

Beyond Initial Licensing

NRC License Maintenance Expectations

Uranium Recovery Workshop 2012

May 2, 2012

10:30 – 11:00 AM

Presenter: Wayne Heili, Ur-Energy

Background

- NRC tracks Major Uranium Recovery License (URL) Applications and their status using a cooperative process

| Major Uranium Recovery Licensing Applications | | | | | | | |
|---|--------------------------|---------------------|-------------------------------|---------------|-------|------------------------|------------------|
| Company | Site Under Consideration | Design | Estimated Application Date | Date Accepted | State | Status | Letter of Intent |
| Fiscal 2007 Applications | | | | | | | |
| Cameco (Crow Butte Resources) | North Trend | ISR - Expansion | Received June 2007 | 08/28/2007 | NE | Tech Review Ongoing | None |
| Fiscal 2009 Applications | | | | | | | |
| Powertech Uranium Corporation | Dewey Burdock | ISR - New | Resubmitted 8/09 | Oct-09 | SD | Tech Review Ongoing | 01/26/07 |
| Fiscal 2011 Applications | | | | | | | |
| Strata Energy, Inc. | Ross | ISR - New | Rec. January 2011 | Jun-11 | WY | Tech Review Ongoing | 01/08/10 |
| Fiscal 2012 Applications | | | | | | | |
| Uranium One | Ludeman | ISR - Expansion | Rec. December 2011 | | WY | Acc. Review Ongoing | 11/28/11 |
| Lost Creek ISR, LLC | Lost Creek | Dryer-Expansion | Rec. January 2012 | | WY | Adding Dryer | 01/06/10 |
| Cameco (Crow Butte Resources) | Marsland | ISR - Expansion | Apr-12 | | NE | | 11/09/10 |
| AUC LLC | Reno Creek | ISR - New | Apr-12 | | WY | Pre-Sub Audit 11/11 | 11/03/10 |
| Cameco (Crow Butte Resources) | Three Crow | ISR - Expansion | Rec. 08/10, Resubmit 05/12 | | NE | Review Deferred | 01/11/10 |
| Uranium One | Allemand-Ross | ISR-Expansion | Jun-12 | | WY | | 10/08/10 |
| Titan Uranium USA, Inc. | Sheep Mountain | Heap Leach - New | Jul-12 | | WY | Pre-Sub Audit 10/11 | 11/11/10 |
| Strathmore Minerals Corporation | Roca Honda | Conv. - New | Sep-12 | | NM | | 11/19/10 |
| Uranium Company of Nevada, LLC | Apex Mill | Conv. - New | Sep-12 | | NV | | 11/11/10 |
| Fiscal 2013 Applications | | | | | | | |
| Uranerz Energy Corp. | Jane Dough | ISR-Expansion | Nov-12 | | WY | | 10/07/11 |
| Lost Creek ISR, LLC | Lost Creek | KM-Horizon Exp. | Dec-12 | | WY | | 03/29/12 |
| Strathmore Minerals Corporation | Gas Hills | Heap Leach - New | Feb-13 | | WY | | 02/08/12 |
| Neutron Energy | Juan Tafoya | Conv. - New | Jun-13 | | NM | | 03/02/12 |
| Uranium One | Jab and Antelope | ISR - New | Rec. 07/08, Resume FY 13 | | WY | Review Deferred | 05/31/07 |
| Cameco (Power Resources, Inc.) | Ruby Ranch | ISR - Expansion | FY 2013 | | WY | | 01/14/10 |
| Rio Grande Resources | Mt. Taylor | Conv. - New | TBD | | NM | | 11/10/10 |
| Uranium Energy Corporation | Grants Ridge | Heap Leach - New | TBD | | NM | | 01/15/10 |
| Fiscal 2014 Applications | | | | | | | |
| Oregon Energy, LLC | Aurora Uranium Project | Conv. - New | Dec. 2013 | | OR | | 04/03/12 |
| UR-Energy Corp. | Lost Soldier | ISR - Expansion | FY14 | | WY | | 11/01/10 |
| The Bootheel Project LLC | Bootheel | ISR-New (Satellite) | FY14 | | WY | | 08/09/10 |
| Other Major Licensing Actions | | | | | | | |
| Cameco (Crow Butte Resources) | Crawford, NE | ISR - Lic. Renew. | Received Dec. 2007 | | NE | Draft License Issued | |
| Uranium One | Willow Creek | ISR - Lic. Renew. | Received May 2008 | | WY | Tech Review Ongoing | |
| Cameco (Power Resources, Inc.) | Smith Ranch/Highland | ISR - Lic. Renew. | Feb-12 | | WY | Acc. Review Ongoing | |
| Hydro Resources, Inc. | Crownpoint | ISR - Lic. Renew. | Rec. 8/02, on hold until 2012 | | NM | | |
| Kennecott Uranium | Sweetwater Mill | Conv - Lic. Renew. | Oct-14 | | WY | | |
| Cameco (Power Resources, Inc.) | North Butte | ISR - Ops Plan | Feb-12 | | WY | Inc.w/Smith R. renewal | 09/09/10 |
| Cameco (Power Resources, Inc.) | Gas Hills | ISR - Ops Plan | Feb-12 | | WY | Inc.w/Smith R. renewal | 09/09/10 |
| Cameco (Power Resources, Inc.) | Ruth | ISR - Ops Plan | FY 2022 | | WY | | 09/09/10 |
| No. of New Facility Applications = | | | | | | 13 | |
| No. of Restart/Expansion Applications = | | | | | | 10 | |
| No. of Other Actions | | | | | | 8 | |
| Total No. of Licensing Actions | | | | | | 31 | |

