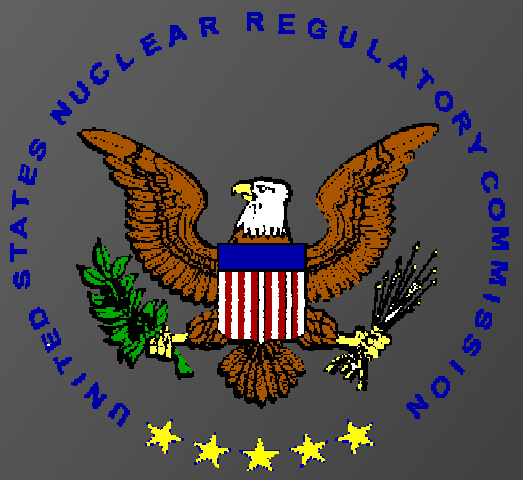

URANIUM RECOVERY PROGRAM AT THE NRC

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Division of Waste Management and Environmental Protection

Office of Federal and State Materials and Environmental Management Programs

NRC Mission

- To license and regulate the nation's civilian use of byproduct, source, and special nuclear materials in order to ensure the adequate protection of public health and safety, promote the common defense and security, and to protect the environment.


Performance Assessment
Environmental Review
Division of Waste Management and Environmental Protection
Uranium Recovery
Low Level Waste
Decommissioning
International Support

Uranium Recovery Status

- Oversight of 3 operating in-situ recovery sites, one conventional mill, multiple licensed sites
- Three sites recently licensed
- Reviewing eight applications for new sites, renewal of existing sites, or expansion of sites
- Upcoming potential applications is estimated at 16 to include conventional and heap leach sites

Uranium Recovery Decommissioning

- Overview of Title I and II sites
- Reclamation, decommissioning, and long-term oversight
- Title I sites (DOE) – 21 sites
- Title II sites – 11 sites
  - Six sites transferred to DOE for long term care

Environmental Review Laws and Regulations

- National Environmental Policy Act of 1969 (NEPA)
- Implementing Regulations
  - CEQ Regulations: 40 CFR Part 1500
  - NRC Regulations: 10 CFR Part 51
- Court Decisions
- Related Federal Laws

EIS Process

- Publish Notice of Intent
- Scoping Comment Period
- Scoping Report
- Draft EIS prepared
- Draft EIS Public Comment Period
- Final EIS Prepared
- Decision

Environmental Resource Areas

- Air Quality
- Ecological Resources
- Geology & Soils
- Historic & Cultural Resources
- Land Use
- Noise
- Public and Occupational Health
- Socioeconomics
- Transportation
- Visual & Scenic Resources
- Water Resources

URANIUM RECOVERY REGULATIONS AND OPERATIONS OF CONVENTIONAL MILLS

Uranium Recovery Regulations

- Atomic Energy Act of 1954
- Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA)
  - Title I - inactive uranium mill tailings piles
  - Title II - uranium recovery facilities licensed by NRC
- National Environmental Policy Act of 1969

Uranium Recovery

- What is Regulated:
  - Milling – any activity that produces byproduct material (10 CFR 40.4).
  - Byproduct Material – tailings or wastes produced by the extraction or concentration of U or Th for its source material content
  - NRC DOES NOT Regulate MINING
  - Types of Milling – Conventional, Heap Leach, in-situ recovery

Uranium Recovery Regulations

Title II

- Regulated under 10 CFR Part 40
- Materials Regulated:
  - Source Material (ores and product)
  - 11e.(2) Byproduct Material (Uranium Mill Tailings)
- Uranium Recovery Regulations are in 10 CFR 40, Appendix A
- EPA Standards–40 CFR 192 Subparts D & E.

