

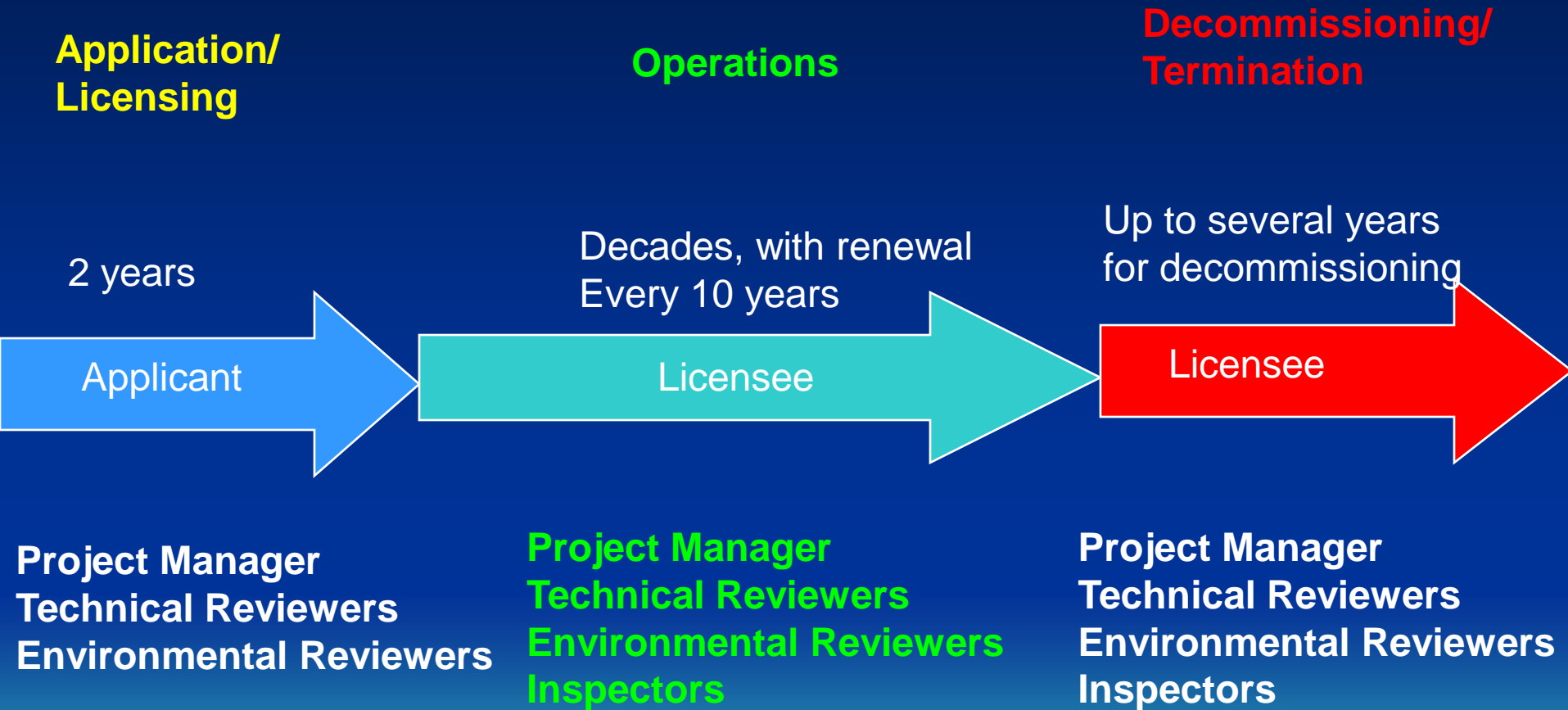
NRC's Regulation of In-Situ Uranium Recovery Facilities

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ISR Safety Oversight – A Shared Responsibility

- Aquifer exemption (EPA/State)
- Permit to operate injection wells (EPA/State)
- Waste discharge permits (including storm water) (EPA/State)
- Federal/State land use (BLM/State)
- License commercial nuclear facilities (NRC/State)

