

URANIUM RECOVERY LICENSE ISSUANCE AND AMENDMENT REVIEWS - DURATION AND RECOMMENDATIONS TO IMPROVE EFFICIENCY AND TRANSPARENCY

**A Report for the Senate Committee on Environment and Public Works and the House
Committee on Energy and Commerce**



By The U. S. Nuclear Regulatory Commission

Enclosure

INTRODUCTION

The U.S. Nuclear Regulatory Commission (NRC) developed this report as required by the Nuclear Energy Innovation and Modernization Act (NEIMA). Specifically, Section 201 of NEIMA requires the NRC to submit to the appropriate congressional committees a report describing (1) the “duration of uranium recovery license issuance and amendment reviews” and (2) “recommendations to improve efficiency and transparency of uranium recovery license issuance and amendment reviews.”

BACKGROUND

The NRC’s mission is to license and regulate the Nation’s civilian use of radioactive materials to provide reasonable assurance of adequate protection of public health and safety, to promote the common defense and security, and to protect the environment. Uranium recovery licensees are regulated by the NRC under Title 10, Part 20, of the *Code of Federal Regulations* (10 CFR Part 20), “Standards for Protection Against Radiation”; 10 CFR Part 40, “Domestic Licensing of Source Material”; and Appendix A to 10 CFR Part 40, “Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material From Ores Processed Primarily for Their Source Material Content.”

In addition to NRC-regulated uranium recovery facilities, some State governments regulate uranium recovery facilities under the NRC’s Agreement State program. Agreement States are those States that have entered into formal agreements with the NRC, pursuant to Section 274 of the Atomic Energy Act of 1954, as amended (AEA), to regulate certain quantities of AEA material at facilities within their borders. This report does not address uranium recovery license issuance and amendment reviews conducted under Agreement State programs.

DURATION OF LICENSE ISSUANCE AND LICENSE AMENDMENT REVIEWS

The NRC staff reviews applications for new uranium recovery facilities, expansions of existing facilities, and renewals of existing licenses. In conducting these reviews, the NRC staff develops a safety evaluation report that documents the staff’s findings and completes a review of the environmental impacts of the proposed activity and documents its findings. The staff also consults with state and Tribal agencies regarding cultural resources near these facilities.

Since 2006, the NRC has issued licenses for six new uranium recovery facilities, amendments for eight expansions of existing facilities, and license renewals for four facilities. On September 30, 2018, the State of Wyoming assumed regulatory responsibilities for uranium recovery activities within the state under the NRC’s Agreement State program. This resulted in the NRC retaining only three uranium recovery facilities licensed to operate under the NRC’s direct regulatory authority. Two of the three facilities have not yet been constructed.

For all major uranium recovery licensing actions, the NRC’s goal is to complete the reviews within 36 months from application acceptance. For those reviews that exceeded this goal, the factors that contributed to increasing the NRC staff’s review time included the time for an applicant to adequately respond to the NRC staff’s questions and open issues, resource constraints resulting from emergent issues, or applicant requests for the agency to defer a review.

Since 2007, the average time for the NRC staff to issue a license associated with a new uranium recovery facility was approximately 41 months. The duration of the reviews ranged

from 33.5 to 54.5 months. Details on the six new uranium recovery licenses issued since 2007 are shown in Table 1.

The NRC staff has renewed four uranium recovery licenses since 2006. The average duration for a renewal review was approximately 62 months. The duration of the renewal reviews ranged from 43.5 to 80 months. Table 3 provides details on the duration of reviews for renewals of existing licenses.

In addition to the major licensing actions described above, the NRC staff also reviews a range of minor licensing actions and other regulatory actions. These actions include: annual reviews of financial assurance arrangements, administrative amendments, amendments that modify existing license conditions, and license transfers. The NRC staff's goal for completing the review for each of these types of actions is 12 months after acceptance. If an environmental assessment (EA) is required, the review could take additional time. Due to their smaller impact on resources, the NRC staff has not tracked these minor licensing actions as part of its performance metrics. However, going forward, the NRC staff will track all licensing actions as part of implementing other provisions in NEIMA.

