



Status of Legacy Mill Cleanup and New Uranium Recovery Applications

Lydia Chang, Chief

Special Projects Branch

Decommissioning and Uranium Recovery Licensing

Directorate

Division of Waste Management & Environmental Protection

Office of Federal and State Materials and Environmental

Management Programs

Outline:

- NRC's Responsibility
- Statutory Basis
- Decommissioning Standards
- Roles and Responsibilities at Title I Sites
- Title I Sites In or Near Hopi Nation and Navajo Nation Lands
- Roles and Responsibilities at Title II Sites
- Title II Sites In or Near Hopi Nation and Navajo Nation Lands
- Recent Involvement of Programmatic Activities Related to Decommissioning Sites
- Licensing Process For New Uranium Recovery Facilities
- Public Participation at New Uranium Recovery Facilities
- Planned Uranium Recovery Facilities

NRC's Responsibility:

- Regulatory oversight for milling activities;
no authority over mining of uranium
 - URANIUM MILLING - “Any activity that results in the production of byproduct material...”
 - BYPRODUCT MATERIAL - “The tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content...”

Statutory Basis:

- **Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA).**
 - **TITLE I: Remedial action at inactive, abandoned, unlicensed sites**
 - **TITLE II: Licensing/Oversight/Remediation of uranium recovery facilities licensed by the NRC or an Agreement State in or after 1978**

Decommissioning Standards:

- **40 CFR 192:**
 - **Soil:**
 - 5 pCi/g averaged; over the first 15 cm
 - 15 pCi/g averaged; for more than 15 cm below surface
 - **Radon:**
 - 20 pCi/m²sec
 - **Ground water:**
 - Background or maximum contaminant level, or
 - Alternate concentration limit

Roles and Responsibilities at Title I Sites:

- **EPA establishes standards for cleanup and disposal of contaminated material**
- **DOE identifies and remediates all Title I sites to EPA standards**
- **DOE also remediates vicinity properties**
- **NRC evaluates and concurs in DOE's site remediation plans and concurs that site remediation has been adequately completed**
- **DOE becomes the long-term site custodian of the tailings disposal site under NRC General License**

Title I Sites In or Near Hopi Nation / Navajo Nation Lands

-Monument Valley

- Navajo identified possible soil contamination onsite
- DOE is conducting on-going pilot project for phytoremediation
- Provided significant comments on the Annual Groundwater Monitoring Report – June 2010
- Continued reviewing soil contamination documents

Title I Sites In or Near Hopi Nation / Navajo Nation Lands (cont.)

-Tuba City

- Continued reviewing current GCAP
- Provided significant comments on the Annual Groundwater Monitoring Report – June 2010

– Mexican Hat

- Under DOE long-term care/surveillance
- No major issues

Title I Sites In or Near Hopi Nation / Navajo Nation Lands (cont.)

– Shiprock

- Performing on-going, active groundwater remediation by DOE in two areas
- Meeting with DOE to discuss modification to the GCAP
- Participated in Public Meeting in October 2009

Roles and Responsibilities at Title II Sites:

- **EPA establishes standards for cleanup and disposal of byproduct material**
- **NRC or Agreement State reviews license applications, issues license, conducts inspections, and oversees decommissioning to EPA standards**
- **NRC reviews and concurs on DOE's Long Term Surveillance Plans for conventional mills**
- **NRC concurs in Agreement State license termination**
- **NRC or the Agreement State terminates specific license**
- **DOE becomes the long-term site custodian for the site under NRC General License**