NRC Review Process for Virginia Uranium Application

- Pre-licensing Meetings, public meetings
- Acceptance review
- Notice of opportunity for hearing
- EIS Scoping meetings
- Safety/Technical review
- Environmental review - EIS
- Draft EIS for Public Comment
- Licensing Decision
- Inspections

TYPICAL CONVENTIONAL URANIUM MILL FACILITY PROCESS

Uranium Milling Facility

Source - WMA

Canonsburg

OVERVIEW OF NRC'S PROCESS FOR AMENDING VIRGINIA'S AGREEMENT

What Radioactive Materials Does Virginia Regulate?

- Virginia has assumed regulatory authority over the following combination of the categories:
  - Radioactive materials as defined in Section 11e of the Act.
    - Byproduct (11e1)
    - NARM (11e3)
    - Discrete Sources (11e4)
  - Source materials
  - Special nuclear materials in quantities not sufficient to form a critical mass
- To assume authority over Section 11e2 materials (mill tailings), the Commonwealth will need to amend its Agreement with NRC
- Few Agreement States have 11e2 authority
  - Four active uranium mill programs (CO, TX, UT, and WA)

Unique Aspects of 11e2 Agreements

- Federal Legislation
  - Additional requirements in Section 274o of Atomic Energy Act
  - Applicable requirements of the Uranium Mill Tailings Radiation Control Act (UMTRCA)
- State laws must authorize the regulation of uranium and thorium recovery facilities including:
  - Disposal of mill tailings including financial arrangements
  - Hearing requirements
  - Written environmental assessments
  - Termination requirements
  - Reservation of authority to NRC under UMTRCA
- State Regulations
  - Equivalent to Part 40, Part 40 Appendix A, 10 CFR 150.31 and 10 CFR 150.32
- Staffing – additional expertise needed due to the complexity of the licenses to address unique requirements of the licensing and inspection of 11e2 material

Key Steps in Agreement Process

- Governor's Letter of Intent
- Development of Regulatory Program
- Submit Draft Application for NRC Review
- Address NRC Comments
- Submit Formal Application from Governor
- Publish Application in *Federal Register* for Public Comment for Four Consecutive Weeks
- NRC Staff prepares Comment Resolution, Analysis and Recommendations on Application to Commission
- Commission Approves Amended Agreement
- Effective Date of Agreement

Critical Issues for Processing an Amendment

- Commonwealth funds program start-up and implementation
  - NRC only funds formal training
- Overall process likely to take 3 years
  - Utah took 2.5 years, most staff already in place
- Seamless transition from NRC to Commonwealth
- NRC will not sign Agreement until all aspects of uranium mill program are in place

Questions?

http://hitchhikersguidetotheoutdoors.wordpress.com/tag/virginia/ - accessed 3/16/12

Backup Slides

Comments from UWG web page

- Financial Assurance
  - Requirements contained in 10 CFR 40, Appendix A, Criterion 9
  - Arrangements must be established prior to operations to assure that sufficient funds will be available for decontamination and decommissioning of the mill site and reclamation of tailings
  - Assume a third party performs the work

Comments from UWG web page

- Liner Systems
  - Requirements contained in 10 CFR 40, Appendix A, Criterion 5
  - Regulations require a liner system and a method to dewater tailings
  - Liner required to function through the closure period

Comments from UWG web page

- Design Criteria
  - Requirements contained in 10 CFR 40, Appendix A, Criterion 4
  - Regulation requires minimization of upstream rainfall catchment area
  - Regulations require consideration of seismic events in the design
  - Staff also considers slope stability and settlement in its evaluation of an impoundment

Comments from UWG web page

- Non-Operational Status
  - NRC focus is on safety of operations
  - NRC has observed conventional mills in non-operational status
  - Licensee still required to follow regulations and license conditions

Comments from UWG web page

- Monitoring around mill facilities
  - Collection of baseline data for at least one year prior to construction required by 10 CFR Part 40, Appendix A, Criterion 7
  - Soil, ground water, air, vegetation
  - Monitoring continues during operations

Alternate Feed

- Guidance in Regulatory Issue Summary (RIS) 00-23
- Determine whether feed material is ore
- Determine whether feed material contains hazardous waste
- Determine whether ore is being processed primarily for its source material content