- Region IV inspectors concentrate on selected portions of DOT regulations during routine UR inspections
- Two areas inspected are shipment of resins and shipment of wastes for disposal

Shipping Papers

- 172.201(d) requires an emergency response telephone number on shipping papers
- 172.201(e) provides the record retention requirements - 3 years for hazardous wastes and 2 years for all other hazardous materials
- 172.202 provides the general requirements for shipping papers

Shipping Papers

- 49 CFR 172.203(d) includes additional requirements for radioactive material shipments; a common error is forgetting to include SI units
- 172.204 provides the shipper's certification
- 172.204(b) provides an exception (by the shipper as a private carrier) but be careful using this exception...it's limited in scope

Marking Requirements

- 172.302 provides the general marking requirements for bulk packages – for example, on each side and each end
- 172.332 discusses identification number markings (don't need 'UN' prefix, for example 2912 vs. UN2912)
- Markings on orange panels (most common) or black/white panels

Emergency Phone Number

- 172.604 requires emergency response telephone number
- Must be monitored while material is in transportation, including storage
- Person who answers is knowledgeable
- Listed on shipping paper

Training Requirements

- 172.704(a) lists training requirements – general, function-specific, safety, and security awareness training (as necessary)
- 172.704(c) requires recurrent training every 3 years (easy to forget)
- 172.704(d) provides recordkeeping requirements (easy to forget)

Package Requirements

- What is YOUR shipping package? IP-1?
- 173.410 and 411(b) provide the general design requirements for LSA IP-1 industrial packages
- Note that 410(h) requires all valves through which contents could escape be protected against unauthorized operation

Shipment of Packages

- 173.427 provides the transportation requirements for LSA packages (applies to resin and waste shipments). Inspectors have used this section as a check list.
- Special comment – NRC frowns on leaks while in transit. This type of incident has been classified as a Severity Level III violation and is subject to escalated enforcement and possible civil penalty

Shipment of Empty Containers

- 173.428 applies to empty packages
- 428(d) requires an internal survey of the package and 428(e) requires empty labels
- This regulation may be applicable to empty waste containers or empty resin tankers
- Note again that 428(b) says ‘no leakage’

Typical Waste Container



Transportation of Packages

- 173.441 and 443 provide the basic package radiation level and surface contamination limits
- Most licensees verify compliance with these regulations through use of fill-out radiation survey forms
- **Special comment** – IAW 443(a)(2), some licensees use direct frisks in lieu of measurement of removable contamination. We have accepted this alternate practice on a case-by-case basis

Driver Training

- One final comment, 177.816 requires additional driver training for carriage by public highway. This includes safety inspections, vehicle operations (can you drive a big rig?), and CDL for transport of cargo and large portable tanks
- My favorite regulations – 177.834(e) requires you to set the parking/handbrake and 834(i) requires a qualified person be present during loading and unloading

NRC Enforcement Overview and
Bioassay Issues



May 15, 2007
NMA/NRC workshop
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NRC RIV

Enforcement

WHY DO WE HAVE ENFORCEMENT?

- 
- Emphasize importance of compliance with regulatory requirements
 - Encourage prompt identification and prompt, comprehensive correction of violations

Enforcement Actions

- 
- Violations are identified through inspections and investigations
 - Violations stem from non-compliances with regulations and/or license conditions
 - Guidance documents (such as NUREGs) are not enforceable unless referenced in a license

Enforcement Actions, cont.

Three Primary Enforcement Sanctions

1. Notice of Violation (NOV)

2. Civil Penalties

3. Orders

Assessing Significance

- After violation is identified, NRC assesses significance by considering:
 - Actual and potential safety consequences
 - Potential impact on regulatory function
 - Any willful aspects

Assessing Significance, cont.

- NRC assigns Severity Level (SL)
 - SLI most severe
 - SLII
 - SLIII
 - SLIV least severe
- Non-Cited Violation (SLIV violation that meets certain criteria)
- Minor Violation (no safety significance)

Typical UR Enforcement Action

Example 1: Minor Violation

Submission of a required report past the due date

- Administrative in nature
- No safety significance

Typical UR Enforcement Action, cont.

Example 2: Non-Cited Violation

Resin trailer exterior exceeds DOT removable contamination limits during shipment

- Licensee identified the failure
- Licensee generated a corrective action report and implemented actions to prevent recurrence

Typical UR Enforcement Action, cont.

Example 3: SLIV Violation

Incident that results in an uptake of uranium to a worker

- Usually associated with a failure to implement a procedure requirement
- True safety significance

Typical UR Enforcement Action, cont.

Example 3: SLIII Violation

Leakage of radioactive liquids during transportation of low level radioactive wastes

- Resulted in spill of radioactive material in public domain
- In this example, the package was not verified intact by licensee prior to shipment
- Civil penalty was considered but was waived

Three Bioassay Issues

- NRC RG 8.22 Bioassay at Uranium Mills
 - Sample turn-around time
- When you get a 'positive' result, is it a true uptake or a false positive?
- Dilution of urine sample during collection process

Bioassay Issues, cont.

- RG 8.22
 - Section 6 – results should be available within 20 days of collection
 - NRC has found this is not sufficient turn around time, as a result, confirmatory samples are conducted weeks later
 - RECOMMEND quicker turn around time from lab because of the rapid clearance of uranium from the body

Bioassay Issues, cont.

Questioning a positive bioassay result; is it a true intake or is it a false positive?

- **NRC will scrutinize your analysis**
- **If there is no overwhelming evidence that this was a false positive, NRC encourages licensees to assign the dose to the individual**

Bioassay Issues, cont.

- **A new issue has been identified involving the apparent willful dilution of urine samples by the employee**
- **Two examples identified in the past year**
- **Individuals being sampled may have believed that the samples were drug tests and tried to circumvent the sampling protocols**
- **NRC recommends licensees review their collection process to determine whether their programs are prepared for intentionally altered urine samples**