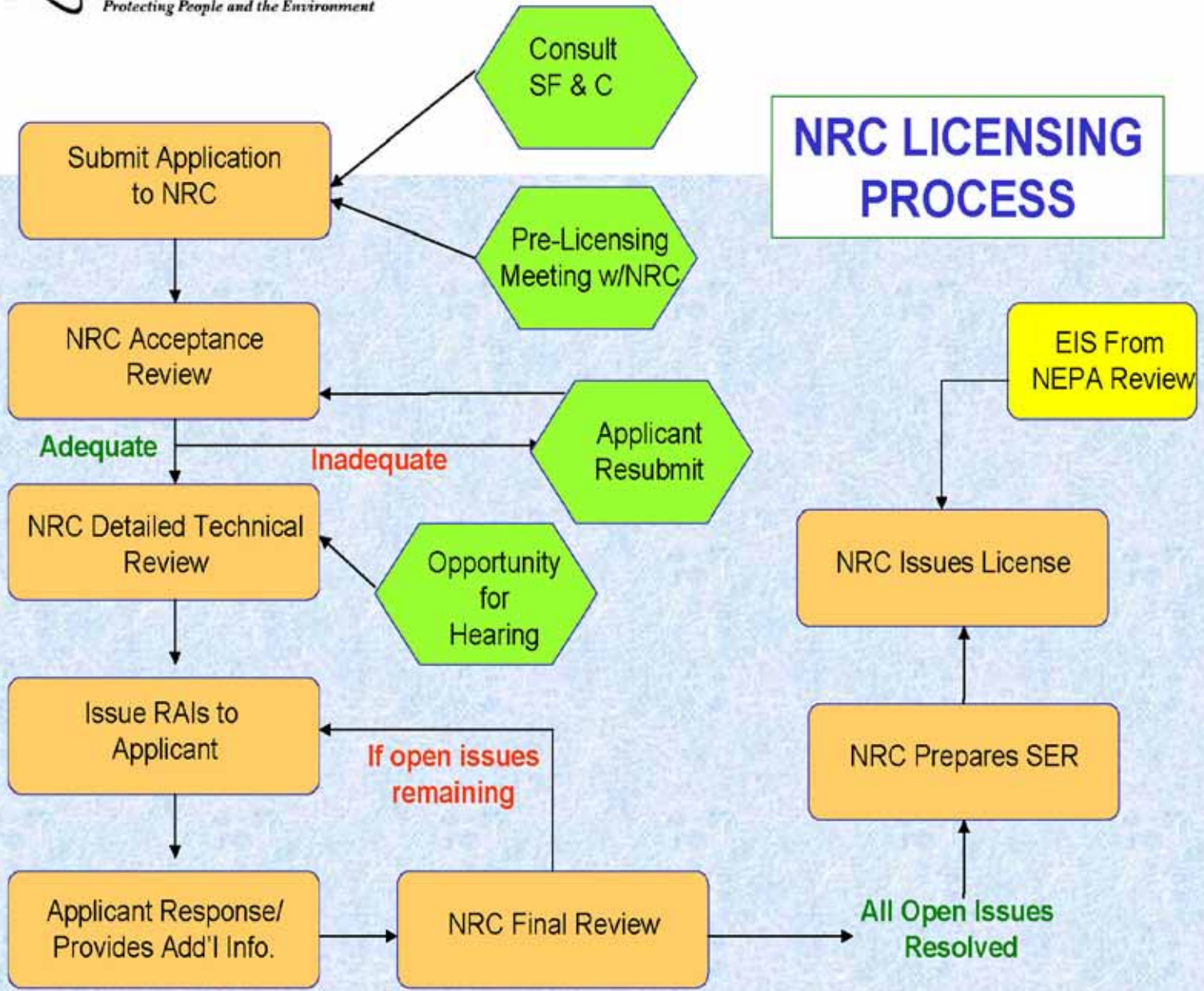
ISR Licensing Process Phases



NRC Review Process-New Application

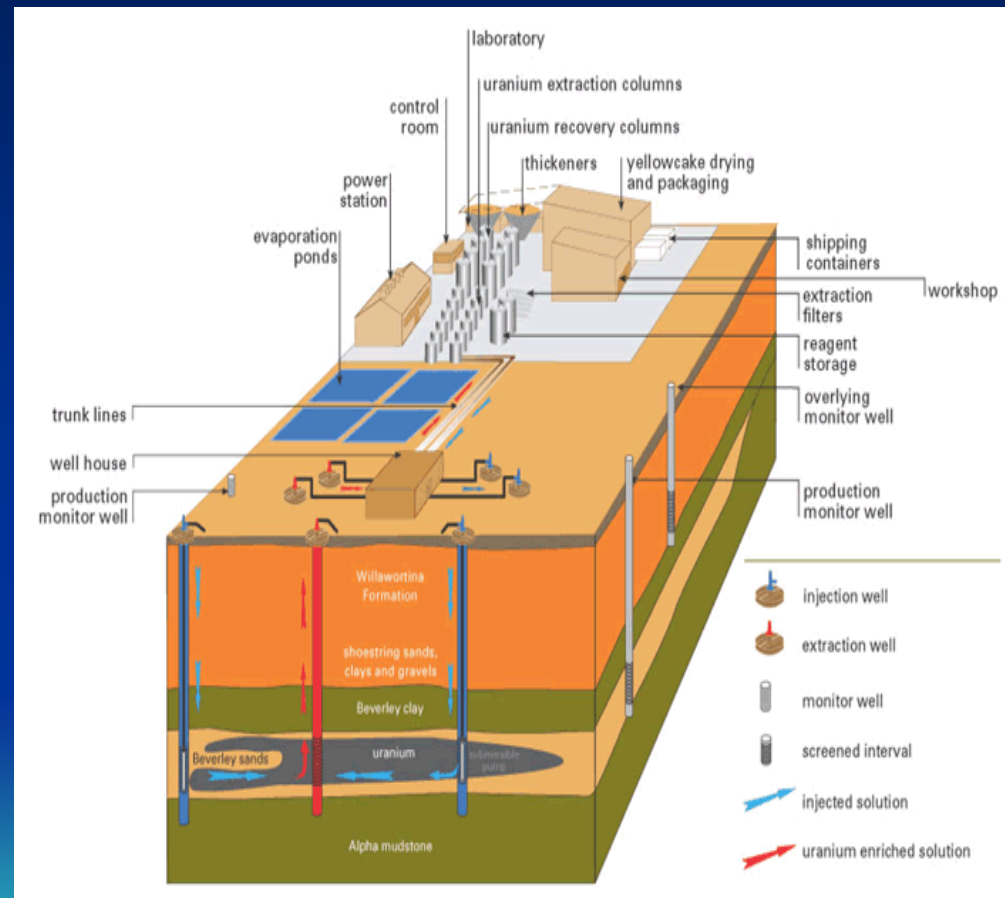
- Letter of intent
- Pre-licensing meetings (open to the public)
- Acceptance review
- Detailed Technical Review
 - Notice of opportunity for hearing
 - Safety review
 - Environmental review
- Work with stakeholders (e.g. States, EPA, BLM, FS, F & WS) and Indian Tribes
- Licensing Decision
- Inspections

NRC LICENSING PROCESS



Application Content – In-Situ Recovery Facility

- Proposed Activities
- Site Characteristics
- Description of Proposed Facility
- Effluent Control Systems
- Operations
- Groundwater Restoration and Decommissioning
- Financial Assurance
- Accidents
- Quality Assurance
- Alternatives



Health and Safety Focus Areas

- Health Physics/Radiation Safety
 - Radiation safety controls and monitoring
 - Effluent controls/monitoring
 - External radiation exposure monitoring
 - Airborne radiation monitoring
 - Bioassay program
 - Environmental monitoring
 - Radiological cleanup of lands, buildings and equipment
- Hydrogeology
 - Modeling of groundwater flow
 - Well-field groundwater monitoring
 - Groundwater restoration
- Engineering
 - Solid and liquid waste management
 - Design of evaporation ponds

