



UPDATE OF URANIUM RECOVERY ACTIVITIES

Bill von Till

Uranium Recovery Licensing Branch
U.S. NRC



Overview

- Staff
- New Licensing
- Operating Facilities
- Hearings
- Outreach
- Uranium Recovery Decommissioning
- Well Field Installation
- Challenges



URLB Staff

Operating Sites and New Licensing

- Bill von Till, Chief
- Stephen J. Cohen, Team Leader
New Licensing
- Ron Linton, Sr. Hydrogeologist/PM
- Mike Fliegel, Sr. PM
- Elise Striz, Hydrogeologist
- Douglas Mandeville, Geotechnical
Engineer/PM
- Betty Garrett, Licensing Assistant
- James Webb, Health Physicist
- Dan Gillen, Consultant
- Rick Weller, Consultant
- Tom Lancaster, Hydrogeologist
- John Saxton, Hydrogeologist
- Tanya Oxenberg, Health Physicist
- Hydrogeologist - Vacant
- Chemical Engineer - Vacant



UR Decommissioning Staff

Materials Decommissioning Branch

- Rebecca Tadesse, Chief
- Tom McLaughlin, PM – ExxonMobil, Ambrosia Lake, Bear Creek, ANC Gas Hills
- Ken Kalman – PM – Sequoyah Fuels
- Ted Carter – PM – RMD/WRT, Pathfinder sites
- Lifeng Guo - Hydrogeologist

Reactor Decommissioning Branch

- Drew Persinko – Chief
- John Buckley – PM – Homestake
- Jon Peckenpaugh – Hydrogeology
- Tom Youngblood – Health Physics

Special Projects Branch

- Lydia Chang, Chief
- Richard Chang – PM – Western Nuclear, Umetco
- Yolande Norman – PM – UNC Churchrock
- Ted Johnson – Erosion Control and Surface Water Hydrology

Agreement State sites – Dennis Sollenberger and Bill Rautzen

New Licensing

- Received 5 New ISR applications
- Received 2 expansion amendments (ISR) and one restart application (ISR)
- RAs issued for first three, acceptance review complete for two
- Expecting 18 more new and expansion applications FY2009 – FY2012 (see table next slide)

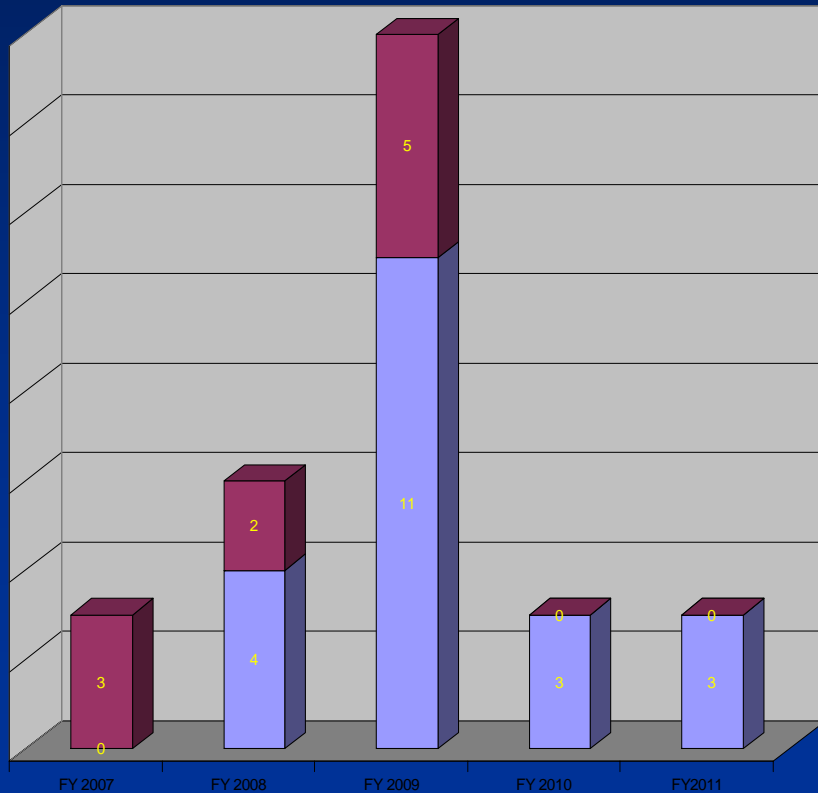
Complete Applications Acceptance Reviews

- 90 day Review
 - Reduce Inefficiency
 - Reduce requests for additional information
 - Maintain review schedules
- Site Characterization
 - Need enough detail for full technical and environmental analysis
- Lessons Learned in Panel Discussion

