

**STATUS REPORT ON THE LICENSING ACTIVITIES
AND REGULATORY DUTIES OF THE
U.S. NUCLEAR REGULATORY COMMISSION**

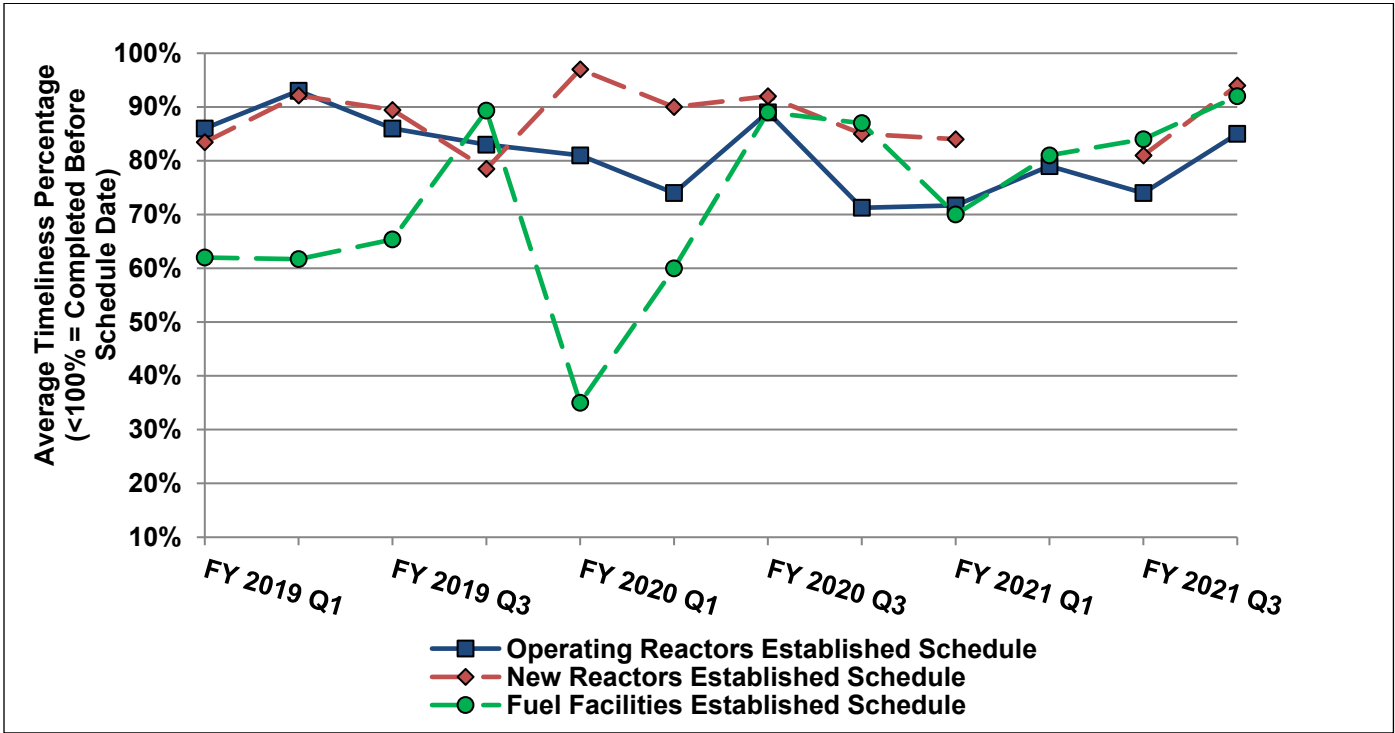
For the Reporting Period of July 1, 2021 through September 30, 2021

Table of Contents

Enclosure 1 – High Level Summary	3
1-1 Average Timeliness Percentage for Licensing Actions Categorized Under the Nuclear Energy Innovation and Modernization Act.....	3
1-2 Reactor Oversight Inspection Hours and Percent Complete.....	4
1-3 Full-time equivalent (FTE) at the End of Q4 FY 2021 vs. Budgeted FTE.....	5
1-4 Budget Authority, FTE Utilization, and Fees	5
Enclosure 2 – Status of Specific Items of Interest.....	8
2-1 Transformation	8
2-2 Workforce Development and Management	9
2-3 Accident Tolerant Fuel	10
2-4 Digital Instrumentation and Control.....	11
2-5 Vogtle Electric Generating Plant Units 3 and 4.....	13
2-6 NuScale Small Modular Reactor Design Certification.....	16
2-7 Advanced Nuclear Reactor Technologies.....	17
2-8 OKlo Power LLC Combined License Application for the Aurora Compact Fast Reactor	20
2-9 Reactor Oversight Process	21
2-10 Backfit.....	22
2-11 Risk-informed Activities.....	23
2-12 Coronavirus Disease 2019 Pandemic.....	25
Enclosure 3 – Summary of Activities	27
3-1 Reactor Oversight Process Findings.....	27
3-2 Licensing Actions	28
3-3 Licensing Amendment Request Reviews	30
3-4 Research Activities.....	31
3-5 Fees Billed.....	34
3-6 Requests for Additional Information	35
3-7 Workforce Development and Management	37
3-8 Inspection Activities.....	38
3-9 Backfit.....	39

Enclosure 1 – High Level Summary

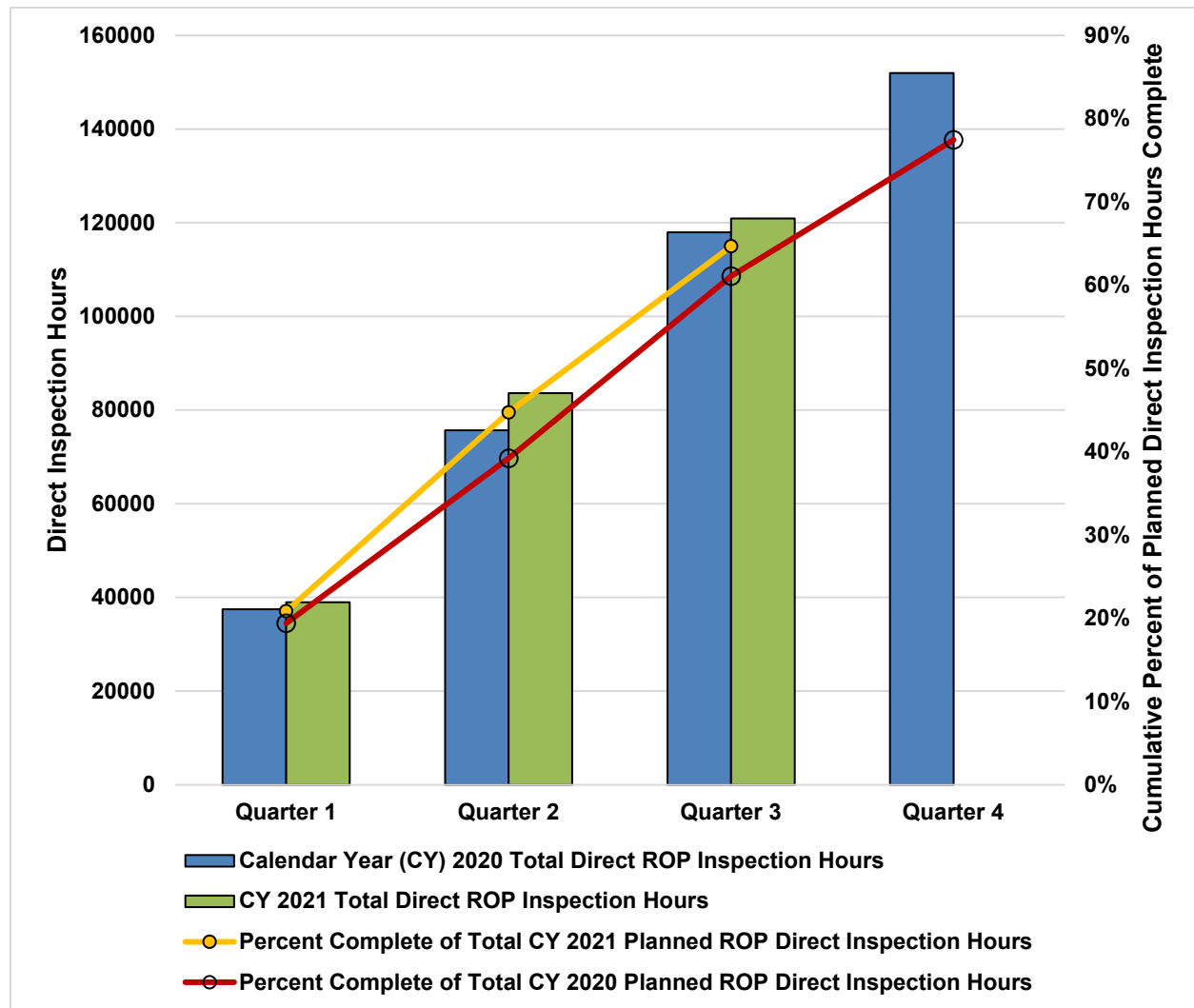
1-1 Average Timeliness Percentage for Licensing Actions Categorized Under the Nuclear Energy Innovation and Modernization Act



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.