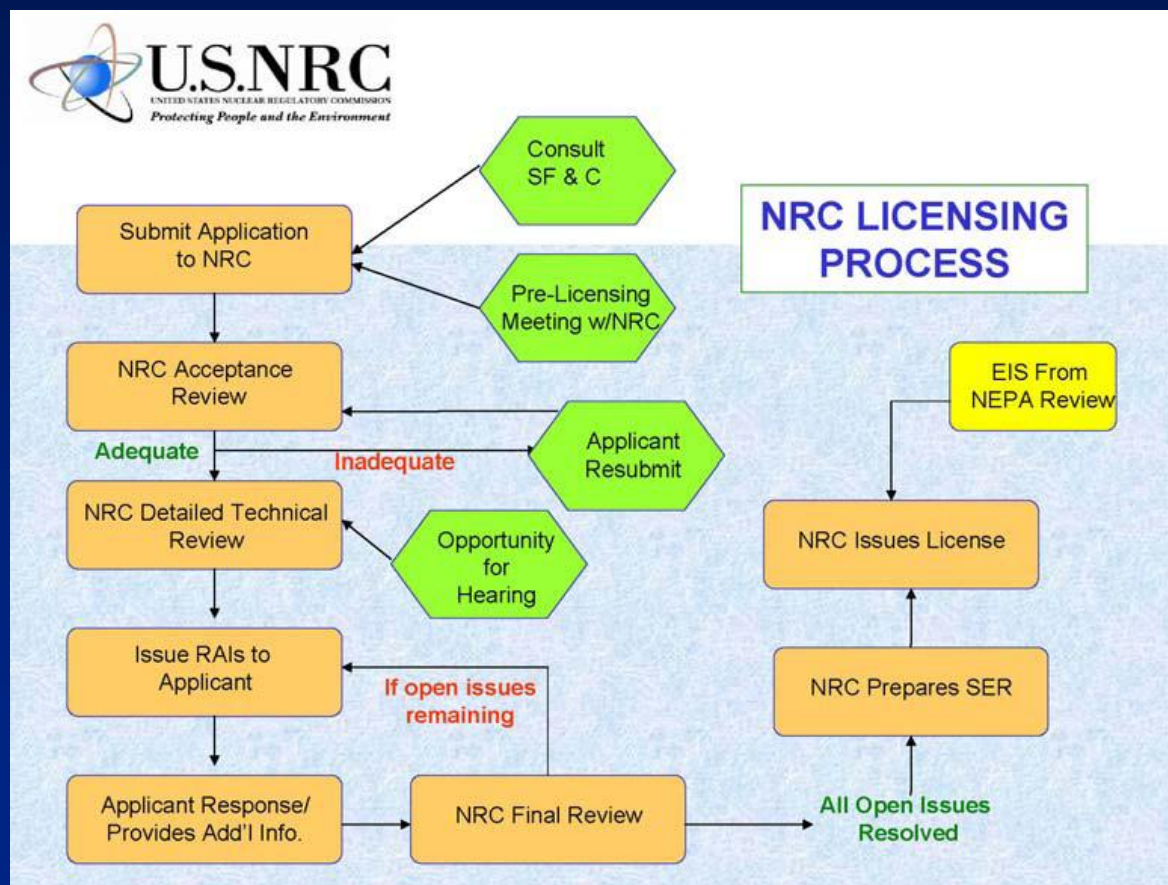
Title II Sites In or Near Hopi Nation / Navajo Nation Lands

- **UNC Church Rock Mill – Decommissioning**
 - EPA Region 6 and NRC have joint jurisdiction
 - It is an NRC licensed site and also a Superfund NPL site
 - Groundwater restoration at the site is ongoing
 - It is a potential site for co-disposal of non-licensable material from Northeast Church Rock mine by EPA Region 9
 - NRC participated in an interagency meeting in June and August 2010
- **HRI-Crown Point – In-situ Recovery Facility**
 - License issued in 1998
 - 10th Circuit Court Decision affirmed NRC licensing decisions
 - 10th Circuit Court Decision- NMED UIC permitting authority for Section 8

Recent Involvement in Programmatic Activities on Decommissioning

- Participated in the implementation of the Five-Year Plan – Health and Environmental Impacts of Uranium Contamination in the Navajo Nation
- Briefed House Energy and Commerce Committee staff on the status of the Plan
- Participated in the development of the Five-Year Plan – Assessment of Health and Environment Impacts of Uranium Mining and Milling – Grants Mining District
- Participated in Cultural Sensitivity Awareness Training- June 2010
- Attended DOE/Navajo/Hopi annual public and/or quarterly meetings on UMTRCA activities

Licensing Process For New Uranium Recovery Facilities



Public Participation at New Uranium Recovery Facilities

- Opportunity to Request For a Hearing
 - After acceptance review is completed
- Environmental Review Process
 - Information gathering
 - Public comment on Draft Supplemental Environmental Impact Statement
- Government-to-Government Coordination