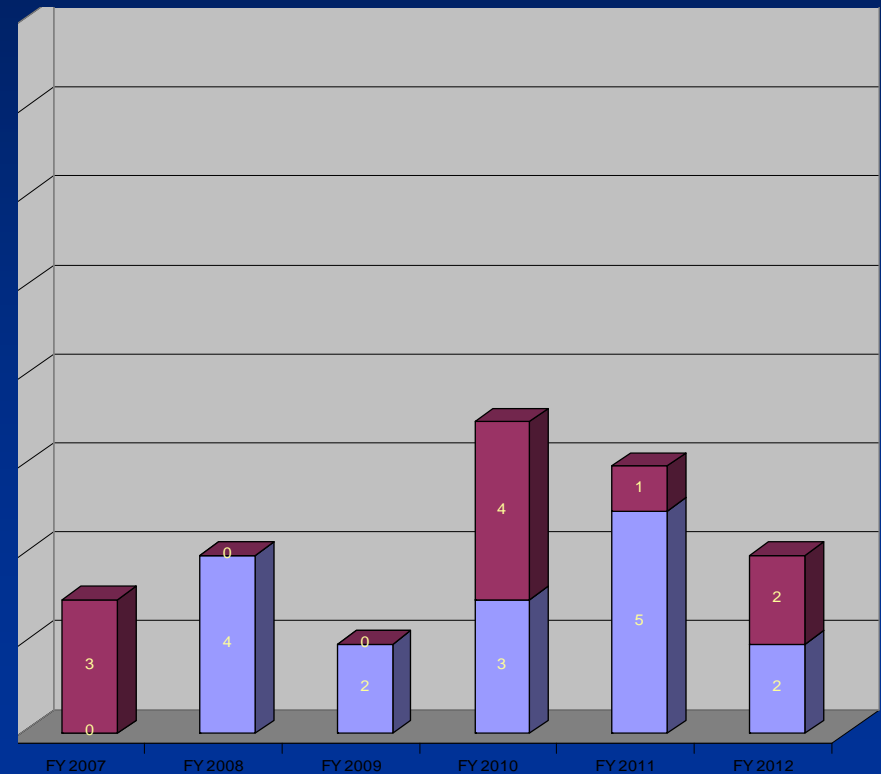
Expected Uranium Recovery Facility Applications / Restarts / Expansions					
Company	Site	Design type	Estimated Application Date	State	Letter of Intent
Fiscal 2007 Applications					
Cogema	Christensen Ranch	ISL - Restart	Rec. 4/07, Comp. 9/08	WY	None
Cameco (Crow Butte Resources, Inc.)	North Trend	ISL - Expansion	Received June 2007	NE	None
Cameco (Crow Butte Resources, Inc.)	Plant Upgrade	ISL - Expansion	Rec. 10/06, Comp. 12/07	NE	None
Fiscal 2008 Applications					
Lost Creek ISR, LLC	Lost Creek	ISL - New	Resubmitted Mar 2008	WY	05/23/07
Uranerz Energy Corp.	Hank and Nichols	ISL - New	Received December 2007	WY	06/27/07
Uranium One (Energy Metals Corporation)	Moore Ranch	ISL - New	Received October 2007	WY	05/31/07
Uranium One (Energy Metals Corporation)	Jab and Antelope	ISL - New	Received September 2008	WY	05/31/07
Fiscal 2009 Applications					
Powertech Uranium Corporation	Dewey Burdock	ISL - New	Received 2/27/09	SD	01/26/07
Uranium One (Energy Metals Corporation)	Ludeman	ISL - New	Jul-09	WY	02/26/09
Fiscal 2010 Applications					
Lost Creek ISR, LLC	Lost Creek	ISL - Expansion	Nov-09	WY	03/21/08
UR-Energy Corp.	Lost Soldier	ISL - Expansion	Nov-09	WY	03/02/09
Uranium One (Energy Metals)	Allemand-Ross	ISL-Expansion	Dec-09	WY	02/26/09
Neutron Energy	Marquez	Conv. - New	Mar-10	NM	03/25/08
Cameco (Crow Butte Resources, Inc.)	Three Crow	ISL - Expansion	Mar-10	NE	03/04/09
Rio Grande Resources	Mt. Taylor	Conv. - New	Apr-10	NM	03/21/08
Strathmore Minerals Corporation	Roca Honda	Conv. - New	Sep-10	NM	04/23/07
Fiscal 2011 Applications					
Concentric	Yavapai County	Conv. - New	Oct-10	AZ	03/20/08
Strathmore Minerals Corporation	Reno Creek	ISL - New	Mar-11	WY	03/18/09
Cameco (Power Resources, Inc.)	Smith Ranch/Highland CPP	ISL - Expansion	FY 2011	WY	03/20/08
Wildhorse Energy	West Alkali Creek	ISL - New	Dec-10	WY	03/20/08
Uranium Energy Corporation	Grants Ridge	Heap Leach - New	Jan-11	NM	02/22/08
Wildhorse Energy	Sweetwater	ISL and Conv. - New	May-11	WY	-
Fiscal 2012 Applications					
Cameco (Power Resources, Inc.)	Ruby Ranch	ISL-Expansion	Oct-11	WY	03/20/08
Strathmore Minerals Corporation	Gas Hills	Conv. - New	Oct-11	WY	3/18/2009
Cameco (Crow Butte Resources, Inc.)	Marsland	ISL - Expansion	Sep-12	NE	03/04/09
Uranium King Corporation	Apex Mill	Conv. - New	To Be Determined	NV	09/27/08
6 year projected total reviews = 26					
Total Uranium Recovery Applications Received = 8					
Total New Uranium Recovery Applications = 17					
Total Restart/Expansion Uranium Recovery Applications = 9					