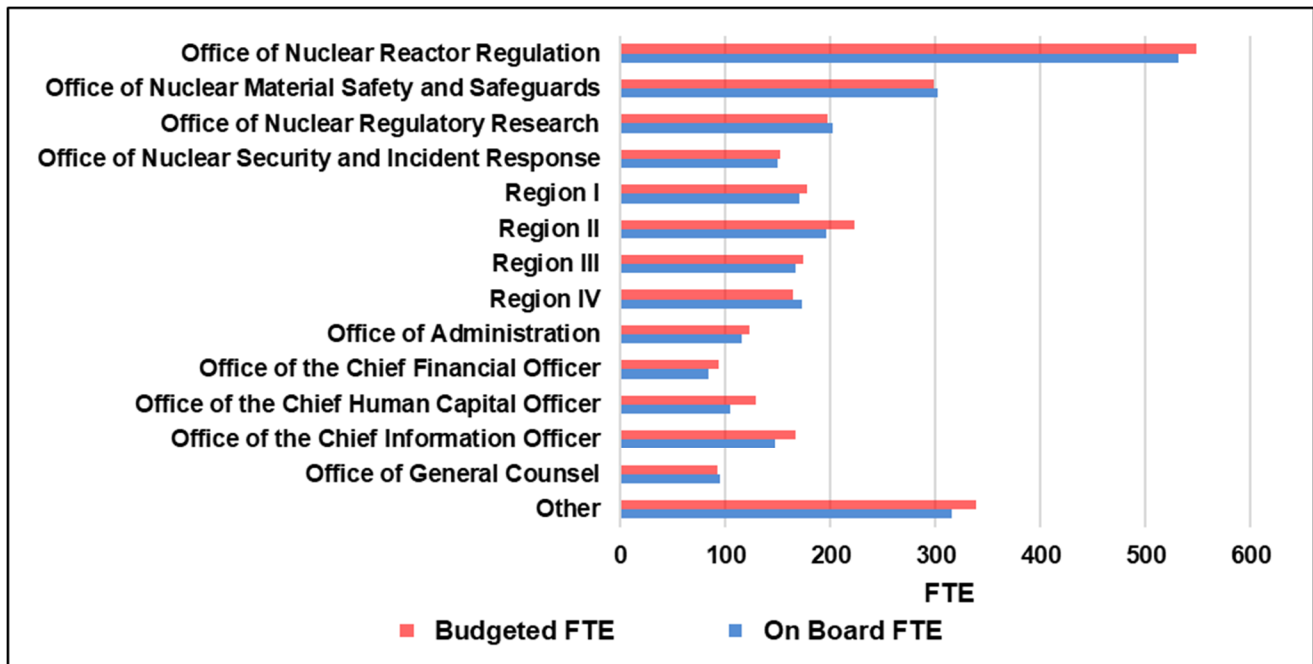
1-2 Reactor Oversight Inspection Hours and Percent Complete



2

² "Planned direct inspection hours" refers to the number of hours associated with completion of the U.S. Nuclear Regulatory Commission's (NRCs) "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 Reactor Oversight Process (ROP) baseline inspection program for the calendar year. In CY 2020, despite falling short of the planned/nominal number of inspection hours (due to circumstances such as the ongoing COVID-19 pandemic and its impact on planned inspection activities), the NRC performed the minimum number of inspection hours associated with program completion. In CY 2021, the NRC is projected to complete a larger number of direct inspection hours than were completed in 2020. Therefore, despite the possibility that the NRC may not complete 100% of the nominal number of hours planned for CY 2021 (as was also the case in 2020), the NRC expects to complete well above the minimum number of hours associated with the program completion in CY 2021.

1-3 FTE at the End of Q4 FY 2021 vs. Budgeted FTE



1-4 Budget Authority, FTE Utilization, and Fees

NRC FY 2021 Budget Authority September 30, 2021 (Dollars in Thousands)

Fund Sources	FY 2021 Budget ³	Percent Obligated	Percent Expended
Advanced Reactors	\$21,218	97%	74%
Commission Funds	\$12,535	54%	54%
Fee-Based Funds	\$830,099	97%	77%
General Funds	\$1,658	91%	59%
International Activities	\$14,234	92%	78%
University Nuclear Leadership Program / Integrated University Program	\$21,951	40%	1%
Official Representation	\$25	57%	31%
Total	\$901,719	95%	75%
NRC Control Points	FY 2021 Budget	Percent Obligated	Percent Expended
Nuclear Reactor Safety	\$457,625	95%	82%
Nuclear Materials and Waste Safety	\$103,435	97%	84%

³ FY 2021 Budget includes the enacted budget and carryover allocated. The budget values in this column differ from the previous report due to carryover allocated since the previous report.

Fund Sources	FY 2021 Budget ³	Percent Obligated	Percent Expended
Decommissioning and Low-Level Waste	\$23,271	93%	84%
Corporate Support	\$295,437	97%	65%
University Nuclear Leadership Program / Integrated University Program ⁴	\$21,951	40%	1%
Total	\$901,719	95%	75%

FTE Utilization, Hiring, and Attrition

Total Year to Date (YTD) FTE Utilization	Actual End of Year FTE Total Utilization	Quarter 4 Hiring	Quarter 4 Attrition	YTD Hiring	YTD Attrition
2763.6	2763.6	48	44	133	179

FY 2021 Fees Estimated, Fees Billed, and Fees Collected Through Q4



⁴ This row is labeled as "University Nuclear Leadership Program / Integrated University Program" because the FY 2021 Explanatory Statement identified this control point as the "Integrated University Program", but Division Z of the Consolidated Appropriations Act, 2021 replaced the Integrated University Program with the University Nuclear Leadership Program.

Total 10 CFR Part 170 Fees Billed (Dollars in Millions)

FY 2019	FY 2020	FY 2021 Q1-Q4
\$245.3	\$205.7	\$183.9

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

The U.S. Nuclear Regulatory Commission’s (NRC) transformation initiative currently encompasses a broad set of activities intended to advance the agency towards the vision of being a more modern, risk-informed regulator. There are four focus areas: (1) recruiting, developing, and retaining a strong workforce; (2) improving decision-making through the acceptance of an appropriate level of risk without compromising the NRC’s mission; (3) establishing a culture that embraces innovation; and (4) adopting new and existing information technology resources.

During this reporting period, the NRC marked the two-year anniversary of the agency-wide Futures Initiatives. Over the past two years, the agency has completed all but one of our agency-wide Futures Initiatives, as well as numerous office-level initiatives. The NRC has established its transformation infrastructure, and staff are using the transformation tools developed. The NRC continues to transform by leveraging available technologies, increasing opportunities for staff to gain new skills, attracting talented new staff, and fostering a culture of safety and innovation that accounts for differing viewpoints and risk insights in our decision-making.

Activities Planned and Completed for the Reporting Period ((Quarter) Q4 Fiscal Year (FY) 2021)

Transformation Activities	Projected Completion Date	Completion Date
Updated internal and public websites to include specific transformation-related accomplishments.	08/31/21	09/30/21
Distributed external stakeholder transformation surveys to gather insights on how transformation changes have enhanced our ability to meet our mission in a more effective and efficient manner.	09/30/21	09/13/21

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Transformation Activities	Projected Completion Date
Launch the Mission Analytics Portal Event Reporting module. This module will provide NRC licensees an alternative electronic submission method for reports required under Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.72.	12/31/21 ⁵
Complete first assessment of survey of external stakeholder views on NRC transformation activities.	12/31/21

⁵ The projected completion date for this activity has been extended from September 30, 2021, to December 31, 2021, to allow the agency time to complete it.

Projected Transformation Activities	Projected Completion Date
Conduct a series of first-line supervisor workshops to engage in dialogue on the agency's progress on transformation and identify actions they can take to encourage use of transformation tools, while mitigating the effects of change fatigue.	01/31/22 ⁶
Establish calendar year 2022 Objectives and Key Results.	02/28/22

2-2 Workforce Development and Management

The NRC implemented a Strategic Workforce Planning (SWP) process to improve workforce development to meet its near- 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 five 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- 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. The SWP process occurs each FY.

The NRC successfully recruited 60 students for our summer hire program, which was once again held virtually due to the COVID-19 pandemic. Thirty-one or 52% of these students were converted to the agency's Co-Op program to fill mission critical positions as identified in our SWP process. The first Nuclear Regulator Apprenticeship Network (NRAN) cohort continued to complete apprenticeships and are expected to fill mission critical positions identified through our SWP process in the 3rd and 4th quarter of FY 2022. Recruitment efforts began for the next NRAN cohort based on SWP process results. This second cohort will start with the agency in 4th quarter of 2022.

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

Workforce Development and Management Activities	Projected Completion Date	Completion Date
Obtained feedback from the SWP points of contact to identify lessons learned and prepare for the FY 2022 SWP process.	09/30/21	09/01/21

⁶ First-line supervisor workshops have been postponed from September 2021 to a couple of months after the NRC's re-entry into its facilities.

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Workforce Development and Management Activities	Projected Completion Date
Complete updates to the Agency Environmental Scan to support FY 2022 SWP activities.	12/31/21
Utilize insights from the SWP process to inform recruitment activities for the 2022 Nuclear Regulator Apprentice Network and Summer Student Intern programs and make initial selections.	12/31/21
Complete Steps 2 (Workload Forecasting) and 3 (Workforce Supply Analysis) to support 2022 SWP activities.	03/31/22
Continue pre-employment hiring activities for NRAN and Summer Student Intern program selectees.	03/31/22

2-3 Accident Tolerant Fuel

The NRC continues to make significant progress in its preparation for licensing reviews of Accident Tolerant Fuel (ATF) designs for use in U.S. commercial power reactors. The NRC staff is executing the ATF project plan (Agencywide Documents Access and Management System (ADAMS) Accession No. [ML21243A298](#)), which was revised to include an increased focus on higher burnup and increased enrichment fuels. The NRC has received one additional ATF fuel vendor topical report for review since the last reporting period and is currently reviewing five ATF fuel vendor topical reports. The first topical report is on a new type of doped fuel pellet called “Westinghouse Advanced Doped Pellet Technology (ADOPT™) Fuel” (ADAMS Accession No. [ML20132A014](#)). The second covers increased burnup limits for a fuel cladding material (ADAMS Package No. [ML20003E125](#)). The third discusses a slight increase in burnup limits for existing Westinghouse fuel designs (ADAMS Package No. [ML20350B834](#)), and the fourth involves increased fuel enrichment (ADAMS Package No. [ML21035A073](#)). The fifth report, new for this reporting period, discusses the use of chromia-doped fuel for pressurized water reactors (ADAMS Accession No. [ML21187A198](#)). The NRC staff is on track to complete review of these topical reports by 2025.

