Progress on Licensing Applications – March 2018

1. Progress to Eliminate the Backlog of Pending Licensing Actions

The U.S. Nuclear Regulatory Commission (NRC) has taken specific actions to ensure greater discipline and management oversight in the request for additional information (RAI) process.

Operating Reactors

The Office of Nuclear Reactor Regulation (NRR) made great strides in reducing the backlog of licensing actions by reducing the inventory of licensing actions greater than 1-year-old from 139 in September 2014, to 4 in March 2018. Through the use of strict controls and metrics, this inventory remains below 15 at any given time. This improvement is due in large part to the office specific RAI-related improvements implemented over the last several years.

NRR launched several initiatives to focus on leveraging or revising existing licensing processes to enhance agency efficiency, effectiveness, and predictability, while maintaining a continued strong safety focus. These initiatives have analyzed the issues that caused the previous licensing action backlog, including in the RAI process, and recommended enhancements to the licensing review process. NRR management issued interim guidance to the staff in January 2015, and updated interim guidance in April 2016, providing expectations to help enhance consistency of the licensing review process, sound decision-making, and discipline of schedule. In January 2017, this interim guidance was incorporated into NRR procedures. Some of the key items that have added discipline and management oversight to the RAI process include the following:

- NRR staff review of an application will be limited to the scope of the licensing action and RAIs should only request information that is required to make a safety determination.
- At the point when RAIs are transmitted from the technical staff to the NRR project manager, the technical staff is expected to have developed a draft safety evaluation (SE). In addition to ensuring that the RAIs contain a sound technical and regulatory basis, the technical staff should be able to correlate each RAI to a “hole” in the draft SE that the licensee response is expected to fill.
- Prior to sending a second (and any subsequent) round of RAIs in a specific technical area, NRR division-level management will apply additional oversight to discuss the need for the RAIs and whether alternative methods, such as a public meeting or audit, may be more effective and efficient for obtaining the necessary information.
- NRR project managers track licensee timeliness and adherence to RAI response schedules. Any significant delays in licensee responses will be brought to NRR management attention.

Training sessions were held with the technical and project management staff on RAI quality and the RAI process. Following the issuance of the finalized NRR guidance in this area in January 2017, online training was developed and provided to the NRR staff. This training covered expectations regarding added discipline and management oversight of the RAI process. Approximately 98 percent of the staff has received the training.

Other actions that provide a stable and sustainable improvement in the RAI process and add accountability to the process include the following:

- In November 2014, NRR management began holding periodic meetings to discuss open licensing actions, develop alignment on the best approaches for completing those actions, and monitor licensing performance.
- In October 2016, NRR replaced the existing software used to manage and monitor licensing reviews with a newly developed software package called the Reactor Program System - Licensing/Workload Management software. This system has the capability to better track RAI issuance and status.
- NRR performed an internal audit of a sample of RAIs issued between April and December 2016 and found that the overall adherence to quality, timeliness, and process expectations was satisfactory. The audit team identified areas for continued improvement and recommended increased staff training on the RAI guidance, development of staff job aids, and consideration of modifications to staff guidance to better reflect the reactor license renewal and non-power utilization facilities licensing processes.
- On January 2, 2018, in response to the recommendations from the internal audit, NRR management issued a tasking memorandum to the staff with four specific actions to address the audit findings: (1) provide mandatory RAI refresher training for applicable NRR, the Office of Nuclear Security and Incident Response (NSIR), and the Office of New Reactors (NRO) staff and branch chiefs, (2) evaluate existing RAI job aid for applications to other divisions, (3) formalize use of NRR guidance, as applicable, for reactor license renewal and non-power utilization facilities, and (4) conduct subsequent RAI quality reviews. The staff and branch chiefs completed the RAI refresher training in early April 2018. The staff is evaluating the applicability of the RAI job aid and guidance enhancement for reactor license renewal and non-power utilization facilities.

New Reactors

The Office of New Reactors (NRO) has taken several steps to ensure that its RAIs are consistently high quality and are necessary to a safety finding. In 2016, senior managers in NRO undertook initiatives to examine licensing activities with the goal of promoting a continued strong safety focus, consistency, efficiency, and clarity in our reviews. These initiatives included revising the RAI process to promote the consistent generation of high quality RAIs.