RECOMMENDATIONS TO IMPROVE EFFICIENCY AND TRANSPARENCY OF URANIUM RECOVERY LICENSE ISSUANCE AND AMENDMENT REVIEWS

The NRC staff completed a self-assessment of the uranium recovery licensing process in May 2017 that benchmarked uranium recovery licensing reviews against other NRC licensing reviews and best practices to improve efficiency for the uranium recovery licensing process. In response to the self-assessment, the staff implemented the following improvements:

- Standardizing pre-application activities and the acceptance review process;
- Enhancing the planning and scheduling processes;
- Creating a prioritization system for new applications;
- Standardizing request for additional information guidance and process;
- Use of tiering (i.e., supplementing the Generic EIS for uranium recovery) in environmental reviews;
- Conducting consultation under Section 106 of the National Historic Preservation Act;
- Standardizing safety evaluation templates.

In addition to these improvements, the NRC staff has undertaken several other activities to improve the licensing and oversight process for uranium recovery facilities. These activities include:

- Increasing the term of uranium recovery licenses from 10 to 20 years as discussed in SECY-17-0086, "Increasing License Terms for Uranium Recovery Facilities." The Commission approved this policy change in November 2017.
- Initiating a revision of the Standard Review Plan for In Situ Leach Uranium Extraction License Applications with plans to make the guidance more risk-informed and performance-based.
- Improving transparency and communication with licensees and applicants on schedules and fees. Costs for actions are now posted on the NRC public website and project managers discuss upcoming work with licensees and applicants so that they can better budget for the NRC fees.
- Working with the Environmental Protection Agency (EPA) to develop a memorandum of understanding regarding the respective roles of the NRC and EPA as defined in the Uranium Mill Tailings Radiation Control Act of 1978 with respect to the regulation and

licensing of uranium in situ recovery (ISR) facilities. The NRC staff is also considering whether to continue with a rulemaking, deferred since 2010, to add ISR-specific regulations to 10 CFR Part 40 for the purpose of standardizing, streamlining, and expediting the licensing of uranium ISR facilities (84 FR 574, January 31, 2019).

CONCLUSION

The NRC staff has developed and implemented process changes to improve efficiency and transparency in uranium recovery licensing. However, given the significant decline in activity associated with existing uranium recovery licenses and new applications, the full impact on efficiency from these changes may not be fully realized until new licensing actions and applications are submitted. While the agency will continue to pursue additional improvements in efficiency and transparency, the NRC staff will gain experience and obtain data from new uranium recovery applications and actions that will be reviewed under the already implemented process improvements, before developing additional recommendations.

**Table 1
Summary of Major Licensing Actions - New Facility**

Licensee and Site Name	Date of Submittal	Date Accepted for Review	Safety Evaluation Report (SER) Completion Date	Time to SER Completion (months)	EA/EIS Completion Date	Time to EA/EIS Completion (months)	Date License Issued	Duration of Review at Completion (months) ⁽¹⁾
Uranium One Americas, Inc. Moore Ranch	10/02/2007	12/20/2007	09/30/2010	33.5	08/19/2010	32.0	09/30/2010	33.5
Uranerz Energy Corporation Nichols Ranch	11/30/2007	04/14/2008	07/19/2011	39.5	01/21/2011	33.5	07/19/2011	39.5
Lost Creek ISR, LLC Lost Creek	03/31/2008	06/10/2008	08/17/2011	38.5	06/17/2011	36.5	08/17/2011	38.5
Powertech Uranium Corporation Dewey Burdock ⁽³⁾	08/10/2009	10/02/2009	03/18/2013	42.0	01/29/2014	52.0	04/08/2014	54.5
Strata Energy, Inc. Ross ⁽²⁾	01/06/2011	06/28/2011	02/28/2013	20.0	02/28/2014	32.5	04/24/2014	34
AUC LLC Reno Creek	10/05/2012	06/18/2013	09/30/2016	39.5	12/16/2016	42.0	02/17/2017	44.5

Notes:

(1) Time to completion is the time from when the application was accepted until the license was issued. It includes any applicant and NRC staff induced delays.

