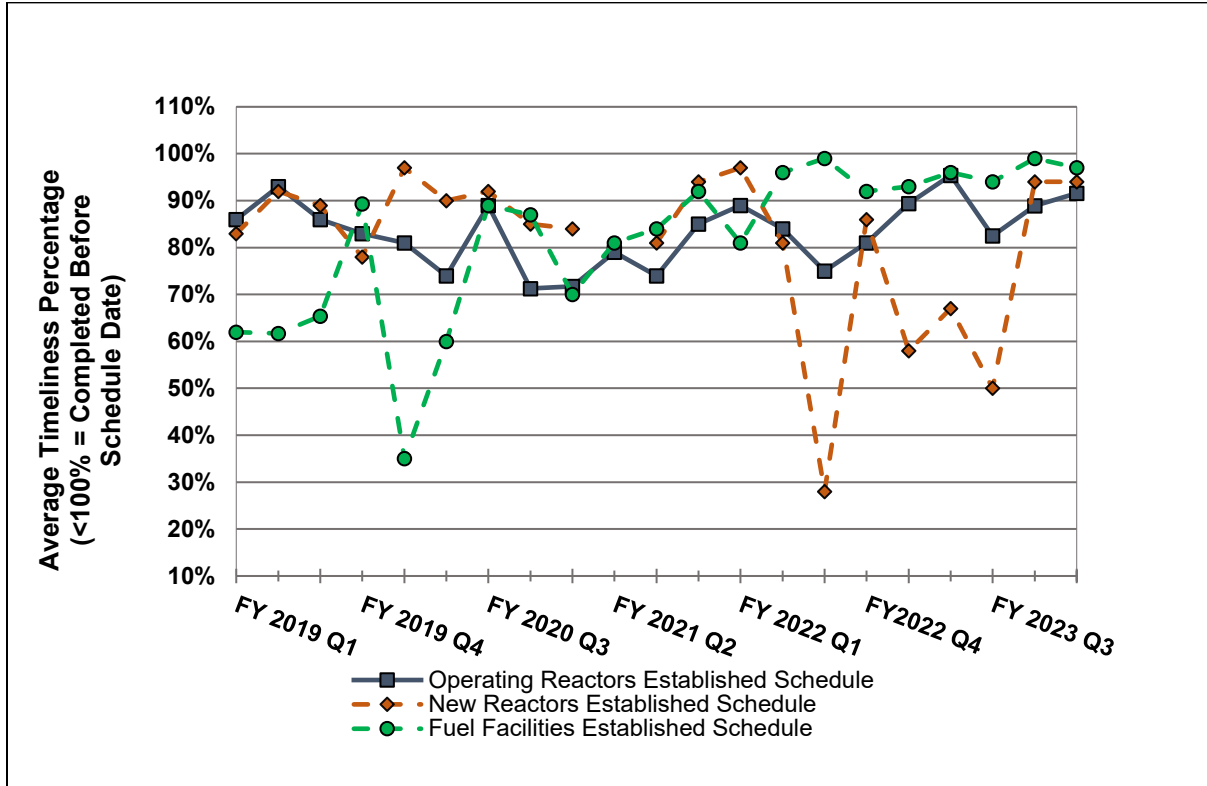


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Enclosure 1 – High Level Summary

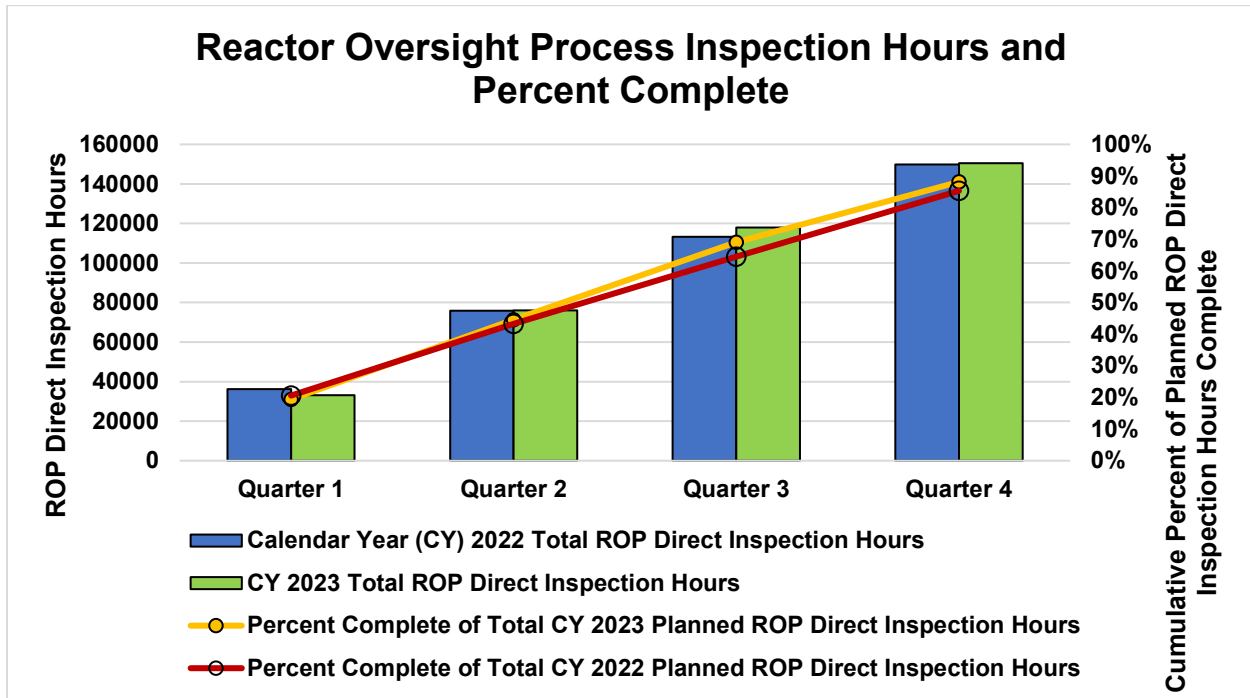
1-1 Average Timeliness Percentage for Licensing Actions Categorized Under the Nuclear Energy Innovation and Modernization Act



1

1 No licensing actions categorized under the Nuclear Energy Innovation and Modernization Act were completed in Quarter (Q) 2 fiscal year (FY) 2021 for the new reactor business line. There was one activity completed in Q3 FY 2022 for the new reactor business line, and it was completed significantly ahead of the established schedule. Because the one activity was completed in 28 percent of the established schedule, this resulted in the Q3 FY 2022 average timeliness percentage for the new reactor business line being 28 percent. There were three activities completed in Q3 FY 2023 for the new reactor business line, and they were completed significantly ahead of the established schedule. Because the three activities were completed in 50 percent of the established schedule, this resulted in the Q3 FY 2023 average timeliness percentage for the new reactor business line being 50 percent.

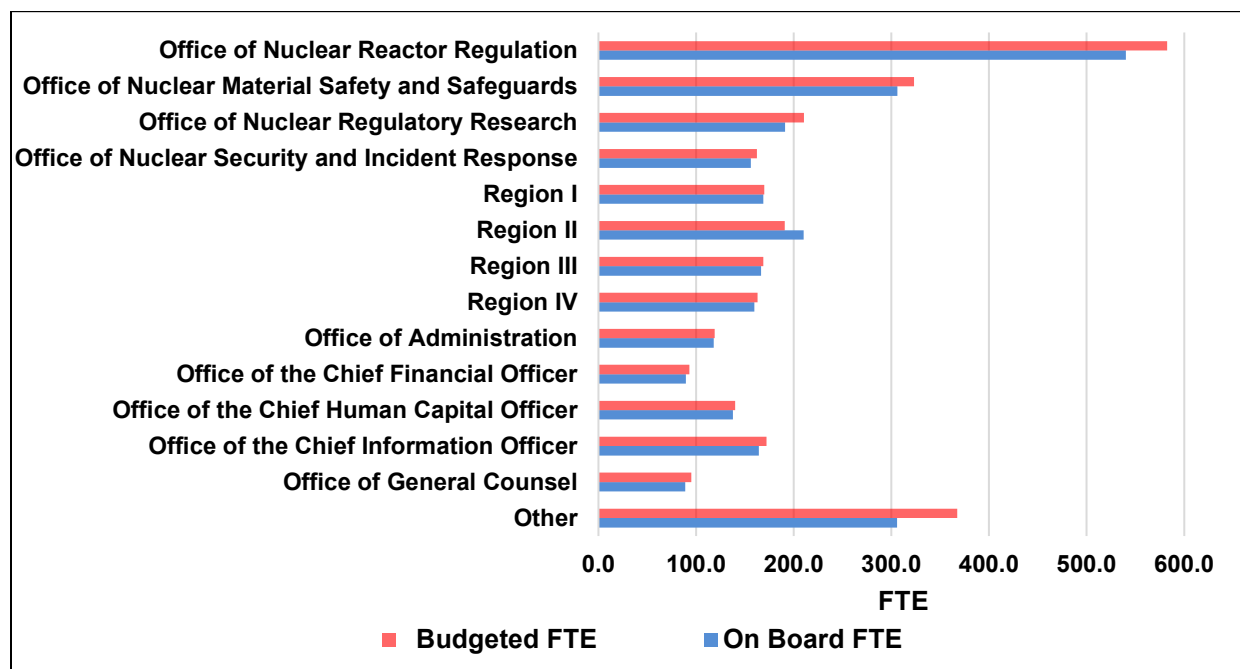
1-2 Reactor Oversight Process (ROP) Inspection Hours and Percent Complete



2

2 “Planned ROP direct inspection hours” refers to the number of hours associated with completion of the U.S. Nuclear Regulatory Commission’s (NRC’s) “nominal” number of inspection samples established for the baseline inspection program, which is a conservative target. This contrasts with the “minimum” number of hours that would be necessary to complete the set of inspection activities that constitutes completion of the ROP baseline inspection program for the calendar year.

1-3 Full-time Equivalent (FTE) at the End of Q1 FY 2024 vs. Budgeted FTE



1-4 Budget Authority, FTE Utilization, and Fees

NRC FY 2024 Budget Authority December 31, 2023 (Dollars in Thousands)

Fund Sources	FY 2024 Budget ³	Percent Obligated	Percent Expended
Advanced Reactors	\$23,800	11%	11%
Commission Funds	\$11,232	18%	18%
Fee-Based Funds	\$861,003	19%	18%
General Funds ⁴	\$1,193	11%	11%
International Activities	\$17,478	18%	17%
University Nuclear Leadership Program	\$0	0%	0%
Official Representation	\$39	2%	2%
Total⁵	\$914,744	19%	18%
NRC Control Points	FY 2024 Budget	Percent Obligated	Percent Expended
Nuclear Reactor Safety	\$492,036	20%	20%
Nuclear Materials and Waste Safety	\$111,759	20%	19%

³ The agency was operating under the Continuing Appropriations Act, 2024 and Other Extensions Act (as amended) during the reporting period; therefore, this table reflects the FY 2023 total annualized rate (i.e., the FY 2023 enacted levels). This table also includes the carryover allocated during Q1 FY 2024.

⁴ Consistent with previous reports, this row represents waste incidental to reprocessing activities excluded from the fee-recovery requirement.