In October 2016, the NRO RAI process was revised (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16280A389) to include a new quality check audit process where, in addition to the technical branch supervisor, the division management of both the technical and project management organizations review an RAI before it is issued to the applicant or licensee. In addition, the NRO Office Director reviews a sample of RAIs to keep abreast of high-priority issues identified in reviews.

On October 7, 2016, the NRO Office Director issued a memorandum titled “Effective Use of Request for Additional Information, Audit, and Confirmatory Analysis in New Reactor Licensing Review,” which emphasized the goals of the RAI process. The memorandum described the revised process and included a job aid that contains best practices for preparing RAIs.

The staff has incorporated many lessons-learned into its review of the active design certifications (DC) and early site permit (ESP) applications. The 2016 initiative to improve the

focus of RAIs has improved the quality and safety focus of these requests. The staff is also using the regulatory audit tool earlier in the process to better inform the staff about the bases supporting the applications and, therefore, better focus the staff's RAIs on information that directly relates to the staff reaching safety findings.

The staff is currently conducting an audit to assess the effectiveness of the revised NRO RAI process. The audit is expected to evaluate whether the revised RAI process has yielded tangible improvements to NRO's licensing process; and if the revised RAI process should be maintained, modified or eliminated.

Decommissioning and Low-Level Waste

The Office of Nuclear Materials Safety and Safeguards (NMSS) has established internal guidance for uranium recovery and waste program reviews that includes the expectation that RAIs will be developed in conjunction with the draft safety evaluation report (SER) to ensure that each RAI is necessary to reach a safety finding. In addition, the guidance requires inclusion of a reference in the RAI to the specific relevant requirement and encourages staff to conduct telephone conferences with licensees and applicants to resolve technical issues on RAIs efficiently. The NRC staff recently finalized an internal self-assessment that identifies possible efficiency improvements within the Uranium Recovery Program. The self-assessment includes recommendations for improving the efficiency of the RAI process, such as issuing RAIs as they are written rather than as a group, and reemphasizing the expectation that staff develop the draft safety evaluation and RAIs in concert.

NMSS is also in the process of studying RAI approaches used by other NRC offices and developing office procedures, revising guidance, and evaluating the development of job aids to incorporate applicable RAI approaches from elsewhere in the agency. Following completion of this effort, NMSS will develop a training plan, as needed, to implement the resulting RAI process products.

In addition, NMSS is revising NUREG-1556, Volume 20, "Guidance about Administrative Licensing Procedures." Information in this guidance regarding RAIs for materials licensing actions is being updated to improve consistency and management oversight between NRC headquarters and regional materials licensing staff.

In August 2016, NMSS also issued expectations and guidance to employees in its spent fuel management division that specifically stated a goal of one round of RAIs for a typical review and a maximum of two rounds of RAIs in any review. RAIs and the applicant's responses need to converge on the information needed for making a regulatory finding. As part of the management oversight process, the staff has been seeking concurrence by the division-level management, in addition to branch-level, when a second round of RAIs is being considered during the review of a licensing action. In addition, the staff has developed further guidance on preparing RAIs that are clear, complete, and specific to the requested information, the justification for the request, and the associated regulatory basis. This guidance has been discussed with all the reviewers as part of continuous staff training, supplemented by a desk guide and a quick reference card. This division also will conduct a self-assessment on spent fuel storage and transportation licensing RAIs during FY 2018.

The division that focuses on fuel cycle facilities and environmental reviews conducted a review of its RAI process during the second quarter of FY 2017. Staff reviewed audit reports from the NRC's Office of the Inspector General and the U.S. Government Accountability Office (GAO)

"Statement of Facts" (GAO Job Code 100910). The NRC staff assessment report is in ADAMS (ADAMS Accession Number ML17102A783). The NRC staff also reviewed the internal policies and interviewed subject matter experts throughout the agency. The results of this assessment, including staff's recommendations and proposed actions for implementing recommended improvements, were documented in a report to management on May 25, 2017. The report proposed revisions to the division's licensing review handbook, including:

- Periodically reinforcing expectations of key aspects in the RAI process during licensing seminars or division meetings;
- Promoting a more consistent and uniform use and application of the guidance, particularly following the instructions on interactions with the applicant or licensee, drafting the SER as a tool to identify any RAIs, having a sound regulatory basis for the RAIs, and maintaining licensing reviews aligned with its scope;
- The addition of clear instructions specifying that RAIs should not request information available elsewhere; and
- Continuing with current management oversight practices, such as elevating any challenges encountered during the RAI process to division management for their awareness and involvement.