The NRC staff also continues to review a request from Framatome to amend the certificate of compliance for the MAP transportation package. The amendment seeks to authorize shipment of 17x17 fuel assemblies with enrichments above 5 weight percent uranium-235 (ADAMS Package No. [ML21090A321](#)). Further, new this reporting period, the NRC staff is also reviewing two additional transportation package amendments (ADAMS Accession Nos. [ML21216A322](#) and [ML21181A015](#)), that are seeking increased enrichment above 5 weight percent uranium-235 that are expected to be completed between early- to mid-calendar year (CY) 2022. The NRC is expecting a number of license amendment requests in CY 2021 and 2022 from enrichment facilities and fuel fabricators to directly support increased enrichment above 5 weight percent uranium-235.

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

ATF Activities	Projected Completion Date	Completion Date
Issued new revision of the ATF Project Plan. This new revision takes into account both industry and NRC changes in approaches and schedules since the last issuance in October 2019 (ADAMS Accession No. ML21243A298).	09/30/21	09/30/21
Completed source term calculations for the maximum industry-proposed burnup limits. These calculations will inform the need to revise Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," for the higher maximum burnup levels that the industry may be requesting.	10/31/21	08/31/21

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected ATF Activities	Projected Completion Date
Issue the Regulatory Framework Applicability Assessment and associated Licensing Pathways. The Regulatory Framework Applicability Assessment contains the NRC staff's analysis of the applicability of regulations and guidance for coated cladding, doped pellets, higher burnup, and increased enrichment fuels. The Licensing Pathways are intended to illustrate the remaining informational needs or tasks that should be completed in order to thoroughly and efficiently review ATF topical reports and plant-specific license amendment requests.	12/31/21
Provide to the Commission a rulemaking plan evaluating changes to regulations associated with the potential use of light-water reactor fuel containing uranium enriched to greater than 5.0 weight percent uranium-235.	12/31/21
Issue a research information letter documenting the current state of knowledge regarding the phenomena of fuel fragmentation, relocation, and dispersal in higher burnup fuel.	03/31/22

2-4 Digital Instrumentation and Control

The NRC staff continues to complete digital instrumentation and control (Digital I&C) infrastructure improvements to address commercial grade dedication of digital equipment and protection against common cause failure (CCF). Further, the NRC staff continues to review and prepare for anticipated digital modernization license amendment requests (LARs). These activities support NRC's vision to establish a modern, risk-informed regulatory structure with reduced uncertainty that will enable the expanded safe use of digital technologies.

During the reporting period, the staff continued to review NEI 17-06, “Guidance on Using IEC 61508 SIL Certification to Support the Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Related Applications.” NEI 17-06 is intended to clarify how licensees can use Safety Integrity Level (SIL) certification in their commercial grade dedication programs. These commercial dedication programs would provide increased access to safety critical digital equipment not specifically developed for the nuclear industry. In September, the Nuclear Energy Institute (NEI) provided a major revision of its proposed additional CCF guidance contained in NEI 20-07, “Guidance for Addressing Software Common Cause Failure in High Safety-Significant Safety-Related Digital I&C Systems” for NRC review.

Several licensees are now planning for significant digital upgrades. The NRC staff has communicated to industry that pre-application engagement can be vital to enabling efficient and effective reviews of LARs, and the staff conducted pre-application meetings to better understand the scope and schedule for LARs for two upcoming major digital modifications: 1) Turkey Point Power Plant Units 3 and 4 in November 2021, and 2) Limerick Generating Station Units 1 and 2 in September 2022.

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

Digital Instrumentation and Control Activities	Projected Completion Date	Completion Date
Pre-submittal review of NEI 20-07, “Guidance for Addressing Software Common Cause Failure in High Safety-Significant Safety-Related Digital I&C Systems”		
<ul style="list-style-type: none"> Conducted public meeting with NEI on its proposed path forward for NEI 20-07 (ADAMS Accession No. ML21229A160). 	07/01/21	07/01/21
Review NEI 17-06, “Guidance on Using IEC 61508 SIL Certification to Support the Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Related Applications,” and consider endorsement through issuance of an RG.		
<ul style="list-style-type: none"> Provided final set of comments on NEI 17-06, Rev. 0 to NEI (ADAMS Accession No. ML21237A305). 	08/31/21	08/30/21
<ul style="list-style-type: none"> Conducted public meeting to discuss NEI’s proposed resolutions to staff’s comments (ADAMS Accession No. ML21245A435). 	09/30/21	09/28/21
Significant Digital Modernization LAR Milestones.		
<ul style="list-style-type: none"> Issued license amendment to Entergy to upgrade the core protection calculator at Unit 3 of the Waterford Steam Electric Station (ADAMS Accession No. ML21131A243). 	08/24/21	08/24/21
<ul style="list-style-type: none"> Conducted fifth pre-application meeting with NextEra for digital modernization project at Turkey Point Units 3 and 4 (ADAMS Accession No. ML21221A183)⁷. 	09/30/21	08/25/21

⁷ During this reporting period, the NRC staff also conducted additional meetings with NextEra to discuss specific technical issues associated with the planned application.

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Digital Instrumentation and Control Activities	Projected Completion Date
Review NEI 17-06, "Guidance on Using IEC 61508 SIL Certification to Support the acceptance of Commercial Grade Digital Equipment for Nuclear Safety Related Applications," and consider endorsement through issuance of an RG.	
<ul style="list-style-type: none"> Conduct a public meeting to discuss proposed revision to NEI 17-06 and proposed NRC draft guidance. 	11/09/21
Significant Digital Modernization LAR Milestones	
<ul style="list-style-type: none"> Conduct fourth pre-application meeting with Exelon for a digital modernization project at Limerick Generating Station. 	10/20/21 ⁸
<ul style="list-style-type: none"> Issue a staff decision on acceptability of the NextEra submittal for digital modernization project at Turkey Point Units 3 and 4 within 60 days of submission by licensee. 	12/30/21 ⁹

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 to be built and operated at the Vogtle site near Augusta, GA. SNC's public milestone for Vogtle Electric Generating Plant (Vogtle) Unit 3 entering service has shifted to May 2022, with initial fuel loading taking place as early as January 2022. The NRC staff adjusted the agency's activities and associated milestone dates to reflect the revised initial fuel loading date. In addition, the NRC staff continued licensing and inspection activities to support the NRC staff's evaluation to determine whether the acceptance criteria in the COL are met. SNC has indicated that the Vogtle Unit 4 scheduled fuel loading date is August 2022 and the in-service date is now December 2022.

During this reporting period, the NRC staff focused significant inspection activities on the licensee's response to quality issues. On July 12, 2021, the NRC completed a reactive inspection that assessed nonconformances with electrical cable separation. The NRC staff's initial conclusions are documented in an inspection report dated August 26, 2021 (ADAMS Accession No. [ML21236A057](#)). The NRC staff found that SNC did not adequately separate safety and non-safety-related cables for reactor coolant pumps and equipment designed to safely shut down the reactor. The NRC staff also found instances where the licensee did not identify construction quality issues related to the safety-related electrical raceway system and enter them into its corrective action program. The NRC staff plans to make a final significance determination and document the decision within 90 days of issuing the inspection report.

Due to the Coronavirus Disease (COVID-19) pandemic, the NRC staff performed mission-critical inspections through a combination of remote inspections and targeted onsite inspections. The NRC maintains its inspection agility through consistent communication with the licensee

⁸ The meeting date was changed from September 30 to October 20, 2021, due to scheduling conflicts.

⁹ As of this reporting period, the NextEra submittal is expected in November 2021.

and resource planning to ensure that the NRC can adapt to changes in the dynamic construction schedule.

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

Vogtle Electric Generating Plant Units 3 and 4 Activities	Projected Completion Date	Completion Date
Issued safety evaluation for request for alternative, "Alternative Requirements for ASME Section III Remediation of Containment Vessel Unistrut Welding (VEGP 3-ALT-16)" (ADAMS Package No. ML21203A317).	07/30/21	07/25/21
Issued amendment regarding emergency plan changes (ADAMS Package No. ML21217A021).	09/30/21	09/17/21

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Vogtle Electric Generating Plant Units 3 and 4 Activities	Projected Completion Date
Issue a decision regarding SNC's request for a license amendment and exemption to revise inspections, tests, analyses, and acceptance criteria (ITAAC) to specify the timing of inspection of installation of specific components that cannot be placed in their final location until after core fuel load.	10/11/21
Conduct a public meeting to discuss Vogtle Readiness Group activities.	11/18/21
Issue a decision regarding SNC's request for a limited scope exemption from certain operator testing requirements for reactor operators licensed to operate Unit 3 who are qualified to operate Unit 4.	11/30/21
Issue a letter regarding Vogtle Unit 3's transition to the operating reactor assessment program.	12/31/21 ¹⁰
Once the NRC determines that all ITAAC have been met, issue the finding that all acceptance criteria contained in the Vogtle Unit 3 license have been met and that the licensee may operate the facility, in accordance with 10 CFR 52.103(g) (provided the requisite findings are made).	01/31/22 ¹¹
Publish a notice of the licensee's intent to operate Vogtle Unit 3 in the <i>Federal Register</i> (FR) to announce the opportunity for the public to request a hearing on the licensee's conformance with acceptance criteria in the COL.	TBD ¹²

¹⁰ The projected completion date was modified from October 18, 2021, to December 31, 2021, due to changes in the licensee's construction schedule for Vogtle Unit 3.