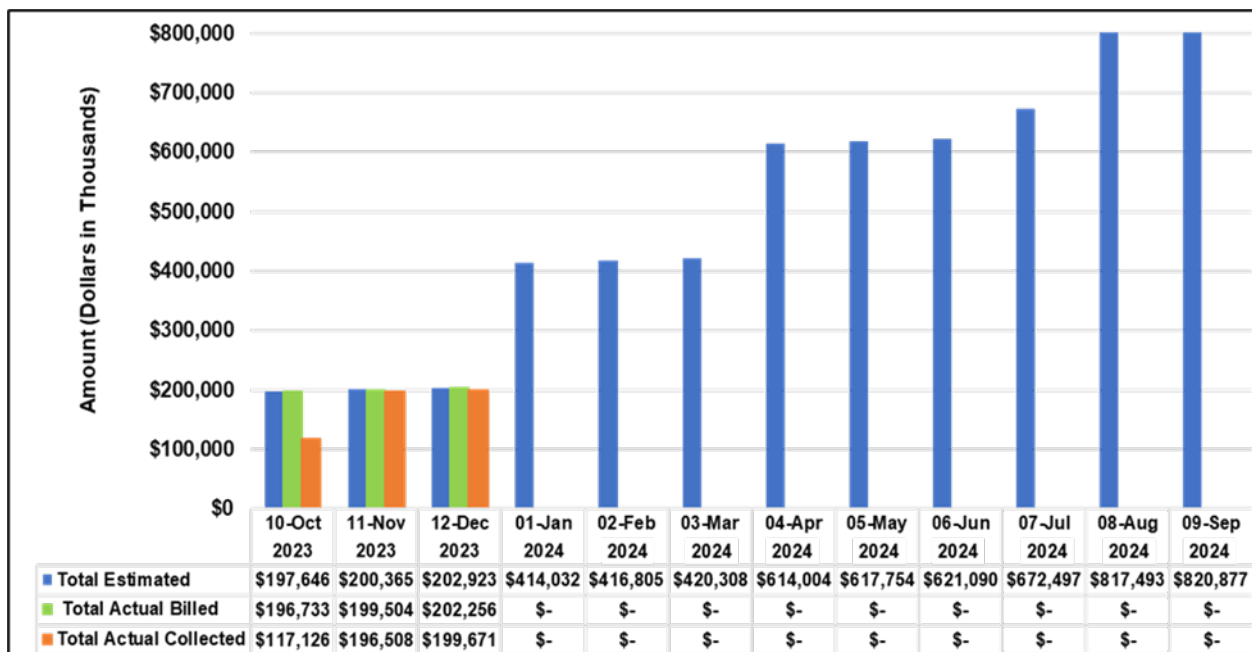
⁵ Numbers might not add correctly due to rounding.

Decommissioning and Low-Level Waste	\$23,953	20%	20%
NRC Control Points	FY 2024 Budget	Percent Obligated	Percent Expended
Corporate Support	\$286,996	16%	14%
University Nuclear Leadership Program ⁶	\$0	0%	0%
Total	\$914,744	19%	18%

FTE Utilization, Hiring, and Attrition

Total Year-to-Date (YTD) FTE Utilization	Projected End of Year FTE Total Utilization	Q1 Hiring	Q1 Attrition	YTD Hiring	YTD Attrition
752.4	2810.8	57	38	57	38

FY 2024 Fees Estimated, Fees Billed, and Fees Collected Through Q1



Total for Title 10 of the Code of Federal Regulations Part 170, "Fees for Facilities, Materials, Import and Export Licenses, and Other Regulatory Services Under the Atomic Energy Act of 1954, As Amended," Fees Billed (Dollars in Millions)

FY 2022	FY 2023	FY 2024 Q1
\$190.7	\$186.3	\$52.3

⁶ The FY 2023 Explanatory Statement identified this control point as the "Integrated University Program." Division Z of the Consolidated Appropriations Act, 2021 replaced the Integrated University Program with the University Nuclear Leadership Program.

Enclosure 2 – Status of Specific Items of Interest

Enclosure 2 provides the status of specific items of interest including a summary of the item, the activities planned and accomplished under each item within the reporting period, and projected activities under each item for the next two reporting periods.

2-1 Transformation

As a modern, risk-informed regulator, the U.S. Nuclear Regulatory Commission (NRC) has demonstrated an ability to adopt new technologies and ways of implementing its safety and security mission. The NRC continues to make progress in four focus areas: (1) recruiting, developing, and retaining a strong workforce (Our People); (2) improving decision-making through the acceptance of an appropriate level of risk without compromising the NRC’s mission (Be riskSMART); (3) establishing a culture that embraces innovation (Innovation); and (4) adopting new and existing information technology resources (Using Technology). These focus areas are now interwoven into the agency’s strategic goals and objectives.

The agency has completed all but one of the initial formal agencywide initiatives associated with the four focus areas. The remaining initiative centers on fostering a culture that embodies the NRC Values and Leadership Model, which supports the agency’s strategic goal of fostering a healthy organization. Further, based on analysis of data from the 2023 “Jam,” an agencywide collaborative online discussion, the NRC is focusing on areas to support our organizational health strategic goal.

Activities Planned and Completed for the Reporting Period (Quarter (Q) 1 Fiscal Year (FY) 2024)

Transformation Activities	Projected Completion Date	Completion Date
Initiated actions based on the “Jam” analysis, which will help sustain transformational progress and enhance organizational health and performance.	12/29/23	12/07/23
Updated public webpage on Transformation related to the results of the “Jam.”	12/29/23	12/26/23
Provided agencywide communications on the “Jam” actions and how those actions are helping to enhance organizational health and performance.	01/31/24	12/13/23

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected Transformation Activities	Projected Completion Date
Provide additional agencywide communications on the “Jam” actions and how those actions are helping to enhance organizational health and performance.	02/29/24

Projected Transformation Activities	Projected Completion Date
Conduct an internal pulse survey regarding implementation of “Jam” actions that are helping to enhance organizational health and performance.	06/28/24

2-2 Workforce Development and Management

Each FY, the NRC engages in a five-step Strategic Workforce Planning (SWP) process to improve workforce development to meet its near-term and long-term work demands. The first step in this process is an Agency Environmental Scan that projects the amount and type of work anticipated in the next 5 years and identifies the workforce needs in order to perform that work. By analyzing the current workforce and comparing it to future needs, skill gaps can be identified. In the final step of the process, both short-term and long-term strategies are developed to enable the agency to recruit, retain, and develop a skilled and diverse workforce with the competencies and agility to address both current and emerging needs and workload fluctuations.

To cover anticipated attrition and address skill gaps needed to conduct mission-critical work, the agency continued implementing strategies to recruit and onboard a significant number of new employees during this reporting period, and the agency plans to continue this recruitment effort. Senior leaders are collaborating to develop agencywide priorities to concentrate hiring on those positions with the greatest mission impact. This recruitment effort is positioning the agency to fulfill its important safety and security mission well into the future.

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

Workforce Development and Management Activities	Projected Completion Date	Completion Date
Shared the draft SWP evaluation report with senior leaders and solicited feedback. ⁷	11/30/23	11/30/23

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected Workforce Development and Management Activities	Projected Completion Date
Update SWP Guidance and share Final Evaluation Report with all NRC offices.	01/31/24 ⁸
Conduct recruitment activities and make selections for the Summer 2024 Internship Program.	01/31/24
Conduct recruitment activities and make selections for the 2024 Nuclear Regulator Apprenticeship Network (NRAN) cohort.	01/31/24
Finalize security clearance reviews and onboard Summer 2024 Student Interns.	06/30/24

⁷ These activities were not identified as a projected activity in the previous report because plans for the distribution and review of the report had not yet been finalized.

⁸ The projected completion date for this activity was extended from November 30, 2023, to January 31, 2024, to allow additional time to finalize the report, obtain input from program offices, and discuss the evaluation findings and proposed path forward with senior leaders.

Projected Workforce Development and Management Activities	Projected Completion Date
Finalize security clearance reviews and prepare to onboard NRAN 2024 cohort members.	06/30/24

2-3 Accident Tolerant Fuel

The NRC continues to take steps to make agency processes more efficient and effective for the review of Accident Tolerant Fuel (ATF), higher burnup, and increased enrichment submittals. The NRC staff is executing the ATF project plan (Agencywide Documents Access and Management System Accession No. [ML21243A298](#)), which was revised to include an increased focus on higher burnup and increased enrichment fuels.

During this reporting period, the NRC did not receive any additional ATF fuel vendor topical reports. In October 2023, the NRC staff completed its review of a white paper discussing a fuel vendor’s proposed near-term approach for addressing regulatory requirements associated with fuel fragmentation, relocation, and dispersal ([ML23297A048](#)). In October 2023, the NRC staff completed its review of a topical report for chromia-doped fuel use in pressurized water reactors ([ML23180A165](#)). The NRC staff is on track to complete review of the three ATF fuel vendor topical reports currently under review by the end of FY 2025, in time to support expected licensee submittals to use ATF. No additional operating reactor license amendment requests (LAR) were submitted during this reporting period.

The NRC expects to receive additional LARs in FY 2024 from licensees of enrichment facilities and fuel fabrication facilities to directly support increased enrichment above 5 weight-percent uranium-235. The LARs received or approved during this reporting period include the following:

- On November 27, 2023, the NRC approved a LAR submitted by Framatome, Inc. to extend its validation methodology and the minimum margin of subcriticality to include enrichments up to 20 weight-percent uranium-235 ([ML23313A077](#)). This amendment will support future LARs regarding fabrication of ATF and advanced reactor fuel with increased enrichments.
- On November 30, 2023, the NRC received a LAR from Louisiana Energy Services, LLC (LES/Urenco) seeking to increase the enrichment limit from 5.5 to less than 10 weigh-percent uranium-235 ([ML23334A122](#)). If approved, this LAR will support industry demand for increased enrichment uranium hexafluoride for ATF.
- On December 11, 2023, the NRC approved a LAR submitted by Global Nuclear Fuel – Americas LLC for fuel fabrication at enrichments up to 8 weight-percent uranium-235 ([ML23311A380](#)). This amendment relates to the production of fuel involving ATF concepts, and increased enrichment and higher burnup fuels.

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

ATF Activities	Projected Completion Date	Completion Date
Provided a presentation to the Advisory Committee on Reactor Safeguards (ACRS) Fuels, Materials, and Structures Subcommittee on the regulatory basis for rulemaking, associated with the use of light-water reactor fuel containing uranium enriched to greater than 5 weight-percent uranium-235, published for public comment (ML23032A504).	10/18/23	10/18/23
Held a public meeting to discuss the regulatory basis for rulemaking, associated with the use of light-water reactor fuel containing uranium enriched to greater than 5 weight-percent uranium-235, published for public comment (ML23319A259).	10/25/23	10/25/23

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected ATF Activities	Projected Completion Date
Hold a public workshop to discuss development of Regulatory Guide (RG) 1.183, "Alternate Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," Revision 2, to provide an overview of the RG process, key milestones, opportunities for stakeholder engagement, and applicable source term research. ⁹	01/09/24
Participate in the 2024 NRC Regulatory Information Conference (RIC) to provide stakeholders an opportunity to learn about the progress of ATF licensing activities and technologies to date and the activities that support efficient licensing of ATF concepts. Through participation at the RIC, the NRC staff will communicate about ATF readiness activities, planned stakeholder engagements, the NRC's projected licensing timelines, and any challenges to ATF deployment timelines.	03/14/24
Issuance of a report documenting a phenomena identification and ranking table exercise related to higher burnup fuel fragmentation, relocation, and dispersal and its potential consequences. The report will be used by the NRC to support changes to the regulatory infrastructure for higher burnup fuel.	03/31/24

2-4 Digital Instrumentation and Control

The NRC staff transitioned to using its improved infrastructure to support the review of licensees' digital instrumentation and control (I&C) modernization LARs and continues to complete digital I&C infrastructure improvements to address protection against common cause failure (CCF) and consider endorsement of updated consensus standards. These activities support the NRC's vision to establish a more modern, risk-informed regulatory structure with reduced uncertainty that will enable the expanded safe use of digital technologies.

⁹ The final version of RG 1.183, Revision 1 was issued on October 10, 2023, and can be found in Section 2-10, "Risk-informed Activities."