UR Applications

2008 Projection



2009 Projection



Status of Applications

<u>Site Name</u>	<u>State</u>	<u>Type of Application</u>	<u>Application Received</u>	<u>Acceptance Review Complete</u>	<u>Technical RAIs Sent</u>	<u>Environmental RAIs Sent</u>	<u>Draft SER Complete - Includes Delays</u>	<u>Draft SEIS</u>	<u>SEIS Complete</u>
Moore Ranch	Wyoming	ISL New	10/1/2007	12/20/2007	5/14/2008	3/23/2009	10/2009	10/2009	4/2010
Hank & Nichols	Wyoming	ISL New	12/1/2007	4/18/2008	9/11/2008	3/12/2009	9/2009	10/2009	4/2010
Lost Creek	Wyoming	ISL New	4/17/2008	6/10/2008	11/6/2008	3/16/2009	10/2009	10/2009	4/2010
Jab Antelope	Wyoming	ISL New	9/1/2008	3/9/2009	-	-	-	-	-
Dewey Burdock	S. Dakota	ISL New	2/27/2009	5/27/2009	-	-	-	-	-



Operating Sites and Outreach

- Operating sites – focus on safety and environmental protection – inspections, licensing reviews
- Review of several License Renewal Applications
- Stakeholder interest high
- State and Federal Agency coordination
- Indian Tribe outreach
- Congressional Interest

Hearings and Pending Federal Court Cases

- Hydro Resources Inc. (HRI) ISR, New Mexico – 10th Circuit Federal Court cases
- Tuba City Federal Court Case
- Crow Butte ISR expansion license amendment
- Crow Butte ISR license renewal
- Cogema Hearing requests for license renewal – standing and contentions phase
- TRONOX Case



UR Decommissioning

- **Umetco – Wyoming**
 - NRC is currently waiting for the results of the licensee's final groundwater sampling event
 - NRC is waiting for the Draft LTSP from DOE
 - Estimated time for license termination: Calendar Year 2009
- **Western Nuclear – Wyoming**
 - NRC is waiting on WNI's response to RAIs sent in early April for their amendment request for revised groundwater protection standards
 - Depending on when the RAI responses are received, it is expected that this will be approved by the end of this calendar year
 - Estimated time for license termination: Calendar Year 2010

UR Decommissioning

- **Sequoyah Fuels - OK**
 - DOE is preparing a long-term surveillance plan.
 - Surface Reclamation Plan approved 4/09.
 - Additional information needed for Groundwater Corrective Action Plan.
 - Surface Reclamation work to begin around 8/09.
- **Pathfinder Lucky Mc – WY**
 - In February 2009, NRC staff received for review, the draft DOE Long-Term Surveillance Plan (LTSP) for the Gas Hills North Site (Pathfinder-Lucky Mc) dated January 2009. NRC issued comments to the draft LTSP on May 29, 2009.
- **Pathfinder Shirley Basin – WY**
 - Pond 3 reclamation will not occur until the licensee discontinues operation of the 11e.(2) byproduct material disposal area, the date for which has not been determined.
- **ExxonMobil – WY**
 - Off-site plume of contamination detected moving southeast into neighboring property and southwest into Pit Lake area. Meeting with licensee and Wyoming DEQ on June 9 to discuss path forward for remediation.

UR Decommissioning

- **Bear Creek – WY**
 - DOE is preparing a long-term surveillance plan.
- **UNC Churchrock - NM**
 - Semi-annual groundwater monitoring program in progress in all 3 remedial zones. Groundwater extraction system operates only in Zone 3.
 - Feasibility study of alternative remedial technologies – due 12/2010
- **Homestake – NM**
 - Groundwater reclamation continues at the HMC site under 1989 (as revised in 1998) Corrective Action Plan (CAP). Staff is reviewing revised CAP submitted in December 2006.
 - NRC amended HMC license to authorize construction of third evaporation pond in August 2008. HMC waiting for NMED discharge permits to begin construction.
 - Groundwater reclamation activities scheduled for completion in 2017.
- **Rio Algom Ambrosia Lake – NM**
 - Groundwater reclamation activities scheduled for completion in 2017.
 - Settlement of Tailings Cell No. 2 submitted for review. Completion report to be submitted by end of 2010.

ISR Well Installation

Prior to license vs. after license

- Site Characterization prior to license
 - Geologic characterization
 - Regional pump testing
 - Groundwater quality data collection
 - Exploration drilling
- Well field specific installation after license
 - Installation of recovery and injection wells
 - Monitoring well ring installation
 - Well field specific pump tests from pumping/injection wells to monitoring well ring

CHALLENGES

- Staffing consistent with applications
- New license applications – uncertainty in how many will be received
- Budget formulation and contracting with dynamic schedules
- Increase in UR legacy site work
- Staffing and consistency of Project Managers