Based on recommendations, this division has conducted two licensing seminars on RAIs for Project Managers and Technical Reviewers, as well as a team meeting for those involved in the license renewal application review for Honeywell International. Tasks for updates to the guidance are scheduled for completion by the end of September 2018.

No adverse findings were identified in the Final GAO Report GAO-17-344, "*U.S. Nuclear Regulatory Commission: Efforts Intended to Improve Procedures for Requesting Additional Information for Licensing Action are Underway*", dated May 25, 2017.

Summary

Efforts to establish consistent procedures throughout the agency are being initiated by the establishment of a working group to align, where appropriate, licensing strategies across the agency including the RAI process. This effort, which is in the initial stages, will include representatives from NMSS, NRR, NRO, NSIR, and Office of the General Counsel.

2. Status of License Renewal Reviews

Operating Reactors

Applicant	Application Accepted for Review	Review Status for Long-Term Application Reviews
Indian Point 2&3	08/01/2007	The NRC staff has addressed the public comments received on its draft second supplement to the final supplemental environmental impact statement (FSEIS), which was issued for comment in December 2015. The staff's response to the public comments will be documented in the second FSEIS supplement, which is currently under final review. The initial SER was issued in November 2009, with supplements issued in August 2011 and July 2015. A third SER supplement will be issued in the third quarter of FY 2018 to address new information received by the staff concerning safety issues. In January 2017, the parties to the legal proceedings reached an agreement that resulted in the withdrawal of all contentions on the license renewal application. Under the agreement, Units 2 & 3 will cease operations in April 2020 and 2021, respectively, with possible extensions to operate until April 2024 and 2025, respectively. On February 8, 2017, the State of New York Department of Environmental Conservation (NYDEC) and Riverkeeper filed an unopposed motion to withdraw their contentions and terminate the adjudicatory proceeding. The Atomic Safety and Licensing Board (ASLB) granted that motion and terminated the adjudicatory proceeding on March 13, 2017. Recently, the National Marine Fisheries Service (NMFS) designated critical habitat in the Hudson River for Atlantic Sturgeon. Interactions between the NRC staff, NMFS, NYDEC, and Entergy regarding this new designation and Entergy's monitoring plan for sturgeon are complete. Resolution of this issue will be documented in the Record of Decision issued in conjunction with the renewed operating licenses for the units. A decision on the renewed operating licenses for both units is expected to be issued in the fourth quarter of FY 2018.
Diablo Canyon 1&2	01/21/2010	In June 2016, Pacific Gas and Electric (PG&E) requested a suspension of the license renewal review to allow it to seek approval from the California Public Utilities Commission (CPUC) of an agreement in principle not to proceed with license renewal for Diablo Canyon. In July 2016, the NRC suspended the license renewal review. The CPUC held a public meeting on January 11, 2018, during which it approved PG&E's proposal to close Diablo Canyon in 2025. On March 7, 2018, PG&E requested withdrawal of its license renewal application. On April 16, 2018, the NRC granted the request of PG&E to withdraw its license renewal application.