Two licensees submitted LARs for planned digital upgrades:

- On July 30, 2022 ([ML22213A045](#)), Florida Power & Light Company (FPL) submitted LARs for Turkey Point Nuclear Plant, Units 3 and 4 (Turkey Point). The LARs, if approved, would permit the use of digital I&C for the reactor protection system, engineered safety features actuation system, and nuclear instrumentation system at Turkey Point. On June 28, 2023, FPL asked the NRC staff to temporarily suspend the review of the Turkey Point LARs ([ML23179A141](#)) for an unspecified period of time due to unforeseen material supply issues. On July 20, 2023, the NRC suspended the review of the Turkey Point LARs, at the request of FPL ([ML23188A124](#)). FPL plans to revise the LARs and resubmit them to the NRC. FPL has not provided a target date for resubmittal.
- On September 26, 2022, Constellation Energy Generation, LLC submitted LARs for Limerick Generating Station, Units 1 and 2 (Limerick) to revise the licensing and design basis to incorporate proposed digital modifications. The LARs also request other changes to plant functions and the reactivity control system. On May 23, 2023, Constellation informed the NRC staff that it is delaying submittal of information needed to complete the Limerick LARs by seven months and that it changed the planned installation of the digital modification from Unit 1 in Calendar Year (CY) 2024 to Unit 2 in CY 2025 ([ML23143A342](#)). The changes by Constellation are due to design refinement iterations with the digital system original equipment manufacturer. As a result of the changes by Constellation, the NRC staff revised its review schedule, including the planned completion date for the review ([ML23187A096](#)). The review is scheduled to be completed by October 31, 2024.

The NRC staff provided SECY-22-0076 ([ML22164B003](#)) to the Commission for its consideration on August 10, 2022, recommending expansion of the current policy on digital I&C CCF, which is contained in the SRM to SECY-93-087 ([ML003708056](#)). On January 23, 2023, the NRC staff provided a supplement to SECY-22-0076 ([ML22357A037](#)) to the Commission as a result of stakeholder views received; the supplement included additional discussion on the need for independent and diverse displays and manual controls in the main control room in the event of a CCF. The Commission approved the NRC staff's recommendation subject to revisions in SRM-SECY-22-0076 on May 25, 2023 ([ML23145A176](#)). In accordance with the Commission's direction in SRM-SECY-22-0076, the NRC staff will be issuing final implementing guidance by May 25, 2024, through Revision 9 to Branch Technical Position (BTP) 7-19 to add guidance for the review of risk-informed approaches. The NRC staff also plans to revise guidance for non-light-water reactors (non-LWRs), including the Design Review Guide ([ML21011A140](#)), after obtaining additional stakeholder perspectives on the implementation of the revised policy through pre-application engagement and ongoing advanced reactor I&C workshops.

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

Digital I&C Activities	Projected Completion Date	Completion Date
Issue draft Revision 9 to BTP 7-19 for public comment (ML23222A237).	10/27/23	10/24/23

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected Digital I&C Activities	Projected Completion Date
Revision to BTP 7-19	
<ul style="list-style-type: none"> Brief the ACRS on Revision 9 to BTP 7-19. 	02/23/24
<ul style="list-style-type: none"> Issue Revision 9 to BTP 7-19. 	05/24/24

2-5 Vogtle Electric Generating Plant Units 3 and 4

The NRC issued two combined licenses (COLs) to Southern Nuclear Operating Company (SNC) and its financial partners on February 10, 2012, for two AP1000 units (Units 3 and 4) to be built and operated at the Vogtle site near Augusta, GA. Construction of Vogtle Units 3 and 4 is complete, and inspection activities for both units are being conducted under the Reactor Oversight Process (ROP). Vogtle Units 3 and 4 are currently in the Licensee Response Column of the ROP action matrix.

Since July 31, 2023, Vogtle Unit 3 has been operating commercially. SNC projects the start of commercial operations for Vogtle Unit 4 in Q2 CY 2024.

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

Vogtle Electric Generating Plant Units 3 and 4 Activities	Projected Completion Date	Completion Date
Granted a LAR for Vogtle Units 3 and 4 to adopt WCAP-17661-P-A as part of the overall Southern Nuclear fleet-wide revision to Technical Specifications (ML23138A085).	10/31/23	10/23/23
Granted a LAR for Vogtle Units 3 and 4 related to the relocation of Technical Specification 3.7.9, "Spent Fuel Pool Makeup Water Sources" (ML23268A057).	03/07/24	11/07/23 ¹⁰
Granted a LAR for Vogtle Units 3 and 4 related to more restrictive action for Technical Specification 3.1.9, "Chemical and Volume Control System Demineralized Water Isolation Valves and Makeup Line Isolation Valves" (ML23289A163).	12/15/23	11/28/23 ¹¹

¹⁰ This LAR was not identified as a projected activity in the previous report because the LAR review was originally scheduled for completion in Q3 FY 2024; however, the NRC staff and SNC agreed to revise the projected completion date to March 7, 2023.

¹¹ This LAR was not identified as a projected activity in the previous report because the LAR review was originally scheduled for completion in Q3 FY 2024; however, the NRC staff and SNC agreed to revise the projected completion date to December 15, 2023.

Vogtle Electric Generating Plant Units 3 and 4 Activities	Projected Completion Date	Completion Date
Granted a LAR for Vogtle Unit 3 for an exception to RG 1.163 (ML23310A292).	12/28/23	12/07/23
Issued safety evaluation for Vogtle Units 3 and 4 on compliance with 10 CFR 50.155 regarding mitigation strategies for beyond-design-basis external events (ML23335A137).	11/30/23	12/19/23 ¹²
Issued a summary report on Part 52 lessons learned from construction at Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3 (ML23325A202).	12/30/23	01/16/24 ¹³
Granted a LAR for Vogtle Units 3 and 4 related to Technical Specification 3.8.3, "Inverters – Operating" (ML23243A956).	01/25/24	12/19/23

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected Vogtle Electric Generating Plant Units 3 and 4 Activities	Projected Completion Date
Complete the review of a LAR to remove Combined License Appendix C, ITAAC, for Vogtle Unit 4.	01/17/24
Conduct a public meeting to discuss the summary report on Part 52 lessons learned from construction at Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3.	02/29/24

Vogtle Units 3 and 4 LAR Reviews Completed (Q1 FY 2024)

Number of LAR Reviews Forecast to be Completed in the Reporting Period	Number of LAR Reviews that Were Completed in the Reporting Period
2	5 ¹⁴

2-6 Advanced Nuclear Reactor Technologies

The NRC continues to make significant progress in enhancing its efforts to review non-LWR designs, consistent with the NRC staff's vision and strategy ([ML16356A670](#)) and

- ¹² This activity was completed on December 19, 2023, rather than the projected completion date of November 30, 2023, to allow time for SNC to review the safety evaluation for proprietary information.
- ¹³ This activity was completed on January 16, 2024, rather than the projected completion date of December 30, 2023, to allow additional time for resolution of internal comments.
- ¹⁴ The previous report identified two LAR reviews as projected to be completed in Q1 FY 2024. The NRC granted three additional LARs in Q1 FY 2024; these LAR reviews were originally scheduled for completion in Q2 and Q3 FY 2024.

implementation action plans to achieve non-LWR safety review readiness.¹⁵ During this reporting period, the NRC staff continued its extensive stakeholder engagement, including holding several public meetings regarding various advanced reactor topics, such as guidance for advanced reactor content of applications.

On March 1, 2023, the NRC staff provided SECY-23-0021, “Proposed Rule: Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors (RIN 3150-AK31)” ([ML21162A093](https://www.nrc.gov/reactors/new-reactors/advanced/rulemaking-and-guidance/part-53.html)), to the Commission for its consideration. Once the SRM is issued, the staff will revise the draft proposed rule to reflect Commission direction and then issue the resulting proposed rule for public comment. After the NRC staff receives, considers, and addresses the public comments, the draft final rule package, including key guidance, will be submitted to the Commission for consideration. The NRC’s rulemaking to establish a risk-informed, performance-based, and technology-inclusive regulatory framework for commercial nuclear plants is on target to be completed in advance of the Nuclear Energy Innovation and Modernization Act (NEIMA) required deadline of December 31, 2027. Further details about the rulemaking schedule can be found on the NRC’s public website (<https://www.nrc.gov/reactors/new-reactors/advanced/rulemaking-and-guidance/part-53.html>).

A significant recent accomplishment was the NRC’s publication of the final rule, “Emergency Preparedness for Small Modular Reactors and Other New Technologies,” in the *Federal Register* (FR) on November 16, 2023 ([88 FR 80050](https://www.federalregister.gov/documents/2023/11/16/88-fr-80050)). The rule became effective on December 18, 2023, and provides new alternative emergency preparedness (EP) requirements for small modular reactors and other new technologies. This final rule acknowledges technological advancements and other differences from large light-water reactors that are inherent in small modular reactors and other new technologies. The NRC concurrently issued RG 1.242, “Performance-Based Emergency Preparedness for Small Modular Reactors, Non-Light-Water Reactors, and Non-Power Production or Utilization Facilities.” Major provisions of this final rule and guidance include the addition of a new alternative performance-based EP framework and a scalable approach for determining the size of the plume exposure pathway emergency planning zone.

The NRC staff also continued its efforts to develop guidance for non-LWR licensing related to the Technology-Inclusive Content of Applications Project (TICAP) and Advanced Reactors Content of Applications Project (ARCAP). The NRC staff met with the ACRS to discuss draft RG (DG-1404), “Guidance for a Technology-Inclusive Content-of-Application Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light-Water Reactors,” for potential endorsement of industry-led Nuclear Energy Institute (NEI) 21-07, “Technology Inclusive Guidance for Non-Light Water Reactors Safety Analysis Report Content for Applicants Using the NEI 18-04 Methodology,” and a series of nine NRC-led ARCAP draft interim staff guidance (ISG) documents. The NRC staff is addressing the comments received from the ACRS and other stakeholders and plans to publish the ISGs and the final regulatory guide as RG 1.253, “Guidance for a Technology-Inclusive Content-of-Application Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light-Water Reactors,” in early 2024.

The NRC holds periodic public stakeholder meetings to discuss advanced reactor topics of interest. A list of the meetings that the NRC conducted to date can be found on the NRC’s public website (<https://www.nrc.gov/reactors/new-reactors/advanced/get->

¹⁵ The NRC’s public website lists the implementation action plans and is updated periodically to show the status of these activities (<https://www.nrc.gov/reactors/new-reactors/advanced/details.html#visStrat>).

[involved/meetings.html](#)). The NRC also actively engaged with stakeholders regarding the ARCAP. A list of these meetings and related draft guidance documents to support the meetings can be found on the NRC's public website (<https://www.nrc.gov/reactors/new-reactors/advanced/rulemaking-and-guidance/advanced-reactor-content-of-application-project.html>).

On April 13, 2023, the Commission directed the staff to license and regulate near-term fusion energy systems under a byproduct material framework ([ML23103A449](#)) and approved a limited-scope rulemaking. The Commission also directed the staff to develop a new volume of NUREG-1556, "Consolidated Guidance About Materials Licenses," dedicated to fusion energy systems to provide consistent guidance across the National Materials Program. Finally, the Commission directed the staff to take into account the existence of fusion systems that already have been licensed and are being regulated by the Agreement States, as well as those that may be licensed prior to the completion of the rulemaking. The NRC staff initiated the development of the draft proposed rule language and draft guidance. The NRC staff held the first public meeting on July 12, 2023, to discuss the development of the draft proposed rule and guidance under NUREG-1556. During this reporting period, the NRC staff held three additional public meetings on October 11, November 1, and November 9, 2023, to continue to engage stakeholders during the rulemaking and guidance development process. The staff plans to hold an additional public meeting on January 17, 2024, to continue to engage stakeholders. The draft proposed rule and draft guidance for fusion systems are scheduled to be provided to the Commission for its consideration in the fall of 2024.