¹¹ The projected completion date was modified from October 18, 2021, to January 31, 2022, due to changes in the licensee's construction schedule for Vogtle Unit 3.

¹² The timing of FR notice is being reassessed based on recent changes in the licensee's schedule for commercial operations.

NRC Inspections and ITAAC Reviews for the Reporting Period (Q4 FY 2021)

A COL allows a licensee to construct a plant and to operate it once construction is complete if certain standards identified in the COL are satisfied. These standards are called ITAAC. The majority of ITAAC are from the design certification for the particular reactor technology that a plant uses. Throughout the construction process, NRC inspectors will perform inspections based on [Inspection Manual Chapter 2503](#), “Construction Inspection Program: Inspections of Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) Related Work,” and the NRC’s [Construction Inspection Program](#) at the plant site to confirm that the licensee has successfully completed the ITAAC.

Additional information on the ITAAC process as well as closure for Vogtle Units 3 and 4 is available at <https://www.nrc.gov/reactors/new-reactors/oversight/itaac.html>.

Unit	Number of ITAAC Remaining Requiring Inspection	Total Inspections Completed ¹³	ITAAC Inspected ¹⁴	ITAAC Inspections Closed ¹⁵
Vogtle 3	89	39	20	9
Vogtle 4	128	7	4	1

ITAAC Reviews Completed for the Reporting Period (Q4 FY 2021)

The table below provides ITAAC closure notification reviews completed during the reporting period for Vogtle Units 3 and 4, including the date when the NRC received the ITAAC closure notice and the date when the review was completed.

Unit	ITAAC No.	Received Date	Approval Date
Vogtle 3	2.1.02.08b	08/27/21	09/07/21
Vogtle 3	2.1.02.09a	08/25/21	09/13/21
Vogtle 3	2.1.02.11a.ii	08/20/21	08/27/21
Vogtle 3	2.1.02.12a.iii	07/21/21	07/27/21
Vogtle 3	2.2.01.01	07/06/21	07/13/21
Vogtle 3	2.2.01.07.ii	09/09/21	09/15/21
Vogtle 3	2.2.01.11b	08/13/21	08/25/21
Vogtle 3	2.2.05.02a	08/05/21	08/06/21
Vogtle 3	2.3.02.08a.i	07/23/21	07/28/21
Vogtle 3	2.3.13.08	07/31/21	08/05/21
Vogtle 3	2.4.01.02	07/23/21	07/27/21
Vogtle 3	2.5.01.04	07/02/21	07/13/21
Vogtle 3	2.6.03.05d.i	07/15/21	07/19/21
Vogtle 3	C.2.6.09.05a	08/03/21	08/12/21

¹³ This column includes all inspections related to Vogtle Unit 3 and 4 completed during the reporting period; the column is not limited to ITAAC (e.g., quality assurance inspections).

¹⁴ “ITAAC Inspected” refers to the number of ITAAC that were inspected as part of ongoing inspections and does not indicate that all inspections were completed for those ITAAC.

¹⁵ “ITAAC Inspection Closed” refers to the number of ITAAC for which all associated inspections have been completed during the reporting period.

Vogtle 3	2.2.02.1	09/29/21	09/30/21
Vogtle 3	2.2.02.11a.i	09/24/21	09/27/21
Vogtle 3	2.3.10.05a.i	09/15/21	09/17/21
Vogtle 3	2.2.03.08c.vii	09/23/21	09/28/21
Vogtle 3	2.3.02.02a	09/24/21	09/28/21
Vogtle 4	2.2.03.08c.iv.01	06/29/21	07/01/21
Vogtle 4	2.2.03.08c.iv.02	07/21/21	07/23/21

Vogtle Units 3 and 4 License Amendment Request Reviews Completed (Q4 FY 2021)

Number of License Amendment Request Reviews Forecast to be Completed in the Reporting Period	Number of License Amendment Request Reviews that were Completed in the Reporting Period
1	1

2-6 NuScale Small Modular Reactor Design Certification

On March 15, 2017, the NRC accepted the NuScale Power, LLC (NuScale) application for a small modular reactors (SMR) design certification review. The NRC staff completed the final Safety Evaluation Report on August 28, 2020 (ADAMS Package No. [ML20023A318](#)), and issued a standard design approval to NuScale on September 11, 2020 (ADAMS Accession No. [ML20247J564](#)). On January 14, 2021, the NRC staff provided the Commission with a draft proposed rule that proposes certifying the design for its consideration (ADAMS Package No. [ML19353A003](#)). On May 6, 2021, the Commission approved the publication of the proposed rule (ADAMS Package No. [ML21126A153](#)), and on July 1, 2021, the proposed rule was published for public comment in the FR (86 FR 34999) with a comment period ending August 30, 2021. During the public comment period the staff received a request from Uranium Watch to extend the public comment period (ADAMS Accession No. [ML21209A763](#)). On August 24, 2021, the NRC staff published a FR notice extending the public comment period by 45 days to October 14, 2021 (86 FR 47251).

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

NuScale Small Modular Reactor Design Certification Activities	Projected Completion Date	Completion Date
Published proposed rule for NuScale SMR design certification. ¹⁶	07/02/21	07/01/21

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY2022)

Projected NuScale Small Modular Reactor Design Certification Activities	Projected Completion Date
Public comment period ends for proposed rule for NuScale SMR design certification.	10/14/21 ¹⁷
Provide the Commission the draft final rule for its consideration.	03/25/22

¹⁶ Additional information regarding this rulemaking is available at: <https://www.nrc.gov/reading-rm/doc-collections/rulemaking-ruleforum/active/RuleDetails.html?id=40>.

¹⁷ Although the public comment period originally ended on August 30, 2021, the comment period was extended to October 14, 2021.

2-7 Advanced Nuclear Reactor Technologies

The NRC is making significant progress in preparation for reviewing non-light-water-reactor (non-LWR) designs, consistent with the NRC staff's vision and strategy (ADAMS Accession No. [ML16356A670](#)). The NRC staff is currently executing the implementation action plans to achieve non-LWR safety review readiness.¹⁸ During this reporting period, the NRC staff issued several technical reports and draft guidance documents. The staff also continued its extensive stakeholder engagement, including holding several public meetings and workshops regarding various advanced reactor topics, development of the 10 CFR Part 53 proposed rule, and development of guidance for the content of advanced reactor licensing applications.

In addition, the NRC staff continues to release for public comment various subparts for the 10 CFR Part 53 preliminary proposed rule, including technical, licensing, and administrative requirements on an iterative basis. During the reporting period, the NRC staff released sections of the preliminary proposed rule language for three new subparts and released revised preliminary proposed rule language for two subparts (ADAMS Accession Nos. [ML21202A178](#), [ML21202A175](#), [ML21225A224](#), and [ML21202A162](#), respectively) and discussed portions of the released subparts with stakeholders during a public meeting on September 15, 2021 (ADAMS Accession No. [ML21256A022](#)). The NRC staff also briefed the Advisory Committee on Reactor Safeguards (ACRS) on July 21 and September 23-24, 2021. Details of these ACRS meetings can be found on the NRC's public Web site (<https://www.nrc.gov/reading-rm/doc-collections/acrs/agenda/index.html>).

The NRC's public Web site lists the open and resolved technical and policy issues related to SMRs and non-LWRs and is updated periodically to show the status of the issues (<https://www.nrc.gov/reactors/new-reactors/smr.html#techPolicyIssues>). The NRC holds periodic stakeholder meetings to discuss non-LWR topics of interest. A list of the meetings that the NRC has conducted to date can be found on the NRC's public Web site (<https://www.nrc.gov/reactors/new-reactors/advanced/details.html#stakeholder>). The NRC also holds frequent public meetings regarding the Advanced Reactor Content of Application Project. A list of these meetings and related preliminary draft guidance documents to support the meetings can be found on the NRC's public Web site (<https://www.nrc.gov/reactors/new-reactors/advanced/details.html#advRxContentAppProj>).

Additionally, 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 resolution of technical and policy issues that could affect licensing. Information on the reactor designers that have formally notified the NRC of their intent to engage in regulatory interactions can be found on the NRC's public web site (<https://www.nrc.gov/reactors/new-reactors/advanced/ongoing-licensing-activities/pre-application-activities.html>).

On September 29, Kairos Power, LLC submitted part 1 (the Preliminary Safety Analysis Report and supporting technical reports) of a construction permit application for the Hermes test reactor, a 35 MW thermal fluoride salt-cooled high temperature reactor to be built at its East Tennessee Technology Park site near Oak Ridge, Tennessee (ADAMS Package No. [ML21272A375](#)). The NRC staff is reviewing the application for completeness to support a detailed review and will expeditiously inform the applicant of the results and the associated

¹⁸ 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>).

docketing decision. Kairos intends to submit the environmental report as the second part of the application by the end of November 2021. The Hermes reactor will use a high-temperature graphite-matrix coated tri-structural isotropic particle fuel and a chemically stable, low-pressure molten fluoride salt coolant and is an integral part of Kairos Power's technology development in support of a commercial nuclear power reactor.