(2) A hearing was held for this review.

(3) A hearing was held for this review and this matter continues before the Atomic Safety and Licensing Board; appeals are currently pending before the Commission with respect to a partial decision of the Board.

**Table 2
Summary of Major Licensing Actions - Expansion Amendments**

Licensee and Amendment Name	Date of Submittal	Date Accepted for Review	SER Completion Date	Time to SER Completion (months)	EA/EIS Completion Date	Time to EA/EIS Completion (months)	Date License Issued	Duration of Review at Completion (months) ⁽¹⁾
Power Resources, Inc. Reynolds Ranch	01/14/2005	03/23/2005	01/31/2007	22.5	01/05/2007	21.5	01/31/2007	22.5
Power Resources, Inc. SR-2 Satellite	10/11/2006	11/09/2006	01/10/2008	14.0	12/26/2007	13.5	01/10/2008	14.0
Lost Creek ISR, LLC Vacuum Dryer Addition	01/06/2012	03/01/2012	04/22/2013	14.0	03/29/2013	13.0	04/22/2013	14.0
Crow Butte Resources, Inc. North Trend ⁽²⁾	05/30/2007	08/28/2007	07/21/2013	71.0	N/A	N/A	N/A	N/A
Uranerz J Energy Corp. Jane Dough	05/08/2014	08/10/2015	01/24/2017	17.5	03/23/2017	19.5	03/22/2017	19.5
Crow Butte Resources, Inc. Marsland ⁽³⁾	06/20/2012	10/05/2012	01/29/2018	64.0	04/27/2018	67.0	05/23/2018	68.0
Lost Creek ISR, LLC LC East/KM Horizon ⁽⁴⁾	02/02/2015	05/02/2017	08/07/2018	15.5	N/A	N/A	N/A	N/A
Uranium One Americas, Inc. Ludeman	12/06/2011	05/16/2012	03/01/2018	70.0	08/02/2018	75.0	08/24/2018	75.5

Notes:

(1) Time to completion is the time from when the application was accepted until the license amendment was issued. It includes any applicant and NRC staff induced delays.

(2) NRC staff suspended its work on the EA, per the licensee's request, on 12/16/2015. On 04/04/2018, the licensee reiterated its request that the NRC staff continue to hold the review in abeyance. A hearing has been granted on this application; the adjudication likewise is currently in abeyance.

(3) A hearing was held for this review; the Atomic Safety and Licensing Board issued its final decision in the case, in favor of Crow Butte and the staff, on 02/28/2019. An appeal is currently pending before the Commission with respect to that decision.

(4) NRC staffs endpoint for this review was completion of the SER. The State of Wyoming assumed responsibility for completing the review when it became an Agreement State on 09/30/2018.

Table 3
Summary of Major Licensing Actions - Renewals

Licensee and Site Name	Date of Submittal	Date Accepted for Review	SER Completion Date	Time to SER Completion (months)	EA/EIS Completion Date	Time to EA/EIS Completion (months)	Date License Issued	Duration of Review at Completion (months) ⁽¹⁾
Uranium One, USA, Inc. Willow Creek	05/30/2008	12/29/2008	03/07/2013	50.5	01/16/2013	49.0	03/07/2013	50.5
Crow Butte Resources, Inc. ⁽²⁾	11/27/2007	03/28/2008	12/28/2012	57.5	10/30/2014	79.5	11/05/2014	80.0
Kennecott Uranium Company Sweetwater	09/08/2014	11/25/2014	02/28/2018	39.5	06/04/2018	42.5	07/05/2018	43.5
Power Resources, Inc. Smith Ranch	02/01/2012	07/05/2012	09/24/2018	75.0	09/20/2018	75.0	09/26/2018	75.0

Notes:

(1) Time to completion is the time from when the application was accepted until the renewed license was issued. It includes any applicant and NRC staff induced delays.

(2) A hearing was held for this review; appeals are currently pending before the Commission.