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

Advanced Nuclear Reactor Technologies Activities	Projected Completion Date	Completion Date
Published DG-4034 (proposed revision 4 to RG 4.7), "General Site Suitability Criteria for Nuclear Power Stations," in the <i>Federal Register</i> for public comment (ML23123A090).	10/31/23	10/18/23
Issued final RG 1.242, "Performance-Based Emergency Preparedness for Small Modular Reactors, Non-Light-Water Reactors, and Non-Power Production or Utilization Facilities" (ML23226A036).	02/29/24	11/13/23
Published the final rule on "Emergency Preparedness for Small Modular Reactors and Other New Technologies" in the <i>Federal Register</i> (88 FR 80050).	02/29/24	11/16/23

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected Advanced Nuclear Reactor Technologies Activities	Projected Completion Date
Submit a paper to the Commission on “Micro-Reactor Licensing and Deployment Considerations: Fuel Loading and Operational Testing at a Factory.”	01/31/24 ¹⁶
Issue final guidance, DANU-ISG-2023-01, “Material Compatibility.”	02/29/24 ¹⁷
Publish DG-1410 (proposed new RG 1.251), “Technology-Inclusive, Risk-Informed, and Performance-Based Methodology for Seismic Design of Commercial Nuclear Plants,” for public comment.	04/30/24 ¹⁸
Publish DG-1307 (proposed new RG 1.252), “Seismically Isolated Nuclear Power Plants,” for public comment.	04/30/24 ¹⁹
Submit a paper to the Commission with the status of advanced reactor activities.	03/29/24
Issue final DANU-ISG-2022-01, “ARCAP Roadmap Interim Staff Guidance.”	03/29/24
Issue final DANU-ISG-2022-02, “ARCAP Chapter 2 Site Information.”	03/29/24
Issue final DANU-ISG-2022-03, “ARCAP Chapter 9 Normal Effluents.”	03/29/24
Issue final DANU-ISG-2022-04, “ARCAP Chapter 10 Occupational Dose.”	03/29/24
Issue final DANU-ISG-2022-05, “ARCAP Chapter 11 Organization and Human-System Consideration.”	03/29/24
Issue final DANU-ISG-2022-06, “ARCAP Chapter 12 Post-construction Inspection, Testing, and Analysis Program.”	03/29/24
Issue final DANU-ISG-2022-07, “ARCAP Risk-informed Inservice Inspection and Inservice Testing.”	03/29/24
Issue final DANU-ISG-2022-08, “ARCAP Risk-informed Technical Specifications.”	03/29/24
Issue final DANU-ISG-2022-09, “ARCAP Fire Protection for Operations.”	03/29/24

¹⁶ The projected completion date for this activity was extended from October 31, 2023, to January 31, 2024, to allow additional time to address feedback from the ACRS and other stakeholders.

¹⁷ The projected completion date for this activity was extended from October 31, 2023, to February 29, 2024, to allow additional time for resolution of internal comments.

¹⁸ The projected completion date for this activity was extended from December 31, 2023, to April 30, 2024, to support ongoing Commission review of the 10 CFR Part 53 draft proposed rule. As this guidance would support implementation of the rule, the staff is awaiting Commission direction on the Part 53 draft proposed rule before publishing this draft guidance for public comment.

¹⁹ The projected completion date for this activity was extended from December 31, 2023, to April 30, 2024, to support ongoing Commission review of the 10 CFR Part 53 draft proposed rule. As this guidance would support implementation of the rule, the staff is awaiting Commission direction on the Part 53 draft proposed rule before publishing this draft guidance for public comment.

Projected Advanced Nuclear Reactor Technologies Activities	Projected Completion Date
Issue final RG 1.253, “Guidance for a Technology-Inclusive Content-of-Application Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light-Water Reactors.”	03/29/24

2-7 Advanced Reactor Pre-application and Licensing Reviews

The NRC staff is preparing, through early interactions with reactor designers, to review specific advanced reactor designs. These pre-application interactions provide predictability in the licensing process through early identification and, where appropriate, resolution of technical and policy issues that could affect licensing. Information on the reactor designers that formally notified the NRC of their intent to engage in regulatory interactions can be found on the NRC’s public website (<https://www.nrc.gov/reactors/new-reactors/advanced/ongoing-licensing-activities/pre-application-activities.html>).

Advanced reactor pre-application activities that were tracked in previous reports in Section 2-6, “Advanced Nuclear Reactor Technologies,” will now be included in this section to better align with licensing activities. To align with this change, Section 2-7 has been retitled “Advanced Reactor Pre-application and Licensing Reviews” and will now include two sets of tables to cover advanced reactor licensing review activities and pre-application review activities.

Kairos Construction Permit Application Reviews for Hermes 1 and Hermes 2

Kairos Power LLC (Kairos) submitted a construction permit application for a non-power fluoride salt-cooled, high-temperature reactor (Hermes 1). Kairos submitted application documents to the NRC by letters dated September 29, 2021 (submitting the Preliminary Safety Analysis Report) ([ML21272A375](#)), and October 31, 2021 (submitting the Environmental Report) ([ML21306A131](#)).

The NRC staff completed its detailed technical review of the safety of the Hermes 1 design and issued the final safety evaluation (SE) on June 13, 2023 ([ML23158A265](#)). The NRC staff issued the final environmental impact statement (EIS) for the application on August 17, 2023 ([ML23214A269](#)). The Commission held a mandatory hearing on the application on October 19, 2023 ([ML23346A068](#)). The NRC staff issued the construction permit for the Hermes 1 test reactor facility on December 14, 2023 ([ML23338A258](#)). Application documents and information regarding the review are available on the NRC’s public website (<https://www.nrc.gov/reactors/non-power/hermes-kairos.html>).

On July 14, 2023, Kairos submitted a second construction permit application for a two-unit test reactor facility (Hermes 2) that would be located on the same site as the proposed Hermes 1 test reactor ([ML23195A121](#)). The Hermes 2 test reactors would use the same fluoride salt-cooled, high-temperature reactor technology as the Hermes 1 reactor but would incorporate some additional features, such as intermediate salt loops and a shared turbine generator system. The NRC staff accepted the Hermes 2 construction permit application for review on September 11, 2023 ([ML23233A167](#)). On October 11, 2023, the NRC staff issued a letter to Kairos outlining the estimated schedule and resources needed to complete the safety and environmental reviews for the Hermes 2 construction permit application ([ML23269A176](#)).

Abilene Christian University Molten Salt Research Reactor Construction Permit Application Review

On August 12, 2022, Abilene Christian University (ACU) submitted an application for a construction permit for a molten salt research reactor (MSRR) (less than 1 megawatt thermal power) to be located on the ACU campus in Abilene, TX ([ML22227A201](#)). On October 20, 2022, ACU supplemented its application to provide additional instrumentation and control design information ([ML22293B817](#)).

The NRC staff performed an acceptance review of the MSRR construction permit application and docketed the application on November 18, 2022 ([ML22313A097](#)). The NRC staff is currently conducting a detailed technical review of the safety of the MSRR design, which will lead to a SE. The NRC staff plans to prepare an environmental assessment²⁰ for this application. The NRC staff sent ACU a letter on December 16, 2022, communicating that the staff anticipated issuing the final SE by May 2024 and the environmental assessment by April 2024 ([ML22341A615](#)). On December 21, 2023, the NRC staff notified ACU that additional information would be needed for the staff to complete its review of the MSRR application ([ML23348A196](#)). As discussed in the December 21, 2023, letter, once ACU provides the requested information on the identified topics, the NRC staff will provide an update to the schedule and level of effort communicated in its December 16, 2022, letter. Application documents and information on the review are available on the NRC’s public website (<https://www.nrc.gov/reactors/non-power/new-facility-licensing/msrr-acu.html>).

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

Advanced Reactor Licensing Review Activities	Projected Completion Date	Completion Date
N/A	N/A	N/A

Advanced Reactor Pre-application Review Activities	Projected Completion Date	Completion Date
N/A	N/A	N/A

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected Advanced Reactor Licensing Review Activities	Projected Completion Date
Complete regulatory audits and evaluate any additional docketed information necessary for the preparation of the ACU SE.	TBD ²¹

²⁰ An environmental assessment serves to (1) briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact (FONSI); (2) aid the NRC’s compliance with the National Environmental Policy Act, when no EIS is necessary; and (3) facilitate preparation of an EIS when one is necessary.

²¹ On September 14, 2023, the NRC staff notified ACU that it was unable to complete the regulatory audits by August 30, 2023, because additional time is needed for ACU to provide necessary information to the staff and for the staff and ACU to bring the remaining technical topics to resolution. On December 21, 2023, the NRC staff requested additional information needed to complete its review of the application. As discussed in the letter, the NRC staff will update the schedule once ACU submits the information needed to complete the review.

Projected Advanced Reactor Licensing Review Activities	Projected Completion Date
Complete a preliminary draft of the ACU environmental assessment.	01/31/24 ²²
Complete draft SE for Kairos Hermes 2.	03/11/24
Complete draft environmental assessment and, if applicable, draft FONSI for Hermes 2 and issue for 30-day public comment. ²³	03/29/24
Complete the ACU environmental assessment and make determination of whether to prepare an EIS or a FONSI and to issue a FONSI, as applicable.	04/30/24
Make determination of whether to prepare an EIS or a FONSI for Hermes 2.	05/31/24

Projected Advanced Reactor Pre-application Review Activities	Projected Completion Date
Issue final SE to University of Illinois at Urbana-Champaign for its topical report on regulatory applicability analysis.	03/29/24 ²⁴
Issue final SE to University of Illinois at Urbana-Champaign for its topical report on accident analysis identification and safety classification methodology.	03/29/24
Issue final SE to X-energy for its topical report on principal design criteria.	03/29/24 ²⁵
Issue final SE to Kairos for its topical report on instrument setpoint methodology.	04/05/24

2-8 Reactor Oversight Process

The ROP is a risk-informed, performance-based oversight program that contains provisions for continuous self-assessment and improvement.

During the second quarter of FY 2023, the Commission issued an SRM approving the staff's recommended option related to Problem Identification and Resolution inspection frequency (SECY-22-0087, [ML23062A686](#)). Consistent with the Commission's direction in SRM-SECY-23-0010 ([ML23244A282](#)), which was issued in the fourth quarter of FY 2023, the staff is revising procedures and processes to implement an emergency response facility and equipment readiness performance indicator to measure licensee emergency preparedness. Final implementation of the indicator is planned for Q2 FY 2025.

The NRC staff is currently evaluating the baseline security Significance Determination Process to determine whether it can be further risk-informed. The NRC formed an internal working group in the beginning of CY 2024 that will evaluate feedback and identify options for potential

²² The projected completion date for this activity was extended from October 31, 2023, to January 31, 2024, because additional time is needed for ACU to provide necessary information to support the staff's completion of the initial draft of the environmental assessment. In addition, the description of this activity has been revised from the previous report to enhance clarity.

²³ The description of this activity has been revised from the previous report to enhance clarity.

²⁴ This activity was included in Section 2-6 in the previous report. The projected completion date for this activity was extended from December 31, 2023, to March 29, 2024, because the applicant submitted an updated revision of the topical report, which included a significant amount of new information for the NRC staff to review.

²⁵ This activity was included in Section 2-6 in the previous report.

improvements. Those options are expected to be developed and provided to NRC senior managers in Q3 FY 2024.

In accordance with the Commission’s direction, the staff revised Inspection Procedure (IP) 71152, “Problem Identification and Resolution,” dated October 31, 2023 ([ML23214A284](#)). The NRC staff is in the process of revising Inspection Manual Chapter 0609, Appendix B, “Emergency Preparedness Significance Determination Process” ([ML15128A462](#)), dated September 22, 2015, in accordance with the Commission’s direction. The NRC staff also revised IP 71111.21N.04, “Age-Related Degradation,” dated December 15, 2023 ([ML23318A426](#)), based on inspection feedback from implementation of the first two inspections.