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

Advanced Nuclear Reactor Technologies Activities	Projected Completion Date	Completion Date
Provided a report to the appropriate congressional committees on completing a rulemaking to establish a technology-inclusive regulatory framework for optional use by commercial advanced nuclear reactor technologies in new reactor license applications, and ensuring that the agency has adequate expertise to support the evaluation of commercial advanced reactor license applications, in accordance with the Nuclear Energy Innovation and Modernization Act (NEIMA), Section 103(e) (ADAMS Package No. ML21109A263).	07/14/21	07/15/21
Published a draft RG for endorsement of the American Society of Mechanical Engineers (ASME) Section III, Division 5 Standard for public comment (ADAMS Package No. ML21091A230).	07/31/21	08/13/21 ¹⁹
Issued a draft white paper to provide information to advanced reactor applicants regarding the applicability of existing regulations to non-light water reactors (ADAMS Accession No. ML21175A287).	07/31/21	07/14/21
Issued draft Material Control and Accounting guidance for Category II facilities (NUREG-2159) for public comment (ADAMS Accession No. ML21263A119).	08/31/21	09/23/21 ²⁰
Published a draft RG for endorsement of the ASME Boiler and Pressure Vessel Code Section XI, Division 2, Reliability and Integrity Management Standard for public comment (ADAMS Package No. ML21120A180).	09/30/21	09/30/21

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Advanced Nuclear Reactor Technologies Activities	Projected Completion Date
Issuance of a scalable human factors engineering technical review strategy report by Brookhaven National Laboratory under contract with NRC.	10/31/21 ²¹

¹⁹ Issuance delayed from the previous projected date of July 31, 2021, to provide additional time for internal review.

²⁰ Issuance delayed from the previous projected date of August 31, 2021, to provide additional time for internal review.

²¹ The projected completion date was changed from September 30 to October 31, 2021, to provide additional time for internal review.

Projected Advanced Nuclear Reactor Technologies Activities	Projected Completion Date
Issue final safety evaluation to Abilene Christian University for its topical report on quality assurance program description.	10/28/21
Release preliminary proposed rule language for 10 CFR Part 53 technical requirements.	10/31/21 ²²
Issue a draft white paper to provide NRC guidance regarding use of the industry-led Technology-inclusive Content of Application Project guidance to inform specific portions of the safety analysis report included as part of an advanced reactor license application.	10/31/21
Issue a draft white paper to provide Advanced Reactor Content of Application Project (ARCAP) guidance regarding the content of an advanced reactor application and a roadmap to additional guidance to support NRC staff review.	10/31/21
Issue several draft white papers to provide guidance for specific chapters or topics of information to be included in an advanced reactor application to support the ARCAP guidance.	10/31/21
Submit draft Advanced Nuclear Reactors Generic Environmental Impact Statement and associated draft proposed rule to the Commission for its consideration.	11/30/21
Issue final safety evaluation for Kairos' topical report on quality assurance.	11/30/21
Submit a paper to the Commission providing the Emergency Preparedness Requirements for Small Modular Reactors and Other New Technologies final rule for its consideration.	12/30/21 ²³
Publish a trial use RG to provide guidance on the acceptability of non-LWR probabilistic risk assessments.	12/31/21
Issue final safety evaluation to TerraPower for its topical report on quality assurance program description.	12/31/21
Issue final safety evaluation to Kairos for its topical report on regulatory analysis.	12/31/21
Issue final safety evaluation to Kairos for its topical report on metallic material qualification program.	03/31/22
Issue annual paper to the Commission on the status of advanced reactor readiness activities.	01/31/22
Publish final NUREG-2246, "Fuel Qualification for Advanced Reactors" with fuel qualification methodology to provide guidance for non-LWR developers on qualification of fuel under NEIMA.	02/28/22
Issue final safety evaluation to Kairos for its topical report on mechanistic source term.	03/31/22
Issue final safety evaluation to Kairos for its topical report on fuel performance methodology.	03/31/22
Issue final safety evaluation to Kairos for its topical report on fuel qualification methodology.	03/31/22

²² This activity was previously projected for completion by August 31, 2021, but additional time is needed to complete development of the final technical sections of preliminary proposed rule language.

²³ This activity was originally projected to be completed by September 30, 2021, but the timeline was delayed to allow the NRC staff to prepare the draft final rule package for ACRS to review. The NRC staff is scheduled to brief the ACRS full Committee on November 4-5, 2021. The final rule package is due to the Commission by December 30, 2021.

Projected Advanced Nuclear Reactor Technologies Activities	Projected Completion Date
Issuance of a report by the Center for Nuclear Waste Regulatory Analyses under contract with NRC addressing information gaps and potential information needs associated with transportation and storage of fresh and spent advanced reactor fuel types.	03/31/22 ²⁴
Submit draft proposed rule providing the Alternative Physical Security Requirements for Advanced Reactors to the Commission for its consideration.	06/28/22 ²⁵

2-8 Oklo Power LLC Combined License Application for the Aurora Compact Fast Reactor

The NRC continues engagement with Oklo related to their advanced reactor design and the associated custom COL application²⁶ that was submitted to the NRC on March 11, 2020 (ADAMS Package No. [ML20075A000](#)). The proposed Aurora design uses heat pipes to transport heat from the reactor core to a power conversion system, where it is used to generate electricity.

The NRC staff planned to complete the review of the Oklo COL application in a two-step process (ADAMS Accession No. [ML20149K616](#)). On November 17, 2020, the NRC staff issued a letter to Oklo (ADAMS Accession No. [ML20308A677](#)), extending the Step 1 review schedule in the areas of maximum credible accident methodology, safety classification of structures, systems, and components (SSCs), and scope of the quality assurance program. Because Oklo's quality assurance program is closely tied to its safety classification of SSCs, these issues have been combined and are no longer being tracked separately. In the letter, the NRC staff stated that Oklo's responses to requests for additional information, audit documents, and audit discussions enhanced the staff's understanding of Oklo's novel approach to the Aurora safety case but did not provide sufficient information to define the scope of the full Step 2 technical review. The NRC staff completed its review of one of the key aspects of the licensing basis, the applicability of regulations, and issued a letter documenting Step 1 closure on this topic on November 17, 2020 (ADAMS Accession No. [ML20300A593](#)). To close the Step 1 review, Oklo proposed to leverage two topical reports, "Maximum Credible Accident Methodology" and "Performance-Based Licensing Methodology," to document the staff's review of methodologies for MCA and classification of SSCs. Oklo submitted the topical reports on July 2, 2021 (Letter Submitting the Reports (ADAMS Accession No. [ML21184A001](#)), Topical Report on Maximum Credible Accident Methodology (ADAMS Accession No. [ML21184A002](#)), and Topical Report on Performance-Based Licensing Methodology (ADAMS Accession No. [ML21187A001](#))). The NRC staff performed completeness reviews of the topical reports and determined that they lack sufficient information to initiate the detailed technical reviews. On August 5, 2021, the staff provided Oklo written descriptions of the needed supplemental information and requested that Oklo submit it within 60 days (ADAMS Package Nos. [ML21201A010](#), and [ML21201A104](#)). The NRC staff will consider Step 1 closed only after the MCA and SSC issues are resolved and then reassess resource needs and the overall COL review schedule and communicate this to Oklo by letter.

²⁴ This activity was previously projected for completion by September 30, 2021, but additional time is needed to resolve comments from NRC staff review and for the contractor to revise the report.

²⁵ This activity was originally projected to be completed September 27, 2021, but further discussions are needed to complete this activity.

²⁶ A custom COL application provides both the design information that would be provided by a certified design and the site-specific information provided with a COL application.

The NRC staff holds periodic public meetings to discuss the review of the COL application for the Oklo Aurora design. A list of the meetings can be found on the NRC’s public Web site (<https://www.nrc.gov/reactors/new-reactors/col/aurora-oklo/public-meetings.html>).

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

Oklo COL Review Activities	Completion Date
Completed acceptance review of two topical reports submitted in July 2021 (ADAMS Package Nos. ML21201A010 , and ML21201A104).	08/05/21

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Oklo COL Review Activities	Projected Completion Date
Complete acceptance reviews of revised topical reports.	11/30/21
Complete technical reviews and preparation of draft safety evaluations of revised topical reports.	TBD pending completeness reviews

2-9 Reactor Oversight Process

The Reactor Oversight Process (ROP) is a risk-informed, performance-based oversight program that contains provisions for continuous self-assessment and improvement. The staff developed recommendations for proposed changes to the ROP in SECY-18-0113, “Recommendations for Modifying the Reactor Oversight Process Engineering Inspections” (ADAMS Accession No. [ML18144A567](#)), and SECY-19-0067, “Recommendations for Enhancing the Reactor Oversight Process,” (ADAMS Accession No. [ML19070A050](#)). The staff requested to withdraw these papers because new information became available and additional, relevant staff activities were not considered in developing the basis for several of the recommendations. The Commission approved the staff’s proposed withdrawal on August 5, 2021. The staff intends to evaluate the basis for the previous recommendations in light of the new information and engage internal and external stakeholders, including regional inspection staff, members of the public, and the nuclear industry, on these and any other proposed changes to the ROP, as appropriate. The staff also continues to assess and improve the ROP as part of its normal work practices through the NRC’s transformation activities, stakeholder correspondence, feedback from ROP public meetings, and the annual ROP self-assessment program.

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

Reactor Oversight Process Activities	Projected Completion Date	Completion Date
None		

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Reactor Oversight Process Activities	Projected Completion Date
Complete Comprehensive Baseline Inspection Program Review.	10/31/21 ²⁷

2-10 Backfit

The NRC’s backfitting rules are codified in 10 CFR 50.109, 70.76, 72.62, and 76.76. 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....”²⁸ The rules require, in the absence of an applicable 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.