Background – continued

- Several new licenses have been issued
- New and existing licenses have on-going license maintenance needs
- Little information is available on how the license maintenance activities are planned for and scheduled at the NRC

"It seems like everything takes
so long back there in D.C."



What is a “Major URL Application?”

- The following application types appear on the NRC worksheet
 1. New ISR, Heap and Conventional Facilities
 2. Restarts
 3. Expansions
 4. License Renewals
 5. ISR Operations Plan
 6. ACL Reviews

What is Not a “Major URL Application?”

- The following NRC Reviews are not tracked on the NRC Major URL Applications worksheet
 1. Review/Verification of License Conditions
 2. Wellfield Package Reviews
 3. Most License Amendments
 4. Restoration Approvals
 5. Reclamation Approvals
 6. License Transfers
 7. License Terminations
 8. Annual Reports/Financial Assurance Review

What's What?

- License Maintenance Activities (LMAs) span a wide range of review time requirements
- Not all LMAs occur with predictable frequency
- There is some ambiguity on what is a Major URL activity and what is a LMA
- No matter how the activity is defined, the Licensee has an expectation of a prompt review and approval process at a reasonable cost
- Guidance on cost and advanced time requirements would be valuable to Industry

NRC LICENSING HELP
\$274/HR



THE DOCTOR
IS **PRE-OCCUPIED**

Workload Reduction Tools

- The NRC could improve efficiency of reviews by optimizing the implementation of these available tools
 1. Generic Environmental Impact Statements (GEIS)
 2. Performance Based Licensing (PBL)
 3. Part 51 (NEPA) Regulations

NRC GEIS Utilization

- NUREG-1910 and NUREG-0706 address common environmental concerns associated with construction, operation & decommissioning of uranium recovery facilities
 1. The intended benefit of these documents was to reduce time spent on reviews
 2. *NEPA* is only intended for “Major Federal Actions”
 3. Efficiency will be gained when the agency uses the GEIS’s as the starting point for site specific reviews

Performance Based Licenses

- NUREG/CR-6733 and NUREG-1860 provide the risk assessment foundation for PBLs
 1. Staff has been restricting actions that can be approved by a SERP in recent licenses
 2. Each review that must be done by Staff rather than by SERP adds to the agency workload
 3. Expansion of the use of PBLs and SERPS is justifiable due to the very low risks posed by URLs

Part 51 Regulations

- NRC's Implementation of CEQ-NEPA Regulations are found in 10CFR51
 1. 51.15 establishes the need for time schedules
 2. 51.22(c)(22) allows for the creation of Standard Design Criteria (SDC)
 - Items covered by SDCs can be categorically excluded from certain environmental reviews
 3. The goal should be to create better documents, not larger documents, so that better decisions can be made

"Is it Just a Dream?"



Cost Estimating Tools

- Licensees have need of a means to effectively budget for NRC staff reviews. NRC would also benefit.
 1. Schedule of costs for common tasks
 2. Agency internal review of estimated manpower requirements for each type of LMA
 3. Efficiency will be gained when a risk-based analysis is applied to the estimated hours

Forecasting Tools

- The NRC could improve workload planning by implementing a process for annual data collection and tracking of upcoming LMAs
 1. Survey Industry similar to process for URLs
 2. Industry should be cooperative if the expectation is a more predictable review process
 3. Not all LMAs can be predicted
 - Scheduling must allow for flexibility within reason

Agency - Industry Cooperation Leads to a Happy Ending for All!



"Snap out of it! Five cents please."



Recommendations

1. Prepare guidance on what constitutes a Major License Application and what can be scheduled as License Maintenance
2. Take full advantage of available GEIS reports
3. Take full advantage of the Performance Based License features
4. Utilize the efficiencies that Part51 and NEPA call for
5. Develop a risk-informed cost schedule for common review activities
6. Develop forecasting tools for annual assessment of license maintenance activities

"Thanks for listening"

Wayne