The NRC staff continues to assess the ROP as part of its normal work practices through the NRC’s Be RiskSMART framework, stakeholder correspondence, feedback from ROP public meetings, and the ROP self-assessment program. If potential changes are identified, the staff will seek Commission approval of changes to the ROP, or provide the Commission with notification of changes, in accordance with Management Directive/Directive Handbook 8.13, “Reactor Oversight Process” ([ML17347B670](#)).

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

ROP Activities	Projected Completion Date	Completion Date
Completed ROP Implementation Audit of Region II.	12/31/23	10/25/23

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected ROP Activities	Projected Completion Date
Complete CY 2023 ROP Self-Assessment and submit a paper to the Commission.	04/15/24
Assess the baseline security significance determination process for power reactors (ML22178A222) as part of the ROP program area evaluations under the ROP self-assessment program.	06/30/24 ²⁶
Submit a paper to the Commission on planned revisions of Inspection Manual Chapters and IPs regarding safety culture.	06/30/24

2-9 Backfit

The NRC’s backfitting rules are codified in 10 CFR Sections 50.109, “Backfitting,” 70.76, “Backfitting,” 72.62, “Backfitting,” and 76.76, “Backfitting.” The backfitting rules define backfitting “as the modification of or addition to systems, structures, components, or design of a facility; or the design approval or manufacturing license for a facility; or the procedures or organization required to design, construct or operate a facility; any of which may result from a new or amended provision in the Commission’s regulations or the imposition of a regulatory staff position interpreting the Commission’s regulations that is either new or different from a previously applicable staff position...”²⁷ The rules require, in the absence of an applicable

²⁶ The projected completion date for this activity was extended from May 31, 2024, to June 30, 2024, to provide additional time for the staff to complete the full scope of this review.

²⁷ 10 CFR 50.109(a)(1). Substantially similar definitions are provided in Sections 70.76, “Backfitting,” 72.62, “Backfitting,” and 76.76, “Backfitting,” for non-reactor facilities.

exception, an analysis showing that the backfit would result in a substantial increase in the overall protection of the public health and safety or the common defense and security and that the increased protection warrants the direct and indirect costs of implementation. There are similar requirements, referred to as “issue finality,” that apply when there are new or amended requirements for licenses, permits, and design approvals and certifications issued under 10 CFR Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants.”

The Commission changed its backfitting and issue finality policy as well as its policy on “forward fits,” which it defined as requirements or staff interpretations of requirements imposed as a condition of agency approval of a licensee request that result in the modification of or addition to systems, structures, components, or design of a facility, in NRC Management Directive 8.4, “Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests” ([ML18093B087](#)). The NRC completed draft NUREG-1409, “Backfitting Guidelines,” Revision 1, in March 2020 and issued a notice of availability in the *Federal Register* for public comment ([ML18109A498](#)). The NRC received approximately 250 individual comments from members of the public, licensees, and industry representatives. The NRC staff evaluated the comments, updated the draft NUREG, and provided the Commission with the staff’s proposed NUREG-1409, Revision 1 (Final Report) ([ML21006A431](#)). This revised document is currently before the Commission for its consideration.

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

Backfit Activities	Projected Completion Date	Completion Date
N/A	N/A	N/A

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected Backfit Activities	Projected Completion Date
Provide to the Commission a draft final rule that would contain one backfit if issued: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning.	01/30/24

2-10 Risk-informed Activities

The NRC staff continues to make progress to advance the use of risk insights more broadly to inform decision-making. There are numerous activities ranging in scope from agencywide initiatives, such as the “Be riskSMART” initiative, which is part of the transformation efforts discussed in Section 2-1, to the advanced reactor risk-informed activities listed in Section 2-6, to individual undertakings in program and corporate offices.²⁸ The NRC staff continues to implement and monitor the use of the agencywide Be riskSMART risk-informed decision-making framework to inform a broad range of decisions spanning technical, legal, and corporate arenas. For example, the NRC staff continues to review and approve applications to adopt advanced risk management programs such as 10 CFR Section 50.69, “Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors,” and

²⁸ The NRC maintains a listing of risk-informed activities that is updated annually at <https://www.nrc.gov/about-nrc/regulatory/risk-informed/rpp.html>.

Risk-Informed Technical Specifications Initiative 4b,²⁹ that provide for operational flexibilities that enhance safety by ensuring that power reactor licensees and the NRC prioritize the most risk significant issues.

The NRC staff is continuing to increase the use of risk insights in the review of new reactor applications. Specifically, the staff is leveraging risk insights in its detailed technical review of the NuScale standard design approval application for the NuScale VOYGR 460 standard design. These risk insights are being leveraged by the NRC staff to: (1) identify focus areas for the review to enhance effectiveness; (2) grade the review scope and schedule; and (3) support risk-informed resolutions of challenging technical issues. The staff is using an integrated team of reviewers from different subject areas to discuss and apply risk insights that can be leveraged to support the review. This use of risk insights in the NuScale VOYGR 460 review is aligned with the implementation of the lessons learned from the NuScale design certification application review ([ML22294A144](#)) and is an example of being a more modern risk-informed regulator.

Activities Planned and Completed for the Reporting Period (Q1 FY 2024)

Risk-Informed Activities	Projected Completion Date	Completion Date
<p>Issued RG 1.183, “Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors,” Revision 1 (ML23082A305). This updated RG incorporates new technical methods and lessons learned since RG 1.183, Revision 0, was originally published. RG 1.183, Revision 1, addresses a milestone identified in the agency’s “Accident Tolerant Fuel (ATF), Increased Enrichment, and Higher Burnup Roadmap to Readiness” and includes the scope, and documentation of associated analyses and evaluations; consideration of impacts on analyzed risk; and content of submittals as well as guidance associated with the licensing of advanced reactors and other industry initiatives, such as high-burnup and increased enrichment. As mentioned in Section 2-4, “Accident Tolerant Fuel,” the staff is working on the development of another revision of this RG to support the increased enrichment rulemaking.</p>	<p>10/31/23³⁰</p>	<p>10/10/23</p>

²⁹ A description of these and other operating reactors risk-informed initiatives is available at <https://www.nrc.gov/about-nrc/regulatory/risk-informed/rpp/reactor-safety-operating.html>. To date, the NRC has approved 31 applications enabling licensees to adopt 10 CFR Section 50.69 and 28 applications enabling licensees to adopt Risk-Informed Technical Specifications Initiative 4b.

³⁰ This activity was not identified as a projected activity in the previous report because the timeline for completion of this activity was not certain at the time of the previous report.

Projected Activities for the Next Two Reporting Periods (Q2 and Q3 FY 2024)

Projected Risk-Informed Activities	Projected Completion Date
Complete the revision of three materials IPs associated with Inspection Manual Chapter 2800 (specifically, IP 87121, “Industrial Radiography Programs”; IP 87122, “Irradiator Programs”; and IP 87125, “Materials Processor/Manufacturer Programs”). The NRC staff is developing risk modules in each IP, with each module focusing on the risks of the relevant types of radioactive materials and their usage.	01/09/24 ³¹
Host a technical session at the 2024 NRC Regulatory Information Conference on “In RISK We TRUST—Enhancing Acceptance of Risk-Informed Decision-Making.” This session will engage the NRC staff and representatives from external organizations. The goal for the session is to share the success and challenges in effective implementation of risk-informed decision-making, which is vital to the agency’s success in regulating in the changing landscape, with new and different regulatory activities. These activities include reviews of new and advanced reactors, ATF, and new safety and security technologies. The session will feature interactive discussions between the panel members, with a focus on discussions about cultural barriers for risk-informed decision-making, as well as means to support a culture that embraces risk-informed decision-making.	03/14/24
Continue to seek feedback from external stakeholders via public meetings on the Smart Sample for Probabilistic Risk Assessment Configuration Control. The staff initiated an effort to implement a balanced and performance-based approach to provide oversight of the PRA configuration control by leveraging the NRC’s Operating Experience Smart Sample Program. The final Smart Sample for Probabilistic Risk Assessment Configuration Control was issued on January 9, 2024 (ML23255A006) and is planned for implementation by Q3 of FY 2024.	06/30/24

2-11 Coronavirus Disease (COVID-19)

The NRC continues to implement precautionary measures, as needed, in response to COVID-19 to help protect the health and safety of our workforce consistent with guidance provided by the Federal Government, including the Centers for Disease Control and Prevention (CDC), as well as considerations of State and local conditions around NRC facilities. President Biden declared that the COVID-19 public health emergency ended effective May 11, 2023. Following the presidential announcement regarding the end of the public health emergency, on April 21, 2023, the NRC canceled a November 2, 2021, memorandum providing supplemental guidance on implementation of inspection programs during the pandemic ([ML21295A302](#)). The NRC returned to implementation of the inspection programs in accordance with the inspection manual and procedures effective May 11, 2023 ([ML23082A106](#)).

³¹ The projected completion date for this activity was extended from December 29, 2023, to January 9, 2024, due to the need to prioritize other work and the issuance of the final Smart Sample for Probabilistic Risk Assessment Configuration Control.

Licensing and Oversight Items of Interest

The NRC developed portions of its website devoted to the regulatory activities taken in response to the COVID-19 pandemic. Specific posts related to [nuclear power plant licensees](#), [nuclear materials licensees](#), and [security and emergency preparedness](#) are available to keep the public informed on how the NRC adapted its regulatory approach during the pandemic. Because the COVID-19 public health emergency ended on May 11, 2023, between October 1 and December 31, 2023, the NRC did not receive any requests for COVID-19-related flexibilities from nuclear materials or nuclear reactor licensees. A complete list of licensing requests approved by the NRC in response to the COVID-19 pandemic is available on the NRC public website at <https://www.nrc.gov/about-nrc/covid-19/index.html>.

Regulatory Activities Taken in Response to the COVID-19 Pandemic During the Reporting Period

Licensee Type	Number of COVID-19 Requests Approved During the Reporting Period	Average Number of Days to Review COVID-19 Requests³²
Power Reactor	0	N/A
Non-Power Reactor	0	N/A
Other (e.g., topical reports)	0	N/A
Decommissioning of Nuclear Facilities and Uranium Recovery	0	N/A
Storage and Transportation of Spent Nuclear Fuel	0	N/A
Fuel Cycle Facilities	0	N/A
Medical, Industrial and Academic Uses of Nuclear Materials and Agreement States	0	N/A

³² This average is calculated based on the dates the request is received and the review is completed; review time may be longer in cases where a supplement to a request is received after the initial submission date.

Enclosure 3 – Summary of Activities

3-1 Reactor Oversight Process (ROP) Findings

The table below provides the calendar year (CY) ROP findings for the year-to-date and 3-year rolling metrics.³³

Location	Number of Findings	CY 2020	CY 2021	CY 2022	CY 2023
Nationally	Total	291	278	399	466
Region I	Green	50	61	83	88
	White	0	1	2	1
	Yellow	0	0	0	0
	Red	0	0	0	0
	Greater-Than-Green (GTG) Security	0	0	0	0
	Total	50	62	85	89
	No. of Units Operating During CY	22	21 ³⁴	20 ³⁵	20
Region II	Green	77	69	90	135
	White	2	0	1	3
	Yellow	0	0	0	0
	Red	0	0	0	0
	GTG Security	1	0	0	5
	Total	80	69	91	143
	No. of Units Operating During CY	33	33	33	34 ³⁶
Region III	Green	51	65	89	103
	White	0	0	2	0
	Yellow	0	0	0	0
	Red	0	0	0	0
	GTG Security	0	1	1	0
	Total	51	66	92	103
	No. of Units Operating During CY	23	22 ³⁷	22	21 ³⁸
Region IV	Green	110	81	130	126
	White	0	0	1	5

³³ For the purposes of this report, the total number of findings per CY is based on the year in which an inspection report was issued instead of the year in which a finding was identified.

³⁴ The reduction of one unit for CY 2021 reflects the permanent shutdown of Indian Point Nuclear Generating Unit 2 on April 30, 2020.