The Commission clarified its backfitting and issue finality policy as well as its policy on “forward fits,” which are 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” (ADAMS Accession No. [ML18093B087](#)). The NRC completed draft NUREG-1409, “Backfitting Guidelines,” Revision 1, in March 2020 and issued a notice of availability in the *FR* for public comment (ADAMS Accession No. [ML18109A498](#)). This revision would provide additional guidance for the NRC staff on how to implement the Commission’s backfitting and issue finality regulations and policies and forward fitting policy, including how to process violations that are contested based on claims of unjustified backfitting. 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) (ADAMS Package No. [ML21006A431](#)). This revised document is currently before the Commission for its consideration.

²⁷ The projected completion date was modified from August 31 to October 31, 2021, to allow for additional time to finalize the scope and objectives of the review.

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

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

Backfit Activities	Projected Completion Date	Completion Date
Developed recommendation on whether a proposed technical specification, pertaining to degraded voltage protection (DVR) at the Oconee Nuclear Station, is required under 10 CFR 50.36(c)(3), in accordance with the NRC's backfit rule (ADAMS Accession No. ML21047A241). ²⁹	07/31/21	07/27/21
Submitted to the Commission the Fitness-for-Duty Drug Testing Program Requirements Final Rule, which would constitute a generic backfit via rulemaking (ADAMS Accession No. ML21111A018).	09/15/21	09/15/21

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Backfit Activities	Projected Completion Date
None	N/A

2-11 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 2-7, to individual undertakings in program and corporate offices.³⁰ The NRC staff continues to implement and track 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 50.69, “Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors” and Risk-Informed Technical Specifications Initiative 4b,³¹ that provide for operational flexibilities that enhance safety by ensuring that power reactor licensees and the NRC prioritize the most risk significant issues.

²⁹ On January 28, 2021, the EDO directed the Office of Nuclear Reactor Regulation (NRR) to determine whether a proposed technical specification is required for DVR protection at Oconee under 10 CFR 50.36(c)(3), in accordance with the backfit rule. The NRC staff provided its recommendation to the EDO.

³⁰ 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>.

³¹ 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 24 and 17 applications enabling Licensees to adopt 10 CFR 50.69 and Risk-Informed Technical Specifications Initiative 4b, respectively.

Activities Planned and Completed for the Reporting Period (Q4 FY 2021)

Risk-Informed Activities	Projected Completion Date	Completion Date
Initiated exploratory activities for applying the Risk Informed Process for Exemptions (RIPE) concept to review nuclear materials licensing requests.	9/30/21	08/06/21
Evaluated the expansion of RIPE in other nuclear reactor licensing actions such as topical reports and continue outreach with other interested parties to expand RIPE to areas outside of the operating and new reactor business lines. ³²	09/30/21	08/25/21
Issued license amendment to revise the emergency plans for SNC fleet to change emergency response organization staffing composition and extend augmentation times (ADAMS Accession No. ML21217A091). These license amendments are significant in that they result from the risk-informed aspects of the 2019 revision of NUREG-0654, the definitive emergency preparedness evaluation guidance.	09/30/21	09/21/21
Issued final safety evaluation report for the first topical report related to Holtec's spent fuel storage systems. The topical report involves a generic and risk-informed approach on heat load zone configurations. This approach, when adopted for a given Holtec design, will reduce the number of future license amendments (ADAMS Accession No. ML21125A186).	07/30/21	09/14/21 ³³
Completed development of a risk-informed, performance-based cyber security inspection procedure for power reactors (ADAMS Accession No. ML21155A209).	09/30/21	09/03/21
Completed participation in an expert panel exercise to characterize the safety impacts of spent fuel cladding gross ruptures. The Phenomena Identification and Ranking Table panel report will provide the technical basis for engagements with external stakeholders to identify operational and licensing efficiencies for spent fuel storage systems.	09/30/21 ³⁴	12/31/21

³² Based on that evaluation, staff are working to expand RIPE to include Topical Report reviews and Technical Specifications.

³³ This activity was originally projected to be completed by April 30, 2021, then extended to July 30, 2021. Additional time was required to address NRC staff questions and allow for revisions to the safety evaluation.

³⁴ This activity was originally projected to be completed by June 30, 2021. However, additional preparatory meetings were conducted from January to April 2021 to share operating experience and research results so that the technical meetings that occurred in June and July would be as successful as possible. To account for the additional information gleaned from these meetings, the expected completion date was moved to September 30, 2021. The panel report is now expected to be finalized by the end of the CY.

Projected Activities for the Next Two Reporting Periods (Q1 and Q2 FY 2022)

Projected Risk-Informed Activities	Projected Completion Date
Complete the revision of 10 materials inspection procedures (IPs) associated with Inspection Manual Chapter 2800. The NRC staff developed risk modules in each IP, with each module focusing on the risks of the relevant types of radioactive materials and their usage.	12/31/21
Complete pilot program of risk tool to risk-inform technical reviews for spent fuel dry storage (ADAMS ML20318A269).	12/31/21
Complete report summarizing the Office of Nuclear Reactor Regulation (NRR) activities regarding the use of risk-informed decision making (RIDM) for licensing reviews. The report will detail NRR's efforts to increase the use of RIDM and will provide recommendations on how to proceed into the next phase of realizing NRR's goal to enhance process efficiency and effectiveness.	12/31/21
Complete the license termination process for two research test reactors.	12/31/21

2-12 Coronavirus Disease (COVID-19) Pandemic

The NRC COVID-19 Coordination Team (including a COVID-19 Task Force and Working Group) continues to develop and implement precautionary measures in response to the pandemic 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. In addition, the NRC continues to protect public health and safety and the environment. The NRC is monitoring the effects of the COVID-19 pandemic on NRC-licensed activities as well as actions taken in response to State, local, and site-specific conditions. The NRC is poised to take additional steps as warranted.

NRC Re-Occupancy of Facilities

During this reporting period, the NRC lifted the occupancy limit at all NRC facilities, but the agency remained in a maximum telework posture. The agency continues to closely monitor guidance from the Federal Government's Safer Federal Workforce Taskforce, the CDC, and the Occupational Safety and Health Administration, as part of NRC's planning process in order to facilitate a healthy and safe re-entry to the physical workspace. The NRC is coordinating its planning in accordance with directions and expectations set forth by the President's Management Council. Earlier in the reporting period, the agency announced a full re-entry date of September 26, 2021, before later extending the date to November 7, 2021.

Licensing and Oversight Items of Interest

The NRC staff has taken steps to identify areas of our regulations that are challenging during the pandemic, and the areas where temporary flexibilities, such as exemptions, would not compromise the ability of licensees to maintain the safe and secure operation of NRC-licensed

facilities. The NRC staff continues to communicate the processes available to licensees for requesting these flexibilities in a transparent way through public communications, such as teleconferences, webcasts, and letters. In addition, these processes and the approved flexibilities are posted and updated on the NRC public Web site (<https://www.nrc.gov/about-nrc/covid-19/>).

During the reporting period, the agency provided notice of 244 public meetings to address a range of NRC issues. Due to health and safety concerns related to COVID-19, the vast majority of these meetings were held virtually via webcast or by teleconference. The NRC has also developed portions of its Web site 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](#) have been developed to keep the public informed on how the NRC is adapting its regulatory approach during the pandemic. Between July 1 and September 30, 2021, the NRC issued two licensing actions granting temporary flexibilities to maintain the safe and secure operation of nuclear reactor and nuclear materials licensees. A complete list of licensing actions approved by the NRC in response to the COVID-19 pandemic is available on the NRC public Web site at <https://www.nrc.gov/about-nrc/covid-19/>.

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 Requests³⁵
Power Reactor	3	98
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	1	103
Medical, Industrial and Academic Uses of Nuclear Materials and Agreement States	0	

³⁵ This average is calculated based on the date 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 Findings

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

Location	Number of Findings	CY 2018	CY 2019	CY 2020	CY2021 (YTD)
Nationally	Total	478	440	291	186 ³⁶
Region I	Green	107	95	50	43
	White	1	0	0	1
	Yellow	0	0	0	0
	Red	0	0	0	0
	Greater Than Green Security	0	0	0	0
	Total	108	95	50	44
	No. of Units Operating During CY	25	24	21 ³⁷	21
Region II	Green	113	110	77	40
	White	0	1	2	0
	Yellow	0	0	0	0
	Red	0	0	0	0
	Greater Than Green Security	0	0	1	0
	Total	113	111	80	40
	No. of Units Operating During CY	33	33	33	33
Region III	Green	110	96	51	42
	White	2	1	0	0
	Yellow	0	0	0	0
	Red	0	0	0	0
	Greater Than Green Security	0	0	0	1
	Total	112	97	51	43

³⁶ The inspection reports for the third quarter of CY 2021 will continue to be finalized through November 15, 2021. The report for the next reporting period will be updated to include any additional findings from the third quarter of CY 2021.

³⁷ The reduction of three units for CY 2020 reflects the permanent shutdown of Pilgrim Nuclear Station on May 31, 2019; Three Mile Island, Unit 1, on September 20, 2019; and Indian Point Nuclear Generating Unit 2 on April 30, 2020.

