Overview of NRC's Uranium Recovery Inspection Program

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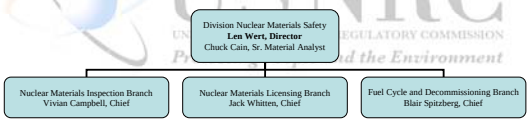
Topics to be Discussed

- 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.**
- **<u>Special comment</u> – 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**
- **<u>Special comment</u> – 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
Linda M. Gersey
NRC RIV

Enforcement

WHY DO WE HAVE ENFORECMENT?

- **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 <u>not</u> 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**