Radiation Protection Regulations

10 CFR Part 20

- NRC Requirements:
 - Dose limits for radiation workers and members of the public
 - Monitoring and labeling radioactive materials
 - Environmental monitoring
 - Posting signs in and around radiation areas
 - Reporting the theft or loss of radioactive material
- Radioactive materials be used in a way that limits radiation exposure of individual members of the public to a dose that does not exceed 0.1 rem (100 mrem) in a year
- Adults working with radioactive material must be protected so as not to receive more than 5 rems (5,000 mrem) per year
- Workers are monitored with the use of dosimeters

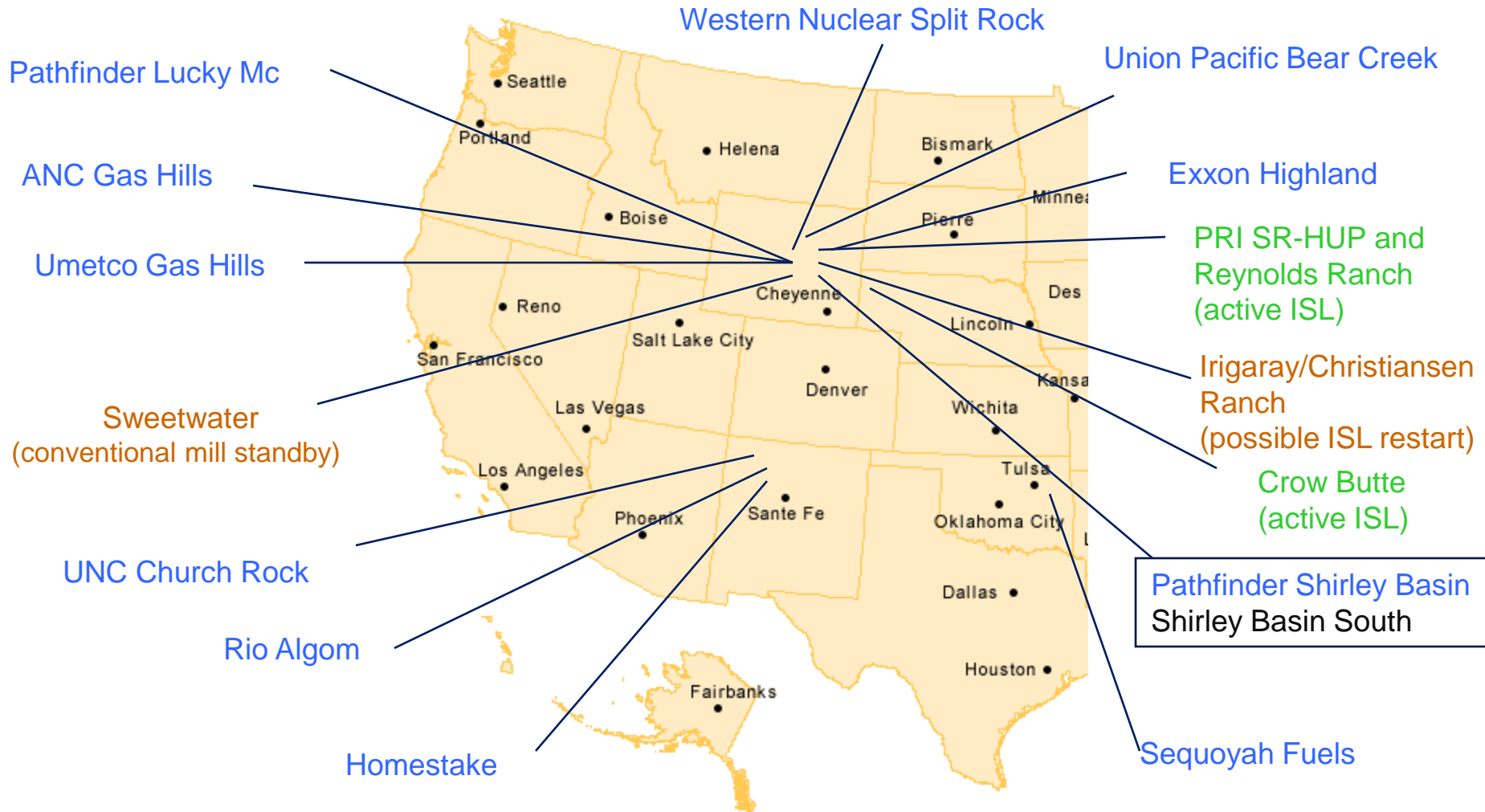
ISR Ground Water Protection Regulations -10 CFR Part 40