Applicant	Application Accepted for Review	Review Status for Long-Term Application Reviews
Seabrook 1	07/21/2010	The NRC staff continues discussions with NextEra to ensure that technical issues related to the alkali-silica reaction (ASR) open item in the SER are properly addressed. In August 2016, NextEra submitted a license amendment request (LAR) to the current license to adopt a methodology for the analysis of seismic Category I structures with concrete affected by ASR. This methodology is the basis for the aging management program being evaluated under the license renewal application review. An audit of the methodology and its implementation was performed onsite by NRC staff during March 19 – 21, which resulted in some follow-up questions. On October 6, 2017, the ASLB admitted a contention on the ASR LAR. The review of this amendment has a direct impact on the schedule for the license renewal review. A decision on the license renewal is currently projected to be made by April 2019.
Waterford	05/31/2016	The NRC staff continues their safety and environmental reviews, including the resolution of specific questions regarding the Waterford neutron fluence time-limited aging analysis. The applicant submitted a LAR in November 2017 that will request approval of their plant-specific neutron fluence methodology which is applied to the reactor vessel neutron fluence embrittlement analysis referred to in the license renewal application. The acceptance review of this LAR has been completed and NRC staff safety review is currently underway. The review of the LAR is estimated to take approximately 1 year. The LAR included a supplement to the licensing renewal application (LRA). The NRC staff determined that additional information is required in order to complete its review of the LRA supplement and has issued an RAI. A response to the RAI is expected in late April. The license renewal application fluence methodology review is dependent on the approval of the LAR and an acceptable response to the RAI. Therefore, the decision on the renewed operating license is expected to be issued in the third quarter of FY 2019.
River Bend	08/07/2017	The staff continues the safety and environmental reviews, which are expected to take approximately 18 months. The staff has completed issuance of RAIs and is in the process of engaging the applicant for clarifications on several RAI responses and the staff is developing the SER and EIS.
Turkey Point 3&4	01/30/2018	Following the recent acceptance of the subsequent license renewal application for review – the first request to extend a plant's operations beyond 60 years – the staff issued a notice of opportunity for hearing and the application review schedule.

Research and Test Reactors License Renewal Applications Currently Under Review

Facility Name	Application Date	Status
Texas A&M University (TAMU) Aerojet-General Nucleonics (AGN) Reactor	07/22/1997	The review of the TAMU AGN reactor LRA is on hold. The licensee disassembled and relocated the reactor into storage at the Texas Engineering Experiment Station, where the licensee intends to build a new facility to house the AGN. The NRC will resume its review of the LRA once the licensee submits a revised safety analysis report describing the new location of the reactor.
Aerotest Radiography and Research Reactor	02/28/2005	The licensee updated and resubmitted the license renewal application in December 2017 following the resolution of foreign ownership, control, or domination issues by the indirect license transfer to Nuclear Labyrinth, LLC. The NRC staff has resumed its review of the license renewal application and determined that the licensee has not provided the facility-specific neutronic, thermal-hydraulic and accident analyses needed to support its renewal application. The NRC staff is requesting that the licensee supplement its application with this information. A review schedule will be established once this information has been provided.
University of Texas at Austin	12/12/2011	The review is in progress. The NRC staff is currently evaluating the licensee's neutronic and thermal-hydraulic analyses submitted in response to RAIs on March 8, 2018. Delays in the staff's receipt and review of this information resulted from the licensee requesting eight extensions to respond to these RAIs dating back to March 2017. A review schedule will be established once the adequacy of the RAI responses is determined.
University of Massachusetts at Lowell	10/20/2015	The review is in progress and on schedule for completion by 2019. The NRC staff is reviewing the licensee's responses to NRC staff RAIs focused primarily on radiation protection, dose calculations, and accident analyses submitted in January 2018. The NRC staff is also preparing RAIs to address the digital instrumentation and control upgrades that the licensee has proposed in conjunction with license renewal and the technical specifications for the renewed license.
North Carolina State University	02/24/2017	The review is in progress and on schedule for completion in 2019. The NRC staff is drafting the safety evaluation report and preparing RAIs for discussion with the licensee. A site familiarization visit will be held April 30th through May 3rd to discuss the status of the review.

3. Status of Power Uprate Application Reviews

The NRC staff currently has the following power uprate application under review:

Hope Creek Generating Station

The Hope Creek Generating Station, measurement uncertainty recapture uprate application was accepted for review on August 9, 2017. On April 30, 2018, the NRC approved the request to increase the power generating capacity of Hope Creek by 1.6 percent.

4. Status of Design Certification Applications

The NRC employs a six phase schedule to monitor progress towards completion of the safety review. These phases are:

- Phase 1 – Preliminary SER with RAIs issued to applicant
- Phase 2 – SER with Open Items issued
- Phase 3 – Response to the Advisory Committee on Reactor Safeguards (ACRS) regarding SER with Open Items issued
- Phase 4 – Advanced SER with no Open Items issued
- Phase 5 – Response to ACRS regarding SER with no Open Items issued
- Phase 6 – Final SER issued

US-Advanced Pressurized-Water Reactor (US-APWR)

Mitsubishi Heavy Industries (MHI) submitted its US-APWR DC application on December 31, 2007. The staff is continuing with Phase 2 of the review (issuing the SER with open items). By letter dated November 5, 2013, MHI initiated a coordinated slowdown of NRC licensing activities in order to focus its resources towards supporting the restart of the Mitsubishi-designed reactors in Japan following the Fukushima event. The NRC staff has been performing the review of the US-APWR DC application at a very reduced pace and will continue at this reduced pace until further notice from the applicant. As of March 31, 2018, the staff has issued 5,682 RAIs and the applicant has responded to 5,533 of them.