Planned Uranium Recovery Facilities in the Area

- Neutron Energy – Marquez
(May 2011)**
- Uranium Energy Corporation – Grants Ridge
(June 2011)**
- Strathmore Minerals Corporation – Roca Honda
(December 2011)**
- Rio Grande Resources – Mt. Taylor
(TBD)**

Expected Applications for New Facilities, Restarts, Expansions, and Renewals					
Company	Site	Design type	Estimated Application Date	State	Letter of Intent
Fiscal 2007 Applications					
Cogema	Christensen Ranch	ISR - Restart	Rec. 4/07, Comp. 9/08	WY	None
Cameco (Crow Butte Resources, Inc.)	North Trend	ISR - Expansion	Received June 2007	NE	None
Cameco (Crow Butte Resources, Inc.)	Plant Upgrade	ISR - Expansion	Rec. 10/06, Comp. 12/07	NE	None
Fiscal 2008 Applications					
Lost Creek ISR, LLC	Lost Creek	ISR - New	Resubmitted Mar 2008	WY	05/23/07
Uranerz Energy Corp.	Hank and Nichols	ISR - New	Received December 2007	WY	06/27/07
Uranium One	Moore Ranch	ISR - New	Received October 2007	WY	05/31/07
Uranium One	Jab and Antelope	ISR - New	Review Postponed	WY	05/31/07
Fiscal 2009 Applications					
Powertech Uranium Corporation	Dewey Burdock	ISR - New	Resubmitted 8/09	SD	01/26/07
Fiscal 2010 Applications					
Uranium One (Energy Metals Corporation)	Ludeman	ISR - New	Withdrawn	WY	02/26/09
Cameco (Crow Butte Resources, Inc.)	Three Crow	ISR - Expansion	Rec. August 2010	NE	01/11/10
Uranium One (Energy Metals Corporation)	Allemand-Ross	ISR-Expansion	Sep-10	WY	02/26/09
Fiscal 2011 Applications					
Lost Creek ISR, LLC	Lost Creek	ISR - Expansion	Nov-10	WY	01/06/10
UR-Energy Corp.	Lost Soldier	ISR - Expansion	Dec-10	WY	01/06/10
Strata Energy, Inc.	Ross	ISR - New	Dec-10	WY	01/08/10
Titan Uranium USA, Inc.	Sheep Mountain	Heap Leach - New	Apr-11	WY	02/16/10
Neutron Energy	Marquez	Conv. - New	May-11	NM	01/15/10
Uranium Energy Corporation	Grants Ridge	Heap Leach - New	Jun-11	NM	01/15/10
Cameco (Power Resources, Inc.)	Smith Ranch/Highland CPP	ISR - Expansion	FY 2011	WY	01/14/10
Wildhorse Energy	West Alkali Creek	ISR - New	TBD	WY	01/07/10
Rio Grande Resources	Mt. Taylor	Conv. - New	TBD	NM	12/15/09
Fiscal 2012 Applications					
Strathmore Minerals Corporation	Gas Hills	Conv. - New	Oct-11	WY	01/18/10
AUC LLC	Reno Creek	ISR - New	Dec-11	WY	04/13/10
Strathmore Minerals Corporation	Roca Honda	Conv. - New	Dec-11	NM	01/18/10
Cameco (Crow Butte Resources, Inc.)	Marsland	ISR - Expansion	Jun-12	NE	01/11/10
The Bootheel Project LLC	Bootheel	ISR-New (Satellite)	Jul-12	WY	08/09/10
Fiscal 2013 Applications					
Cameco (Power Resources, Inc.)	Ruby Ranch	ISR - Expansion	FY 2013	WY	01/14/10
License Renewals					
Cameco (Crow Butte Resources, Inc.)	Crawford, NE	ISR	Received Dec. 2007	NE	
Uranium One	Inigaray/Christensen Ranch	ISR	Received May 2008	WY	
Cameco (Power Resources, Inc.)	Smith Ranch/Highland	ISR	Aug-10	WY	
Hydro Resources, Inc.	Crownpoint	ISR	Rec. 8/2002, on hold until 2010	NM	
No. of New Facility Applications =					15
No. of Restart/Expansion Applications =					11
No. of License Renewals =					4
Total No. of Licensing Actions					30

Questions?