Location	Number of Findings	CY 2018	CY 2019	CY 2020	CY2021 (YTD)
	No. of Units Operating During CY	23	23	22 ³⁸	22
Region IV	Green	145	137	110	59
	White	0	0	0	0
	Yellow	0	0	0	0
	Red	0	0	0	0
	Greater Than Green Security	0	0	0	0
	Total	145	137	110	59
	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 Nuclear Energy Innovation and Modernization Act (NEIMA), the licensing actions referenced in this section include “requested activities of the Commission” for which the U.S. Nuclear Regulatory Commission (NRC) staff issues a final safety evaluation. 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	Percentage of Licensing Actions Completed Prior to the Generic Milestone Schedule ³⁹	Percentage of Licensing Actions Completed Prior to the Established Schedule ⁴⁰
Q1 FY 2021	224	226	237	100%	92%
Q2 FY 2021	264	135	105	100%	96%

³⁸ The reduction of one unit for CY 2020 reflects the permanent shutdown of Duane Arnold on August 10, 2020.

³⁹ Consistent with previous reports, this excludes unusually complex and Fukushima-related licensing actions accepted or initiated prior to July 13, 2019.

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

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 ³⁹	Percentage of Licensing Actions Completed Prior to the Established Schedule ⁴⁰
Q3 FY 2021 ⁴¹	223	58	76	100%	100%
Q4 FY 2021	207	83	95	100%	94%

New Reactors

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
Q1 FY 2021	2	1	2	100%	100%
Q2 FY 2021	2	0	0	N/A	N/A
Q3 FY 2021	2	1	1	100%	100%
Q4 FY 2021	2	1	1	100%	100%

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
Q1 FY 2021	2	1	2	100%	0% ⁴²
Q2 FY 2021	2	4	4	100%	75% ⁴³
Q3 FY 2021	4	3	1	100%	100%

⁴¹ The Q3 FY 2021 row has been corrected. Specifically, the “total inventory” should have been reported as 223 for Q3 instead of 226; the “number of licensing actions initiated during the reporting period” should have been 58 for Q3 instead of 49; and the “actions completed” should have been 76 for Q3 instead of 71.

⁴² One licensing action was complex; the other was completed approximately 25 days after the established schedule. Both licensing actions were completed within the generic milestone schedule.

⁴³ One licensing action was complex, which resulted in it exceeding the established schedule by 27 days. The licensing action was completed within the generic milestone schedule.

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
Q4 FY 2021	4	3	3	100%	0% ⁴⁴

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,⁴⁵ the LARs referenced in this section include “requested activities of the Commission” for which the NRC staff issue a final safety evaluation. 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	Percentage of LAR Reviews Completed Prior to the Generic Milestone Schedule ⁴⁶	Percentage of LAR Reviews Completed Prior to the Established Schedule ⁴⁷
Q1 FY 2021	354	84	94	100%	92%
Q2 FY 2021	276	36	107	100%	90%
Q3 FY 2021 ⁴⁸	286	103	82	100%	98% ⁴⁹
Q4 FY 2021	293	106	102	100%	91%

⁴⁴ One licensing action was complex; the other 3 actions were completed within 13 days of the established schedule. All the licensing actions were completed within the generic milestone schedule.

⁴⁵ Consistent with Section 102(c) of NEIMA, the NRC is focusing this section on the total inventory of LARs and will not be providing separate information on unusually complex LARs in this report and future reports. Should data on unusually complex LARs be available, it would instead be incorporated into the existing Section 3-3 tables.

⁴⁶ Consistent with previous reports, this excludes unusually complex and Fukushima-related LARs accepted or initiated prior to July 13, 2019.

⁴⁷ The “established schedule” is the schedule communicated to the licensee and made publicly available at the completion of the acceptance review.

⁴⁸ The Q3 FY 2021 row has been corrected. Specifically, the “total inventory” should have been reported as 286 for Q3 instead of 249; the “LARs submitted during the reporting period” should have been 103 for Q3 instead of 56; and the “LAR reviews completed” should have been 82 for Q3 instead of 66.

⁴⁹ One review of an LAR exceeded the established schedule by 180 days, due to the NRC staff identifying an issue that resulted in the licensee submitting a supplement that changed the scope of the request. Given the change in scope, a supplemental *Federal Register* Notice was published, providing for a new 60-day public comment period and opportunity to request a hearing. The staff completed its review in September 2021.

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
Q1 FY 2021	1	0	2	100%	100%
Q2 FY 2021	1	0	0	N/A	N/A
Q3 FY 2021	1	0	0	N/A	N/A
Q4 FY 2021	1	1	1	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
Q1 FY 2021	14	6	6	100%	100%
Q2 FY 2021	10	4	8	100%	75% ⁵⁰
Q3 FY 2021 ⁵¹	10	8	8	100%	83%
Q4 FY 2021	13	7	4	100%	100%

3-4 Research Activities⁵²

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:

NuScale Standard Design Approval - Topical Report Review (NRR-2021-019)	
Importance to the NRC Mission	Support the NRR in performing pre-application topical report review for the NuScale NPM-20 SMR standard design approval application, which is an updated (77MWe) version of the approved NuScale design certification application. Technical staff will review analytical methods, integrated systems, and plant performance during normal operation and design basis accidents.

⁵⁰ Two licensing actions had delayed issuance at the end of the year, which resulted in both items exceeding the established schedule by 2 percent (5 days).

⁵¹ The Q3 FY 2021 row has been corrected. Specifically, the "total inventory" should have been reported as 10 for Q3 instead of 9; and the "LARs submitted during the reporting period" should have been 8 for Q3 instead of 7.

⁵² 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.

NuScale Standard Design Approval - Topical Report Review (NRR-2021-019)	
Planned Activities:	RES staff will provide support to NRR by reviewing multiple (8) topical reports and provide technical letter reports approximately 3-6 months after each Topical Report and associated design information is provided.
Requesting Business Line	New Reactors
Estimated Completion	FY 2023
Estimate of Total Research Resources	3.3 FTE and \$0K over a 2-year period

Technical Support to Develop Operator Licensing for Advanced Reactors (NRR-2021-021)	
Importance to the NRC Mission	Support the Office of Nuclear Reactor Regulation (NRR) in developing a tailored technology-inclusive regulatory framework for advanced nuclear reactors. This work directly supports the Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) Part 53 rulemaking and development of related key regulatory guidance documents.
Planned Activities:	RES human factors staff plan to collaborate with NRR staff in a working group on operator licensing rule language and tailored guidance for implementing the new rule. RES staff plan to also interact with, and review products developed by national laboratory contractors supporting the operator licensing guidance development. This work is related to human factors guidance development for advanced reactors that RES human factors staff supports under User Need NRR-2019-008. Both projects will require ongoing collaboration and coordination among NRR and RES staff to ensure that human factors and operator licensing guidance documents are integrated within Part 53.
Requesting Business Line	Advanced Reactors
Estimated Completion	FY 2024
Estimate of Total Research Resources	2.0 FTE and \$0K over a 3-year period

Summary of Completed Research Projects⁵³

During the reporting period, RES completed the following activities:

Regulatory Research Supporting Licensing and Renewal of Dry Cask Storage Systems (NMSS-2017-001)	
Importance to the NRC Mission	Office of Nuclear Material Safety and Safeguards (NMSS) requested that RES provide assistance in five technical areas (aging management, thermal performance, spent fuel cladding performance, criticality safety, and structural performance) to inform regulatory decisions of dry cask storage and transportation systems.
Research Results or Findings	RES successfully completed 18 deliverables, including 7 NUREGs, documenting the results of the work. These deliverables inform regulatory decisions for licensing and renewals of spent fuel storage casks and systems, as well as transportation packages. Additionally, NMSS used the insights and knowledge gained through RES assistance to support the updates of regulatory guidance and standard review plans. The tasks provided the technical basis to enhance the staff's readiness to review a significant number of storage renewal applications and new storage designs which requested to increase modeling realism.
Duration of the Project	5 years
Estimate of Total Research Resources	7.6 FTE and \$2.9M over the 5-year period

⁵³ 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.

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.⁵⁴

Fee Class	FY 2021 Part 170 Receipts Proposed – Annual Fee Rule (\$M)	Part 170 Billed in FY 2021 Q4 (\$M)	Total Part 170 – Billed in FY 2021 (\$M)
Fuel Facilities	\$7.4	\$1.8	\$7.1
Generic Decommissioning	\$0.5	\$0.7	\$3.3
Materials Users ⁵⁵	\$1.0	\$0.2	\$0.9
Operating Power Reactors	\$157.0	\$36.9	\$152.9
Research and Test Reactors	\$3.7	\$0.7	\$2.7
Spent Fuel Storage / Reactor Decommissioning	\$12.4	\$3.8	\$14.5
Transportation	\$3.6	\$0.7	\$2.1
Uranium Recovery	\$0.3	\$0.1	\$0.3

Significant Ongoing Licensing Actions

The following table includes a comparison of the fees billed to projected resources for subsequent license renewal application reviews, Oklo's Aurora COL application, and the SHINE Medical Technologies, LLC (SHINE) operating license application review.

Docket	Project Name	Projected Resources (\$M) ⁵⁶	Fees Billed to Date (\$M) ⁵⁷
Point Beach Units 1 and 2 05000266/05000301	Point Beach Units 1 and 2 Subsequent License Renewal Application — Safety Review	\$5.0 ⁵⁸	\$2.3
Point Beach Units 1 and 2 05000266/05000301	Point Beach Units 1 and 2 Subsequent License Renewal	\$1.4	\$0.7

⁵⁴ The FY 2021 Final Fee Rule was published on June 16, 2021 (86 FR 32146).

⁵⁵ Materials Users—Billed as flat fee applications and included in the estimates and billed.

⁵⁶ 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.

⁵⁷ 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 July, August, and September, would be invoiced to the licensee/applicant in October. Therefore, the total billed amounts listed in Table 3-5 reflects costs for NRC work performed through June 2021.