Advanced Power Reactor 1400 (APR 1400)

On December 23, 2014, Korea Electric Power Corp. and Korea Hydro & Nuclear Power Co., Ltd. (KHNP), submitted to the NRC its application for the certification of the APR 1400 standard plant design for use in the U.S. domestic energy market. The NRC completed the Phase 2 review (issuing the SER with open items) for all chapters of the application in May 2017 and completed the Phase 3 review (ACRS review of the SER with open items) in June 2017. The staff is currently working through Phases 4 (issuing the SER with no open items), 5 (responding to ACRS on the SER with no open items) and 6 (issuing final SER) of its review. As of March 31, 2018, the staff had issued 2,225 RAIs and the applicant has responded to 2,224 of them. Of the RAIs issued, 99.5 percent are closed or are considered confirmatory actions that the staff will verify, upon receipt of the updated final safety analysis report, that the applicant has incorporated all changes in accordance with the response approved by the staff.

On February 2, 2018, the staff issued an updated schedule letter to KHNP explaining that, although the NRC staff has made substantial progress toward completing both the remaining

Phase 4 and Phase 5 reviews, issues related to the technical quality, completeness, or timeliness of the applicant's submittals have resulted in delays that affected the milestone dates for completion of Phase 4 and Phase 5. Therefore, the staff revised the Phase 4 public milestone date from March 2018 to May 2018, and moved the Phase 5 public milestone date from June 2018 to July 2018. While no change was made to the Phase 6 milestone date, this delay may also impact the completion of the review within the 42-month schedule.

NuScale

On January 6, 2017, NuScale submitted the first small modular reactor DC application for review by the NRC. On March 15, 2017, the NRC completed its acceptance review, concluded that the application was acceptable for review, and docketed the application. The staff issued the acceptance review letter to NuScale on March 23, 2017, and developed a full review schedule with public milestones that was transmitted to NuScale on May 22, 2017. The staff's review is currently in Phase 1 (preparing the preliminary SER and issuing RAIs) and Phase 2 (issuing SER with open items). The NRC has identified 26 significantly challenging issues that require resolution and have the potential to adversely affect the review schedule. Of these 26 issues, 4 are now considered resolved. As of March 31, 2018, the staff has issued 404 RAIs, which included 1096 RAI questions and the applicant has responded to 794 of the RAI questions. Of the 404 RAIs issued, 96 RAIs (23.7 percent) are now closed.

5. Status of Design Certification Renewal Applications

Advanced Boiling-Water Reactor (ABWR) Renewal (General Electric-Hitachi (GEH))

On December 7, 2010, GEH submitted an application for renewal of the ABWR DC. The review is currently in Phase 2 (issuing SER with open items). The NRC staff issued a letter to GEH on July 20, 2012, describing 28 design changes that GEH needed to include in the application. By letter dated September 17, 2012, GEH stated it planned to address the 28 items in Revision 6 of the ABWR design control document (DCD). By letter dated February 19, 2016, GEH submitted its revised application incorporating the changes to the ABWR DCD. On August 30, 2016, the staff issued a schedule letter to GEH based on resolving all open items by January 2017. However, some open items associated with the review of the application remain unresolved. On August 3, 2017, the staff issued a letter to GEH stating that the NRC will not be able to meet the original schedule outlined in the August 30, 2016, letter due to unresolved issues with the application. The letter also stated that the NRC will issue a revised schedule letter to GEH after additional interactions with the applicant are held to resolve these issues and the staff receives complete responses to the NRC's RAIs. The staff has issued 37 RAIs and the applicant has responded to all of them.