³⁵ The reduction of one unit for CY 2022 reflects the permanent shutdown of Indian Point Nuclear Generating Unit 3 on April 30, 2021.

³⁶ The increase of one unit for CY 2023 reflects Vogtle Unit 3 entering the ROP on August 3, 2022.

³⁷ The reduction of one unit for CY 2021 reflects the permanent shutdown of Duane Arnold on August 10, 2020.

³⁸ The reduction of one unit for CY 2023 reflects the permanent shutdown of Palisades on May 20, 2022.

Location	Number of Findings	CY 2020	CY 2021	CY 2022	CY 2023
	Yellow	0	0	0	0
	Red	0	0	0	0
	GTG Security	0	0	0	0
	Total	110	81	131	131
	No. of Units Operating During CY	18	18	18	18

3-2 Licensing Actions

The tables below provide the status of licensing actions organized by licensing program. Consistent with Section 102(c) of NEIMA, the licensing actions referenced in this section include “requested activities of the Commission” for which the NRC staff issues a final SE. These totals do not include LARs, as they are addressed separately in Section 3-3. “Total Inventory” refers to the total number of licensing actions that are open and accepted by the NRC at the end of the quarter. “Licensing Actions Initiated During the Reporting Period” are the number of licensing actions (regardless of acceptance) that are received by the NRC during the reporting period.

Operating Reactors

Reporting Period	Total Inventory	Licensing Actions Initiated During the Reporting Period	Licensing Actions Completed During the Reporting Period ³⁹	Percentage of Licensing Actions Completed Prior to the Generic Milestone Schedule	Percentage of Licensing Actions Completed Prior to the Established Schedule ⁴⁰
Q2 FY 2023	130	35	38	99%	90% ⁴¹
Q3 FY 2023	132	55	59	100%	95%
Q4 FY 2023	114	48	64	99%	100%
Q1 FY 2024	206	145 ⁴²	43	100%	91%

³⁹ Requested activities included in the initiated actions total but subsequently withdrawn are not included in the completed actions total because no final SE was issued.

⁴⁰ The “established schedule” is the schedule communicated to the licensee and made publicly available at the completion of the acceptance review.

⁴¹ There were 5 requests that exceeded the established schedule by 180 days. These requests involved 13 licensing actions requesting relief from in-service inspection requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code to extend the period of performance beyond the end of the current 10-year inspection interval (in some cases up to the end of the operating life of the plant). One request was completed in Q2 FY 2023, and the remaining four requests were withdrawn by the licensees in Q3 FY 2023.

⁴² The significant inventory increase is due to 101 licensing actions submitted in Q1 FY 2024 that request additional time to address emergent issues identified with a security rule that licensees are required to implement by January 8, 2024. The reviews are being expedited and are expected to be completed in Q2 FY 2024.

New Reactors

Reporting Period	Total Inventory	Licensing Actions Initiated During the Reporting Period	Licensing Actions Completed During the Reporting Period ⁴³	Percentage of Licensing Actions Completed Prior to the Generic Milestone Schedule	Percentage of Licensing Actions Completed Prior to the Established Schedule
Q2 FY 2023 ⁴⁴	2	0	0	100%	100%
Q3 FY 2023	0	0	2	100%	100%
Q4 FY 2023 ⁴⁵	5	5	0	N/A	N/A
Q1 FY 2024	3 ⁴⁶	1	1	100%	0% ⁴⁷

Fuel Facilities

Reporting Period	Total Inventory	Licensing Actions Initiated During the Reporting Period	Licensing Actions Completed During the Reporting Period	Percentage of Licensing Actions Completed Prior to the Generic Milestone Schedule	Percentage of Licensing Actions Completed Prior to the Established Schedule
Q2 FY 2023	9	4	4	100%	79% ⁴⁸
Q3 FY 2023	4	4	4	100%	100%
Q4 FY 2023	3	5	6	100%	67% ⁴⁹
Q1 FY 2024	7	4	0	100%	100%

⁴³ Requested activities included in the initiated actions total but subsequently withdrawn are not included in the completed actions total because no final SE was issued.

⁴⁴ For Q2 FY 2023, the total inventory was changed from 4 to 2, the licensing actions initiated was changed from 4 to 0, and the licensing actions completed was changed from 2 to 0 to correct a reporting error from the previous report.

⁴⁵ For Q4 FY 2023, the total inventory and licensing actions initiated were changed from 2 to 5 to reflect the NuScale standard design approval application, Carbon Free Power Project (CFPP) Limited Work Authorization (LWA) application, and CFPP exemption request that were all accepted in Q4 FY 2023 but were inadvertently omitted in the previous report.

⁴⁶ For Q1 FY 2024, the total inventory decreased from 5 to 3 to reflect the termination and withdrawal of the CFPP LWA application and exemption request, requested by the applicant, as well as the completion of one licensing action and initiation of one licensing action. The CFPP LWA application and exemption request are no longer included in the table, starting with Q1 FY 2024, since they are no longer "requested activities of the Commission."

⁴⁷ One licensing action exceeded the established schedule by 19 days because additional time was needed for SNC to review the safety evaluation for proprietary information.

⁴⁸ Two fuel cycle licensing actions exceeded the established schedule due in part to delays in receiving information from the applicant and in part due to staff prioritization of other work.

⁴⁹ Two out of six fuel cycle licensing actions exceeded the established schedule because these reviews were deferred while the NRC staff worked on higher-priority reviews.

3-3 Licensing Amendment Request Reviews

The tables below provide the status of LARs organized by licensing program. Consistent with Section 102(c) of NEIMA, the LARs referenced in this section include “requested activities of the Commission” for which the NRC staff issues a final SE. The total inventory is the number of open LARs at the end of the quarter. LARs are included in the total inventory after they have been accepted by the NRC (the acceptance review period is generally 30 days after the application is submitted).

Operating Reactors

Reporting Period	Total Inventory	LARs Submitted During the Reporting Period	LAR Reviews Completed During the Reporting Period ⁵⁰	Percentage of LAR Reviews Completed Prior to the Generic Milestone Schedule	Percentage of LAR Reviews Completed Prior to the Established Schedule ⁵¹
Q2 FY 2023	236	76	88	100%	77% ⁵²
Q3 FY 2023	244	68	61	100%	97%
Q4 FY 2023	223	59	75	100%	81% ⁵³
Q1 FY 2024	190	39	68	100%	93%

New Reactors

Reporting Period	Total Inventory	LARs Submitted During the Reporting Period	LAR Reviews Completed During the Reporting Period	Percentage of LAR Reviews Completed Prior to the Generic Milestone Schedule	Percentage of LAR Reviews Completed Prior to the Established Schedule
Q2 FY 2023	2	4	2	100%	100%
Q3 FY 2023	6	6 ⁵⁴	1	100%	100%

⁵⁰ Requested activities included in the submitted LARs total but subsequently withdrawn are not included in the completed LARs total because no final SE was issued.

⁵¹ The “established schedule” is the schedule communicated to the licensee and made publicly available at the completion of the acceptance review.

⁵² Reviews for 2 LARs, involving 14 actions, exceeded the established schedule, one by approximately 3.5 months and the other by approximately 3 months, due to time needed for Commission consideration and approval prior to issuance.

⁵³ One review of a LAR that proposed a first-of-a-kind security-related methodology exceeded the established schedule by 180 days. The complex technical issues resulted in requests for additional information, multiple closed public meetings, a site visit, and the licensee submitting supplements, including one that superseded the previous LAR. The last public meeting was on September 19, 2023, and the licensee indicated that it would discuss the options for moving forward internally and reengage with the NRC staff. The licensee withdrew the request in October 2023. The two associated licensing actions are no longer included in the table, starting with Q1 FY 2024, since they are no longer “requested activities of the Commission.”

⁵⁴ The six LARs submitted during Q3 FY 2023 include one LAR submitted by SNC on April 5, 2023, but withdrawn on May 17, 2023; and five LARs submitted and accepted by the NRC staff for review. This results in six LARs for the total inventory for Q3 FY 2023 (five LARs submitted and accepted plus one LAR outstanding from Q2 FY 2023).

Reporting Period	Total Inventory	LARs Submitted During the Reporting Period	LAR Reviews Completed During the Reporting Period	Percentage of LAR Reviews Completed Prior to the Generic Milestone Schedule	Percentage of LAR Reviews Completed Prior to the Established Schedule
Q4 FY 2023	6	2	2	100%	100%
Q1 FY 2024	1	0	5	100%	100%

Fuel Facilities

Reporting Period	Total Inventory	LARs Submitted During the Reporting Period	LAR Reviews Completed During the Reporting Period	Percentage of LAR Reviews Completed Prior to the Generic Milestone Schedule	Percentage of LAR Reviews Completed Prior to the Established Schedule
Q2 FY 2023	9	4	4	100%	75% ⁵⁵
Q3 FY 2023	10	6	5	100%	100%
Q4 FY 2023	12	6	4	100%	50% ⁵⁶
Q1 FY 2024	9	4	7	100%	71% ⁵⁷

3-4 Research Activities⁵⁸

Summary of New Research Projects

During the reporting period, the Office of Nuclear Regulatory Research (RES) initiated research on or substantially revised the following projects:

Cost-Benefit Guidance Improvement Activities (NMSS-2024-005)	
Importance to the NRC Mission	These activities will provide technical support in modernizing tools and methods for conducting regulatory and cost-benefit analyses. These activities will support the agency's use of state-of-knowledge information and methods in regulatory analysis and application of the agency's tools to new and advanced reactor scenarios.
Planned Activities	The planned activities are to provide technical support in the modernization of tools and methods by (1) enhancing the NRC's consequence code MELCOR Accident Consequence Code System (MACCS) to consider environmental justice and vulnerable communities, (2) updating on-site cleanup and decommissioning cost estimates after a severe accident, (3) enhancing MACCS

⁵⁵ One review of a LAR exceeded the established schedule due in part to delays in receiving information from the applicant and in part due to NRC staff prioritization of other work.

⁵⁶ Two out of four LARs exceeded the established schedule because these reviews were deferred while the NRC staff worked on higher-priority reviews.

⁵⁷ Two out of seven LARs exceeded the established schedule. The first review involved multiple NRC licenses and required additional coordination. The second review was delayed one week as the NRC and licensee coordinated on how to characterize proprietary information in the publicly available SE.