⁵⁸ When the formal acceptance letter for the Point Beach subsequent license renewal application was sent to the licensee on January 15, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. [ML21006A417](#)), the NRC estimated that it would take approximately \$6.4M to complete the application review.

Docket	Project Name	Projected Resources (\$M) ⁵⁶	Fees Billed to Date (\$M) ⁵⁷
	Application — Environmental Review		
North Anna Units 1 and 2 05000338/05000339	North Anna Units 1 and 2 Subsequent License Renewal Application — Safety Review	\$5.0 ⁵⁹	\$2.8
North Anna Units 1 and 2 05000338/05000339	North Anna Units 1 and 2 Subsequent License Renewal Application — Environmental Review	\$1.4	\$1.0
Oconee Units 1, 2, and 3 05000269/05000270/ 05000287	Oconee Units 1, 2, and 3 Subsequent License Renewal Application — Safety Review	\$5.0 ⁶⁰	\$0.1
Oconee Units 1, 2, and 3 05000269/05000270/ 05000287	Oconee Units 1, 2, and 3 Subsequent License Renewal Application — Environmental Review	\$1.4	\$0
SHINE Medical Technologies, LLC 05000608	SHINE Medical Isotope Production Facility Operating License Application Review — Safety and Environmental Reviews	\$6.2 ⁶¹	\$4.9
Oklo Aurora 05200049	Oklo Aurora COL Application — Safety Review	\$0.5 ⁶²	\$0.4
Oklo Aurora 05200049	Oklo Aurora COL Application — Environmental Review	\$0.2	\$0.1

3-6 Requests for Additional Information

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

⁵⁹ When the formal acceptance letter for the North Anna subsequent license renewal application was sent to the licensee on October 13, 2020 (ADAMS Accession No. [ML20258A284](#)), the NRC estimated that it would take approximately \$6.4M to complete the application review.

⁶⁰ When the formal acceptance letter for the Oconee subsequent license renewal application was sent to the licensee on July 22, 2021 (ADAMS Accession No. [ML21194A245](#)), the NRC estimated that it would take approximately \$6.4M to complete the application review.

⁶¹ The projected resource estimate was provided to SHINE by letter dated April 30, 2020 (ADAMS Accession No. [ML20114E315](#)).

⁶² When the Oklo COL application was accepted for review, the NRC indicated that the staff plans to complete the review in a two-step process. This table contains the projected resources to complete the identified Step 1 safety and environmental aspects of the review (ADAMS Accession No. [ML20308A677](#)), including reviews of any applicable topical reports.

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 ⁶³
Operating Reactors	189	90	74	217
Non-Power Production and Utilization Facilities ⁶⁴	656	41	55	12
Design Certifications for New Reactors ⁶⁵	N/A	N/A	N/A	N/A
Early Site Permits for New Reactors ⁶⁶	N/A	N/A	N/A	N/A
Combined Licenses for New Reactors	10	0	0	0
Fuel Facilities	60	34	34	27
Power Reactor Decommissioning	92	36	26	14
Research and Test Reactor Decommissioning	0	0	0	0
Spent Fuel	628	109	79	285
Materials	0	0	0	0
Pre-Application Activities for Advanced Reactors	4 ⁶⁷	0	4	0

⁶³ RAIs are considered closed once the final safety evaluation, 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.

⁶⁴ 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 10 CFR Part 50, including the ongoing review of the SHINE operating license application.

⁶⁵ 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.

⁶⁶ 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.

⁶⁷ The four RAIs listed concern the NRC staff's review of a topical report submitted by TerraPower, LLC.

3-7 Workforce Development and Management

FY 2021 Staffing by Office⁶⁸

	FY 2021 Budget	FTE Utilization 06/20/21 - 07/31/21	FTE Utilization 08/01/21 - 08/28/21	FTE Utilization 08/29/21 - 09/25/21	FTE Utilization as of 09/25/21	Delta (Q4 FTE Utilization – FY 2021 Budget)	End of Year (EOY) ⁶⁹ Projection w/ Personnel Actions	Delta (EOY Projection– FY 2021 Budget)
Totals	2877.9	324.1	213.9	210.5	2763.6	-114.3	2763.6	-114.3
COMM	45.0	3.3	2.2	2.2	32.4	-12.6	32.4	-12.6
OIG	63.0	6.8	4.5	4.6	56.8	-6.2	56.8	-6.2
Totals Other Offices	2769.9	314.0	207.2	203.8	2674.4	-95.5	2674.4	-95.5
OCFO	93.0	10.2	6.7	6.5	87.9	-5.1	87.9	-5.1
OGC	92.0	10.8	7.2	7.2	90.5	-1.5	90.5	-1.5
OCA	10.0	1.3	0.8	0.8	10.8	0.8	10.8	0.8
OCAA	7.0	0.8	0.5	0.5	6.7	-0.3	6.7	-0.3
OPA	13.0	1.5	1.0	1.0	13.0	0.0	13.0	0.0
SECY	17.0	2.0	1.3	1.3	17.4	0.4	17.4	0.4
OIP	34.0	3.9	2.7	2.6	32.9	-1.1	32.9	-1.1
ASLBP	23.0	2.1	1.4	1.5	19.9	-3.1	19.9	-3.1
ACRS	24.0	2.9	1.5	1.8	24.1	0.1	24.1	0.1
OEDO	23.0	2.9	2.1	2.2	24.0	1.0	24.0	1.0
NRR	548.4	63.0	41.0	40.2	535.8	-12.6	535.8	-12.6
NMSS	298.3	35.3	23.3	23.0	299.4	1.1	299.4	1.1
RES	197.0	24.5	16.1	15.3	197.4	0.4	197.4	0.4
NSIR	152.0	17.5	11.6	11.3	152.5	0.5	152.5	0.5
R-I	178.2	20.3	13.3	13.1	172.3	-5.9	172.3	-5.9
R-II	223.3	22.9	15.2	15.1	204.8	-18.5	204.8	-18.5
R-III	174.4	19.4	13.0	12.7	165.7	-8.7	165.7	-8.7
R-IV	164.0	19.4	13.4	13.2	164.4	0.4	164.4	0.4
OE	30.3	3.5	2.4	2.4	29.5	-0.8	29.5	-0.8
OI	35.0	4.2	2.8	2.8	38.0	3.0	38.0	3.0
OCIO	167.0	17.8	11.7	11.4	149.6	-17.4	149.6	-17.4
ADM	123.0	13.7	9.1	8.8	115.5	-7.5	115.5	-7.5
SBCR	13.0	1.5	1.0	1.0	12.3	-0.7	12.3	-0.7
OCHCO	129.0	12.3	8.0	8.1	108.0	-21.0	108.0	-21.0
CSU	1.0	0.2	0.2	0.2	2.0	1.0	2.0	1.0

⁶⁸ Some numbers might not add due to rounding.

⁶⁹ Based on FTE utilization as of September 25, 2021.

3-8 Inspection Activities

The table below shows the average number of hours of direct inspection per plant in CY 2021.

Average Reactor Oversight Process Direct Inspection Hours

Nationwide Per Plant (unit)	Column 1 of ROP Action Matrix	Column 2 of ROP Action Matrix	Column 3 of ROP Action Matrix	Column 4 of ROP Action Matrix
1,273 Hours	1,225 Hours	1,857 Hours ⁷⁰	2,655 Hours ⁷¹	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 2020 (Hours)	CY 2021 (YTD) (Hours)
i.	Baseline Inspection	219,178	175,188
ii.	Plant-Specific Inspection	7,521	3,446
iii.	Generic Safety Issue Inspections	911	1,944
iv.	Performance Assessment	1,880	3,369 ⁷²
v.	Other Activities	86,074	69,582
vi.	Total Staff Effort	315,563	253,528
vii.	Total Staff Effort Per Operating Site	5,536 ⁷³	4,527 ⁷⁴

⁷⁰ As of September 30, 2021, Callaway Plant (one-unit Pressured Water Reactor (PWR)), James A. Fitzpatrick (one-unit Boiling Water Reactor (BWR)), and Turkey Point Nuclear Generating Unit 3 (two-unit PWR) were in Column 2 of the ROP Action Matrix ([ROP Action Matrix](#)). Surry Power Station Unit 2 (two-unit PWR) was in Column 2 in Q1 of CY 2021 and returned to Column 1 on April 1, 2021 (ADAMS Accession No. [ML20365A007](#)). Clinton Power Station (one-unit BWR) was in Column 2 in Q1 and Q2 of CY 2021 and returned to Column 1 on July 1, 2021 (ADAMS Accession No. [ML21197A022](#)).

⁷¹ On March 3, 2021, Grand Gulf Nuclear Station (1-unit BWR) entered Column 3 of the ROP Action Matrix in Q4 CY 2020 (ADAMS Accession No. [ML21055A008](#)).

⁷² The increase in Performance Assessment hours is due to a change in tabulation of hours. The CY 2020 hours did not include hours assigned to ROP cycles other than 2020, while the CY 2021 hours includes ROP Cycle 2020 hours charged in 2021. Applying the same methodology to the CY 2020 hours would increase the number to 3,569 from 1,880.

⁷³ Total staff effort is divided by 57 sites for CY 2020, due to Three Mile Island Unit 1, permanently ceasing operations on September 20, 2019.

⁷⁴ Total staff effort is divided by 56 sites for CY 2021, due to Duane Arnold Unit 1 permanently ceasing operations in August 2020. Because Duane Arnold Unit 1 operated for the majority of CY 2020, it was included as an operating site in CY 2020.

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.

Backfit Appeals Filed by Licensees and Applicants

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