6. Status of Combined License Applications

Turkey Point Units 6 and 7

On June 30, 2009, Florida Power & Light Company (FPL) submitted a COL application for two AP1000 units at the existing Turkey Point Nuclear Generating Station site in Miami-Dade County, FL. On September 4, 2009, the NRC staff issued a letter to FPL indicating the Turkey Point COL application was acceptable for docketing.

The NRC staff completed its safety review and presented the final SER to the ACRS on August 19, 2016. The final SER for Turkey Point was issued on November 10, 2016. The NRC

issued the final environmental impact statement (EIS) on October 28, 2016. The Commission held the mandatory hearing on December 12, 2017.

On May 2-3, 2017, the ASLB conducted an evidentiary hearing in Homestead, FL, for the contested proceeding involving the Southern Alliance for Clean Energy, National Parks Conservation Association, and other joint intervenors. On July 10, 2017, the ASLB ruled in favor of the NRC staff and terminated the contested proceeding. No appeal was filed within the appeal deadline. On April 18, 2017, the City of Miami, City of South Miami, and Village of Pinecrest (petitioners) filed a new petition seeking a hearing. On July 31, 2017, the ASLB rejected the pending contention and terminated the contested proceeding involving those petitioners. The Commission denied the petitioners' appeal from that decision on December 11, 2017 (CLI-17-12).

On April 5, 2018 (CL-18-01), the Commission issued its decision regarding the licenses, authorizing the staff to issue both COLs. On April 19, 2018, the Director of NRO signed the combined licenses and record of decision. These documents were published in the *Federal Register* on April 26, 2018 (83 FR 18091).

7. Status of Early Site Permit Applications

Clinch River

On May 12, 2016, the Tennessee Valley Authority (TVA) submitted an ESP application for the Clinch River Nuclear Site located in Oak Ridge, TN. By letter dated August 11, 2016, TVA identified certain aspects of the application that it intended to supplement. The NRC responded to TVA in a letter dated August 19, 2016, and informed TVA that its application would remain in a tendered but not docketed status until all of the supplemental information was provided to NRC. By December 15, 2016, TVA provided the supplemental information in support of its application, and by letter dated January 5, 2017, the NRC staff informed TVA that its application, as supplemented, was acceptable for docketing and detailed technical review.

NRC staff began its detailed technical review of the ESP application in January 2017 and developed a full review schedule with public milestones that was transmitted to TVA on March 17, 2017. The Phase A - safety review for all chapters of the application was completed by the staff on August 4, 2017 (consistent with the established schedule). The staff is currently in Phase B of its review, which is scheduled to conclude on October 29, 2018. As of March 31, 2018, the staff has issued 50 safety-related RAIs and the applicant has responded to all of them. Of the RAIs issued, 66 percent are closed or are considered confirmatory items for verification toward the end of the review process. The final SER is projected to be issued in August 2019. For the environmental review, NRC staff completed Phase 1 of the four-stage review ahead of schedule (October 30, 2017), and remains positioned to complete Phase 2 ahead of schedule as well (before June 1, 2018).

On June 12, 2017, the Southern Alliance for Clean Energy (SACE), Tennessee Environmental Coalition (TEC), and Blue Ridge Environmental Defense League filed petitions seeking a hearing. On September 12, 2017, the ASLB conducted oral argument on these petitions. On October 10, 2017, the ASLB issued a decision that denied the Blue Ridge Environmental Defense League's petition to intervene and granted the SACE and TEC's joint petition to intervene and admitted two contentions. SACE/TEC filed a motion for reconsideration of the Board's dismissal of the third contention and the motion was dismissed. Separately, TVA appealed the admission of the two contentions to the Commission. On May 3, 2018, the

Commission issued its decision (CLI-18-5), affirming the ASLB's admission of one contention and reversing the ASLB's admission of the other.

The milestone schedules for DCs, COLs, and ESPs that are currently under review are publicly available on the NRC website.