⁵⁸ This section provides information about projects that were started or completed during the reporting period that exceeded 300 staff hours or \$500K of program support for the total duration of the project.

	models for long-term protective actions and cost components, (4) generating updated calculations of expected population doses and offsite costs from potential severe accidents, (5) developing a screening analysis to inform the level of detail needed for severe accident mitigation alternatives and severe accident mitigation design alternatives analyses for new and advanced reactor applications, (6) developing guidance for regulatory analyses that require MACCS code calculations, and (7) incorporating MACCS health risks valuation function into MACCS.
Requesting Business Line	Operating Reactors
Estimated Completion	FY 2026
Estimate of Total Research Resources	4 Full-Time Equivalent (FTE) and \$650K over a 3-year period

Regulatory Research in Support of Materials Control and Accounting for Advanced Reactors (NMSS-2024-002)	
Importance to the NRC Mission	<p>The research activities will support the NRC’s Office of Nuclear Material Safety and Safeguards (NMSS) in licensing and certification activities related to Materials Control and Accounting (MC&A).</p> <p>Safeguards and security plans for the advanced reactor fleet have been largely undetermined due to the reactors’ anticipated novel designs and fuel types. A major part of domestic safeguards is MC&A. Advanced reactors are expected to have more stringent MC&A controls, which require that errors in the measurement process are minimized. Modeling and simulation (M&S) can help to identify the best MC&A practices for a nuclear facility in a cost-effective, risk-informed way.</p> <p>This work will address the technical considerations of measurement uncertainties and their implications and provide an assessment of data-driven and data-informed models that demonstrate how M&S can be used to quantify uncertainty in MC&A measurements. This work will help to prepare the NRC staff to verify and validate M&S technologies.</p>
Planned Activities	The deliverables for these research activities will generally be in the form of public Technical Letter Reports and a demonstration of a state-of-the-art M&S use case in the advanced reactors safeguards space. Specific tasks include (1) safeguards M&S assessment, (2) safeguards M&S demonstration, (3) guidance development to support MC&A for advanced reactor designs, and (4) knowledge management activities. Certain tasks also support the NRC staff’s efforts to engage with the U.S. Department of Energy (DOE) and National Nuclear Security Administration on information sharing related to research activities on safeguards modeling and process monitoring to inform the NRC’s MC&A practices.
Requesting Business Line	New Reactors
Estimated Completion	FY 2025

Estimate of Total Research Resources	1.7 FTE and \$670K over a 2-year period
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Regulatory Research in Support of Licensing and Certification Activities for Advanced Non-Light Water Reactor Fuel Cycles (NMSS-2024-001)	
Importance to the NRC Mission	The research activities build on the previous activities carried out under NMSS-2022-002. These activities are important to: (1) assist NMSS in understanding the state of knowledge on applicable operating experience, and technical and regulatory considerations to support pre-application engagements and reviews of near-term licensing/certification actions, (2) support NRC’s knowledge management efforts intended to support efficient and effective safety reviews, (3) foster NMSS readiness to review near-term licensing/certification actions, and (4) provide clarity regarding the potential need to adapt the current regulatory framework to make reviews of licensing/certification actions associated with the advanced reactor fuel cycle more effective and efficient.
Planned Activities	The deliverables for these research activities will generally be in the form of public Technical Letter Reports that will address advanced reactor technologies (molten salt reactors, sodium fast reactors, and high temperature gas reactors), and guidance development as identified through the course of this work; the deliverables have been separated, to the extent practical, based on the pertinent fuel characteristics. Certain tasks will also focus on fuel facilities supporting front and back end of the advanced reactor fuel cycle, and support the NRC staff’s engagement with DOE, industry, and international counterparts on high priority technical and regulatory issues and information needs for each fuel type technology. The deliverables will further serve to inform advanced reactor vendors and potential applicants on the NRC’s understanding of such technical and regulatory issues.
Requesting Business Line	New Reactors
Estimated Completion	FY 2026
Estimate of Total Research Resources	3.6 FTE and \$1.6M over a 3-year period

Technical Support for Spent Fuel Reprocessing Activities (NMSS-2024-003)	
Importance to the NRC Mission	The research activities will allow the continuation of support regarding pre-application and licensing/certification application review activities in the area of near-term spent fuel reprocessing technologies. This work is important to: (1) assist NMSS in understanding the state of knowledge on applicable reprocessing operating experience, and technical and regulatory considerations to support pre-application engagements and near-term reviews of licensing/certification actions, and (2) support the staff’s efforts to follow the Commission’s direction in SRM-SECY-21-0026, “Discontinuation of Rulemaking—Spent Fuel Reprocessing” (ML21175A065), to continue to interact with DOE, international counterparts, and the industry to monitor activities related to and of interest for reprocessing.

Planned Activities	The deliverables for this work will be public Technical Letter Reports and draft guidance documents. Specific tasks include: (1) development of a technical basis for near-term new reprocessing techniques, including aqueous separation and aspects of electrochemical separation that are less demonstrated; (2) development of a state-of-technology assessment for chemical hazards and safety consequences of advanced reprocessing technologies, and (3) engagement with DOE, industry, and international counterparts on reprocessing issues, including waste management. The work will be coordinated with the efforts of the NRC's Working Group on Updating the Regulatory Framework for Licensing of Fuel Reprocessing Facilities.
Requesting Business Line	New Reactors
Estimated Completion	FY 2026
Estimate of Total Research Resources	3.0 FTE and \$1.6M over a 3-year period

Steam Generator Tube Integrity and Inspection Issues (NRR-2023-016)	
Importance to the NRC Mission	<p>In 2021, the NRC staff approved Technical Specifications Task Force (TSTF) Traveler TSTF-577, Revision 1, "Revised Frequencies for Steam Generator Tube Inspections," which permits longer intervals between steam generator tube inspections. These research activities enhance the NRC staff's understanding of emerging tube degradation mechanisms, steam generator inspection probe capabilities, and tube integrity assessment methods through a steam generator research program as plants operate longer without a steam generator tube inspection.</p> <p>The NRC needs to maintain the capability to independently evaluate eddy current data from the inspection of steam generator tubes. This capability is used to address emergent steam generator related inspection issues or emerging tube degradation issues. In addition, the NRC's participation in the International Tube Integrity Program has provided valuable insights to the NRC staff regarding international operating experience and research program results.</p>
Planned Activities	<p>The following tasks will be completed under this effort:</p> <ul style="list-style-type: none"> • Assessment of eddy current probe-to-probe equivalency. The objective will be to independently develop and evaluate an amplitude-based transfer function between the +Point probe and the array probe for different types of stress corrosion cracking. • Assessment of the probability of detection curves for shallow-to-medium sized cracks. A better capability to detect shallow-to-medium sized primary water stress corrosion cracking and outer-diameter stress corrosion cracking flaws will provide additional assurance that tube integrity will be maintained. • Independent evaluation of industry eddy current qualification methods and inspection techniques. The objective of this

	<p>research area is to perform an assessment of recent changes in examination technique specification sheets used to qualify +Point and array probes.</p> <ul style="list-style-type: none"> • Assessment of emerging technical issues related to licensing actions. The NRC staff may have a need for a contractor to independently evaluate plant-specific steam generator tube inspection practices due to questions emerging during an inspection, from plant operating experience, or staff review of a licensing action. • Evaluation of steam Generator tube inspections for new and advanced reactor designs. This activity will evaluate the ability of current or newly proposed examination methods, to accurately measure wall thickness and to detect and characterize degradation, in helical or other new generator designs that use Alloy 690 or other steam generator tubing materials. • Assessment of a steam generator tube integrity tool developed by the NRC staff. RES will use available inspection and burst testing data from outer-diameter stress corrosion cracking in the straight leg portions of the U-bend tubes to validate the effectiveness of the tool. • Coordination with external stakeholders and international partners on steam generator research. The staff will continue to work closely with international partners through the tube integrity program agreement so that international research conducted by participants is complimentary and the results are easily accessible to NRC staff. International operating experience is effectively communicated to the NRC and international partners.
Requesting Business Line	Operating and New Reactors
Estimated Completion	FY 2028
Estimate of Total Research Resources	6.25 FTE and \$2.5M over a 5-year period

Summary of Completed Research Projects⁵⁹

During the reporting period, the following research projects were completed:

⁵⁹ The research project resources are estimates of staff hours and program support costs based on inspection of project records, including staffing plans and contract spending plans.

Assessment of Common Cause Failure in Digital Instrumentation and Control Systems (NRR-2018-003)	
Importance to the NRC Mission	RES provided technical assistance to assess and evaluate the development of a durable technical basis for addressing potential common cause failure (CCF) hazards that may be introduced in new digital instrumentation and controls (I&C) systems.
Research Results or Findings	Findings from this research identified approaches to resolve safety issues related to potential CCF in industries that rely on digital I&C to maintain safety. These approaches were analyzed to determine their suitability for use in the nuclear industry. To support changes in programmatic needs, the scope of the work under NRR-2018-003 was adjusted. Activities covered under this project supported the development of SECY-22-0076, "Expansion of Current Policy on Potential Common-Cause Failures in Digital Instrumentation and Control Systems" (ML22193A290) and the development of implementing guidance associated with the policy expansion approved in SRM-SECY-22-0076 (ML23145A176).
Duration of the Project	5 years
Estimate of Total Research Resources	3.5 FTE and \$350K over the 5-year period

3-5 Fees Billed

The tables below provide information on Part 170 fees billed for each fee class. For each fee class, the NRC staff compared the fees billed to the receipts estimated in the annual fee rule.⁶⁰

Fee Class	FY 2023 Part 170 Receipts Estimated – Final Fee Rule (\$M)	Part 170 Billed in Q1 FY 2024 (\$M)	Total Part 170 – Billed in FY 2024 (\$M)
Fuel Facilities	\$9.2	\$2.5	\$2.5
Generic Decommissioning	\$4.5	\$0.2	\$0.2
Materials Users ⁶¹	\$1.2	\$0.1	\$0.1
Operating Power Reactors	\$158.9	\$45.1	\$45.1
Non-Power Production or Utilization Facilities	\$4.9	\$0.6	\$0.6
Spent Fuel Storage/ Reactor Decommissioning	\$12.4	\$3.1	\$3.1

⁶⁰ The FY 2023 Final Fee Rule estimated collections are being used until the FY 2024 Proposed Fee Rule is published. The FY 2023 Final Fee Rule was published in the *Federal Register* (FR) on June 15, 2023 ([88 FR 39120](#)).

⁶¹ Materials Users – Billed as flat fee applications and included in the estimates and billed.

Fee Class	FY 2023 Part 170 Receipts Estimated – Final Fee Rule (\$M)	Part 170 Billed in Q1 FY 2024 (\$M)	Total Part 170 – Billed in FY 2024 (\$M)
Rare Earth	\$0.3	\$0.0	\$0.0
Transportation	\$3.4	\$0.6	\$0.6
Uranium Recovery	\$0.3	\$0.1	\$0.1

Significant Ongoing Licensing Actions

The following table includes a comparison of the fees billed to projected resources for subsequent license renewal application reviews and the Kairos Hermes 1 and Kairos Hermes 2 construction permit application reviews.

Docket	Project Name	Projected Resources (\$M) ⁶²	Fees Billed to Date (\$M) ⁶³
Point Beach Units 1 and 2 05000266/05000301	Point Beach Units 1 and 2 Subsequent License Renewal Application — Safety Review	\$5.0 ⁶⁴	\$3.5
Point Beach Units 1 and 2 05000266/05000301	Point Beach Units 1 and 2 Subsequent License Renewal Application — Environmental Review	\$1.4	\$1.5
North Anna Units 1 and 2 05000338/05000339	North Anna Units 1 and 2 Subsequent License Renewal Application — Safety Review	\$5.0 ⁶⁵	\$3.0
North Anna Units 1 and 2 05000338/05000339	North Anna Units 1 and 2 Subsequent License Renewal Application — Environmental Review	\$1.4	\$2.0
Oconee Units 1, 2, and 3 05000269/05000270/ 05000287	Oconee Units 1, 2, and 3 Subsequent License Renewal Application — Safety Review	\$5.0 ⁶⁶	\$3.8

⁶² Projected resources are calculated based on the FTE estimates provided to applicants in the acceptance letters. Dollar amounts are obtained by multiplying the hours estimate by the professional hourly rate.

⁶³ The NRC bills its licensees/applicants in the first month of the quarter following the timeframe in which the work was performed. For example, NRC work performed in October, November, and December would be invoiced to the licensee/applicant in January. Therefore, the total billed amounts listed in Table 3-5 reflect costs for NRC work performed through September 2023.

⁶⁴ When the formal acceptance letter for the Point Beach subsequent license renewal application was sent to the licensee on January 15, 2021 ([ML21006A417](#)), the NRC estimated that it would take approximately \$6.4M to complete the application review.

⁶⁵ When the formal acceptance letter for the North Anna subsequent license renewal application was sent to the licensee on October 13, 2020 ([ML20258A284](#)), the NRC estimated that it would take approximately \$6.4M to complete the application review.

⁶⁶ When the formal acceptance letter for the Oconee subsequent license renewal application was sent to the licensee on July 22, 2021 ([ML21194A245](#)), the NRC estimated that it would take approximately \$6.4M to complete the application review.