- 10 CFR Part 40 – Appendix A ,Criterion 5B(5)
 - Based on EPA regulations – 40 CFR 192
 - Must be restored to Commission-approved background level or maximum contaminate level, whichever is higher
 - Licensees can apply for Alternate Concentration Limits
- 10 CFR Part 40. 42
 - Decommissioning (restoration) begins when principal activities cease

Current NRC UR Universe

- 38 Decommissioning sites
 - 22 Title I facilities (2 in WY)
 - 11 Title II facilities (licensed) (8 in WY)
 - 5 sites under general license to DOE (1 in WY)
- 3 Operating facilities (1 on standby) (2 in WY)
- 1 licensed but not yet constructed
- 25 expected applications by 2013
 - 9 received
 - 2 completed
 - 5 under review
 - 1 on hold (sage grouse)
 - 1 withdrawn

Title II Uranium Recovery Sites



Expected Applications

- 8 New ISRs; 7 in WY
- 10 ISR Expansion; 6 in WY
- 2 New Heap Leach; 1 in WY
- 4 New Conventional; 1 in WY
- 1 ISR restart; 1 in WY

**Expected Uranium Recovery
Facility Applications**

Updated 06/17/2010

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 (Energy Metals Corporation)	Moore Ranch	ISR - New	Received October 2007	WY	05/31/07
Uranium One (Energy Metals Corporation)	Jab and Antelope	ISR - New	Received September 2008	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 - Expansion	Received Jan 2010	WY	02/26/09
Uranium One (Energy Metals Corporation)	Allemand-Ross	ISR-Expansion	Jul-10	WY	02/26/09
Cameco (Crow Butte Resources, Inc.)	Three Crow	ISR - Expansion	Sep-10	NE	01/11/10
Fiscal 2011 Applications					
Lost Creek ISR, LLC	Lost Creek	ISR - Expansion	Nov-10	WY	01/06/10
Strata Energy, Inc.	Ross	ISR - New	Dec-10	WY	01/08/10
UR-Energy Corp.	Lost Soldier	ISR - Expansion	Dec-10	WY	01/06/10
Cameco (Power Resources, Inc.)	Smith Ranch/Highland CPP	ISR - Expansion	FY 2011	WY	01/14/10
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	02/04/10
Rio Grande Resources	Mt. Taylor	Conv. - New	TBD	NM	12/15/09
Wildhorse Energy	West Alkali Creek	ISR - New	TBD	WY	01/07/10
Fiscal 2012 Applications					
Strathmore Minerals Corporation	Gas Hills	Conv. - New	Oct-11	WY	01/18/10
Strathmore Minerals Corporation	Roca Honda	Conv. - New	Dec-11	NM	01/18/10
AUC LLC	Reno Creek	ISR - New	Dec-11	WY	04/13/10
Cameco (Crow Butte Resources, Inc.)	Marsland	ISR - Expansion	Jun-12	NE	01/11/10
Fiscal 2013 Applications					
Cameco (Power Resources, Inc.)	Ruby Ranch	ISR-Expansion	FY 2013	WY	01/14/10
Projected total reviews = 25					
Total Uranium Recovery Applications Received = 9					
Total New Uranium Recovery Applications = 14					
Total Restart/Expansion Uranium Recovery Applications = 11					

ISR = In Situ Recovery Facility
TBD = To Be Determined

Conv = Conventional Uranium Mill
FY = Fiscal Year