8. Status of Uranium Recovery Licensing Application Review

Uranium Recovery Applicant	Application Accepted for Review	Review Status
Cameco North Trend Expansion(*)	08/28/07	On December 16, 2015, the licensee requested the NRC staff to stop its review of the North Trend application and to instead focus its efforts on the review of the Marsland expansion. The SER for the North Trend expansion was completed in July 2013. The NRC staff has suspended its work related to the development of the draft Environmental Assessment (EA) and conduct of Section 106 consultations pursuant to the National Historic Preservation Act. In addition, the hearing to address contentions related to groundwater is on hold, pending completion of the NRC staff's environmental review.
Uranium One Ludeman Expansion	05/16/12	The NRC staff completed the draft EA on February 27, 2018. Work will continue on the final EA, which is expected to be completed by early August 2018. The NRC staff completed its safety review documented in the final SER on March 1, 2018. The NRC staff is on schedule to make a licensing decision by August 31, 2018.
Cameco Smith Ranch License Renewal(*)	07/05/12	Environmental and safety reviews are in progress. The NRC staff and Cameco met on February 21, 2018, to discuss Cameco's RAI responses. Cameco submitted updated RAI responses related to hydrogeology on March 7, 2018. Staff understands that Cameco is working on resolving the remaining RAI responses. The NRC staff's SER and EA completion dates in September 2018 were based on receipt of Cameco's RAI responses by January 19, 2018. The NRC staff will reassess the schedule for completion of the SER and EA, once all the RAI responses are received.
Cameco Crow Butte Marsland Expansion(*)	10/05/12	The NRC staff completed its safety review for the final SER on January 29, 2018. The staff plans to complete the final EA in April 2018, and make a final licensing decision in May 2018. The Marsland expansion review has an admitted contention that will go to hearing after completion of the NRC staff's review.
Hydro Resources, Inc. (HRI) License Renewal	06/24/13	The sites, located very close to Navajo Nation lands, were licensed in 1998. Construction has not yet commenced. The license renewal review was placed in abeyance on November 13, 2014, while HRI continues its work with the Navajo Nation Council. In March 2016 the NRC approved the transfer of control of the license from the HRI parent company, Uranium Resources, Inc., to Laramide Resources. The parties

(*) On February 9, 2018, Cameco announced that it is ceasing U.S. operations due to an expectation of prolonged poor uranium market conditions. The NRC staff is proceeding with its licensing reviews while seeking further information from Cameco regarding its licensing plans.

Uranium Recovery Applicant	Application Accepted for Review	Review Status
		finalized the transaction in January 2017. The schedule for remaining milestones associated with the licensing review is to be determined.
Kennecott Sweetwater License Renewal	11/25/14	The licensee has maintained the facility in stand-by since 1983, waiting on better market conditions to resume operations. The staff completed its SER in February 2018. The draft EA was completed on March 27, 2018, and the final EA is scheduled to be completed on July 20, 2018. The review is on schedule to reach a licensing decision in August 2018.
Strata Kendrick Expansion	01/14/16	On May 27, 2016, and September 14, 2016, the NRC staff issued RAIs for the environmental review and for the safety review, respectively. On December 15, 2016, the licensee requested that the NRC cease all activities related to this review. As a result of the licensee's request, the NRC staff is no longer reviewing this licensing action. The staff's safety and environmental reviews, including development of the supplemental EIS, are on hold.
Lost Creek KM Horizon/East Expansion	05/02/17	By letter dated February 27, 2017, the licensee resubmitted a revised application. The NRC staff has accepted the application for review on May 2, 2017. The NRC staff continues to coordinate with the Bureau of Land Management (BLM) in its preparation of the EIS in accordance with the BLM/NRC memorandum of understanding and the letter of December 4, 2014, designating BLM as the lead agency and NRC as a cooperating agency. BLM is scheduled to publish the final EIS in December 2018. The NRC staff is submitting its RAIs in batches in order to support BLM's schedule for issuing the EIS. The NRC staff issued its initial set of RAIs on July 27, 2017, its second set of RAIs on August 28, 2017, and its third set of RAIs on October 30, 2017. The final SER is scheduled to be completed in August 2018.
Cameco Three Crow Expansion(*)		Three Crow is an expansion of the operating Crow Butte facility located in Crawford, NE. The NRC staff started its acceptance review on March 3, 2011, and was waiting for the licensee to complete changes in its design prior to acceptance. However, in November 2014, the licensee requested that the NRC staff place the review on hold and instead focus efforts on the review of the Marsland expansion. The acceptance review remains on hold.

(*) On February 9, 2018, Cameco announced that it is ceasing U.S. operations due to an expectation of prolonged poor uranium market conditions. The NRC staff is proceeding with its licensing reviews while seeking further information from Cameco regarding its licensing plans.