Docket	Project Name	Projected Resources (\$M) ⁶²	Fees Billed to Date (\$M) ⁶³
Oconee Units 1, 2, and 3 05000269/05000270/ 05000287	Oconee Units 1, 2, and 3 Subsequent License Renewal Application — Environmental Review	\$1.4	\$1.3
St. Lucie Units 1 and 2 05000335/05000389	St. Lucie Units 1 and 2 Subsequent License Renewal Application — Safety Review	\$5.0 ⁶⁷	\$4.1
St. Lucie Units 1 and 2 05000335/05000389	St. Lucie Units 1 and 2 Subsequent License Renewal Application — Environmental Review	\$1.4	\$0.4
Kairos Hermes 1 05007513	Kairos Hermes 1 – Construction Permit – Safety and Environmental Reviews	\$5.5 ⁶⁸	\$4.9
Kairos Hermes 2 Units 1 and 2 05000611/05000612	Kairos Hermes 2 Units 1 and 2 Construction Permit – Safety and Environmental Reviews	\$3.1 ⁶⁹	\$0.02
Monticello Unit 1 05000263	Monticello Unit 1 Subsequent License Renewal Application — Safety Review	\$5.1 ⁷⁰	\$2.0
Monticello Unit 1 05000263	Monticello Unit 1 Subsequent License Renewal Application — Environmental Review	\$2.1	\$0.6
V.C. Summer Unit 1 05000395	V.C. Summer Unit 1 Subsequent License Renewal Application — Safety Review	\$5.0 ⁷¹	\$0.1
V.C. Summer Unit 1 05000395	V.C. Summer Unit 1 Subsequent License Renewal Application — Environmental Review	\$1.4	\$0

3-6 Requests for Additional Information (RAIs)

The table below provides information on RAIs associated with licensing actions that are considered “requested activities of the Commission” for which the NRC staff issues a final SE, consistent with Section 102(c) of NEIMA. While Section 102(c) of NEIMA only applies to

⁶⁷ When the formal acceptance letter for the St. Lucie subsequent license renewal application was sent to the licensee on September 24, 2021 ([ML21246A091](#)), the NRC estimated that it would take approximately \$6.4M to complete the application review.

⁶⁸ The projected resource estimate was provided to Kairos Power LLC by letter dated December 15, 2021 ([ML21343A214](#)).

⁶⁹ The projected resource estimate was provided to Kairos Power LLC by letter dated October 11, 2023 ([ML23269A176](#)).

⁷⁰ When the formal acceptance letter for the Monticello subsequent license renewal application was sent to the licensee on February 23, 2023 ([ML23047A175](#)), the NRC estimated that it would take approximately \$7.2M to complete the application review.

⁷¹ When the formal acceptance letter for the V.C. Summer subsequent license renewal application was sent to the licensee on October 11, 2023 ([ML23275A014](#)), the NRC estimated that it would take approximately \$6.4M to complete the application review.

licensing actions accepted after July 13, 2019, the RAI data also include licensing actions accepted prior to July 13, 2019, to provide a complete inventory.

Type of Facility or Activity Type	Total Inventory of Open RAIs as of the End of Reporting Period	Total Number of RAIs Issued in Reporting Period	Total Number of RAIs Responded to in Reporting Period	Total Number of RAIs Closed in Reporting Period ⁷²
Operating Reactors	271	131	92	306
Non-Power Production and Utilization Facilities ⁷³	168	2	4	0
Design Certifications for New Reactors ⁷⁴	0	0	0	0
Early Site Permits for New Reactors ⁷⁵	N/A	N/A	N/A	N/A
Combined Licenses for New Reactors	0	0	0	0
Construction Permits for New Reactors or Non-Power Production and Utilization Facilities	30 ⁷⁶	2	5	0
Fuel Facilities	128	30	9	42
Power Reactor Decommissioning	86	44	1	46
Research and Test Reactor Decommissioning	12	0	0	0
Spent Fuel	188	44	14	130
Materials	25	11	15	0
Pre-Application Activities for Advanced Reactors	1	1	0	0

⁷² RAIs are considered closed once the final SE, environmental assessment, or environmental impact statement is finalized except for RAIs associated with new reactor application reviews. Due to the phased approach taken over several years for new reactor application reviews, RAIs are closed throughout the review process once the staff has determined that no additional information is needed to resolve the issue.

⁷³ For the purposes of RAI reporting, non-power production and utilization facilities include all operating research and test reactors and medical radioisotope facilities licensed under Title 10 of the *Code of Federal Regulations* Part 50, "Domestic Licensing of Production and Utilization Facilities."

⁷⁴ No design certification applications are currently under review by the NRC; therefore, there will be no RAI data to report until an application is submitted and accepted by the NRC for review.

⁷⁵ No early site permit applications are currently under review by the NRC; therefore, there will be no RAI data to report until an application is submitted and accepted by the NRC for review.

⁷⁶ This total includes 28 RAIs issued as part of the review for the Abilene Christian University construction permit application. The applicant provided responses to 23 RAIs in September 2023. These RAIs were inadvertently excluded from the previous report and are added here for completeness.

3-7 Workforce Development and Management

FY 2024 Staffing by Office⁷⁷

	FY 2024 Budget	FTE Utilization 09/24/23 – 10/21/23	FTE Utilization 10/22/23 – 11/18/23	FTE Utilization 11/19/23 – 12/30/23	FTE Utilization as of 12/30/23	Delta (Q1 FTE Utilization – FY 2024 Budget)	End of Year (EOY) Projection w/ Personnel Actions	Delta (EOY Utilization – FY 2024 Budget)
Totals	2957.8	214.5	215.3	322.7	752.4	-2205.4	2810.8	-147.0
COMM	42.0	2.5	2.2	3.0	7.7	-34.3	31.5	-10.5
OIG	73.0	3.8	3.9	5.8	13.5	-59.5	57.0	-16.0
Totals Other Offices	2842.8	208.2	209.2	313.8	732.2	-2111.6	2722.3	-120.5
OCFO	93.0	7.2	7.0	10.4	24.6	-68.4	91.7	-1.3
OGC	95.2	6.8	6.8	10.4	23.9	-71.3	88.4	-6.8
OCA	10.0	0.8	0.8	1.3	2.9	-7.1	10.2	0.2
OCAA	7.0	0.4	0.4	0.7	1.5	-5.5	5.7	-1.3
OPA	13.0	1.0	1.0	1.5	3.5	-9.5	13.0	0.0
SECY	17.0	1.2	1.2	1.9	4.3	-12.7	16.5	-0.5
OIP	38.0	2.9	2.9	4.4	10.1	-27.9	38.7	0.7
ASLBP	26.5	1.3	1.3	2.1	4.8	-21.7	20.7	-5.8
ACRS	27.1	1.9	2.2	2.9	7.0	-20.1	28.8	1.7
OEDO	30.0	2.1	2.1	3.3	7.5	-22.5	28.0	-2.0
NRR	582.5	41.1	40.8	61.8	143.7	-438.8	534.3	-48.2
NMSS	323.1	22.9	23.5	35.5	82.0	-241.1	307.2	-15.9
RES	210.6	14.4	14.5	21.9	50.7	-159.9	191.8	-18.8
NSIR	162.4	11.6	11.9	17.9	41.5	-120.9	153.8	-8.6
R-I	169.8	13.2	13.0	19.4	45.5	-124.3	166.6	-3.2
R-II	190.7	16.2	16.3	24.1	56.5	-134.2	204.2	13.5
R-III	168.9	12.6	12.8	19.3	44.7	-124.2	164.6	-4.3
R-IV	163.1	12.9	12.7	18.7	44.2	-118.9	162.0	-1.1
OE	30.9	2.2	2.3	3.4	7.9	-23.0	7.6	-3.3
OI	35.0	2.3	2.3	3.5	8.1	-26.9	32.3	-2.7
OCIO	172.0	12.2	12.6	18.9	43.7	-128.3	166.9	-5.1
ADM	119.0	9.0	9.1	13.5	31.6	-87.4	117.1	-1.9
SBCR	15.0	1.1	1.1	1.6	3.8	-11.2	13.9	-1.1
OCHCO	140.0	10.6	10.4	15.6	36.7	-103.3	136.3	-3.7
CSU	3.0	0.2	0.2	0.2	0.5	-2.5	1.9	-1.1

3-8 Inspection Activities

The table below shows the average number of hours of direct inspection per plant in CY 2023.

⁷⁷ Some numbers might not add due to rounding.

Average ROP Direct Inspection Hours

Nationwide Per Plant (unit)	Column 1 of ROP Action Matrix (unit)	Column 2 of ROP Action Matrix (unit)	Column 3 of ROP Action Matrix (unit)	Column 4 of ROP Action Matrix
1619 Hours	1559 Hours	2013 Hours ⁷⁸	1569 Hours ⁷⁹	No Plants in Column 4

The table below shows the staff hours expended for inspection-related effort at operating power reactor sites by CY.

Items	Description	CY 2022 (Hours)	CY 2023 (Hours)
i.	Baseline Inspection	213,363	213,426
ii.	Plant-Specific Inspection	7,946	8,080
iii.	Generic Safety Issue Inspections	83	0
iv.	Performance Assessment	3,062	2,548
v.	Other Activities	97,511	101,059
vi.	Total Staff Effort	321,964	325,114
vii.	Total Staff Effort Per Operating Site	5,854 ⁸⁰	5,911 ⁸¹

3-9 Backfit

Facility-Specific Backfits

No facility-specific backfits were issued during the reporting period.

Generic Backfits

No generic backfits were issued during the reporting period.

⁷⁸ Davis-Besse Nuclear Power Station, Unit 1 moved to Column 2 in Q4 FY 2021 ([ML22055B117](#)) and returned to Column 1 in Q3 FY 2023 ([ML23200A013](#)). Waterford Steam Electric Station, Unit 3 moved to Column 2 in Q3 FY 2022 ([ML22241A143](#)) and returned to Column 1 in Q3 FY 2023 ([ML23192A764](#)). Quad Cities Nuclear Power Station, Unit 2 moved to Column 2 in Q4 FY 2022 ([ML22313A150](#)). Peach Bottom Atomic Power Station, Unit 2 moved to Column 2 in Q4 FY 2022 ([ML22314A098](#)) and returned to Column 1 in Q3 FY 2023 ([ML23173A003](#)). Calvert Cliffs Nuclear Power Plant, Unit 1 moved to Column 2 in Q4 FY 2022 ([ML22314A100](#)). Virgil C. Summer Nuclear Station moved to Column 2 in Q2 FY 2022 ([ML22287A184](#)) and returned to Column 1 in Q3 FY 2023 ([ML23195A196](#)). Sequoyah Nuclear Plant, Units 1 and 2 moved to Column 2 in Q1 FY 2023 ([ML23103A395](#)). Columbia Generating Station moved to Column 2 in Q1 FY 2022 ([ML23111A237](#)). Shearon Harris Nuclear Plant, Unit 1 moved to Column 2 in Q3 FY 2023 ([ML23249A279](#)). River Bend Station moved to Column 2 in Q3 FY 2023 ([ML23201A132](#)). Browns Ferry Nuclear Plant, Unit 1 moved to Column 2 in Q2 FY 2023 ([ML23115A000](#)) and returned to Column 1 in Q4 FY 2023 ([ML23305A350](#)).

⁷⁹ Farley Nuclear Plant, Units 1 and 2 moved to Column 3 in Q4 FY 2022 ([ML23089A399](#)) and returned to Column 1 in Q4 FY 2023 ([ML23285A206](#)), and then Unit 1 moved to Column 2 in Q4 FY 2023 ([ML23263B166](#)).

⁸⁰ Total staff effort is divided by 55 sites for CY 2022, due to Indian Point Unit 3 permanently ceasing operations in April 2021.

⁸¹ Total staff effort is divided by 55 sites for CY 2023, due to Palisades permanently ceasing operations in June 2022 and Vogtle Unit 3 transitioning to the ROP in August 2022.

Backfit Appeals Filed by Licensees and Applicants

There were no backfit appeals submitted to the NRC during the reporting period.