



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

February 23, 2024

The Honorable Jeff Duncan
Chairman, Subcommittee on Energy, Climate
and Grid Security
Committee on Energy and Commerce
United States House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

On June 14th, 2023, the U.S. Nuclear Regulatory Commission appeared before the House Energy and Commerce Subcommittee on Energy, Climate and Grid Security at a hearing entitled, "Oversight of NRC: Ensuring Efficient and Predictable Nuclear Safety Regulation for a Prosperous America."

From that hearing, members forwarded questions for the hearing record. The responses to these questions for the hearing record are enclosed for Commissioner Annie Caputo.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "E. Dacus", is written over a light blue horizontal line.

Eugene Dacus, Director
Office of Congressional Affairs

Enclosures:
As stated

cc: Representative Diana DeGette

House Committee on Energy and Commerce

Subcommittee on Energy, Climate, and Grid Security

Hearing Entitled, “*Oversight of NRC: Ensuring Efficient and Predictable Nuclear Safety Regulation for a Prosperous America*”

June 14, 2023

Questions for the Record for Commissioner Annie Caputo

The Honorable Cathy McMorris Rodgers

1. Would you each provide for the record, your recommendations for ensuring and enabling staff leadership to work in service to policies Congress establishes?

RESPONSE:

I believe the path to improving the agency’s execution of Congressional direction lies in restoring leadership focus on priorities, measuring performance to improve efficiency, and improving accountability for effective decision-making.

The Energy Reorganization Act of 1974 established the NRC for the purpose of “licensing and related regulatory functions,” effectively designating licensing as our principal, enumerated function.¹ Of course, this is complemented by oversight to verify compliance. I would like to associate myself with Commissioner Crowell’s emphasis on the role each individual commissioner and the Commission as a whole play in fostering and maintaining a high level of staff leadership.

The NRC is required to “assess and collect fees from any person who receives a service or thing of value from the Commission to cover the costs to the Commission of providing the service or thing of value.”² The agency does this in part by assessing fees for licensing and inspection services under 10 CFR Part 170, charged by the hour and for contract support costs.³ In FY 2023, this workload totaled \$195 million, approximately 21 percent of the agency’s total budget authority of \$927 million. Thus, roughly 79 percent of the agency’s budget is for other activities.

¹ 42 U.S.C. § 5801(c).

² Nuclear Energy Innovation and Modernization Act (NEIMA) § 102(b)(2), 42 U.S.C. § 2215(b)(2).

³ There are enumerated exemptions under Part 170 to these fees, which include certain facilities licensed under section 104c. of the Atomic Energy Act and certain contested hearings. *See* 10 C.F.R. § 170.11(a). In addition, the NRC can grant fee waivers. *See* 10 C.F.R. § 170.11(b).

Since 2016, the Part 170 licensing and oversight workload has fallen roughly 46% from 1.2 million staff hours to 650,000 in FY 2023.⁴ Using the agency’s productivity estimate of 1551 hours per FTE, the work billed under Part 170 required roughly 419 FTE of the agency’s 2,860 FTE budgeted in FY 2023. And yet there have been delays in some licensing activities, such as Subsequent License Renewal reviews, due in part to a “lack of staff resources.”⁵ Such results are difficult to justify considering the agency’s continuing trend of increasing carryover funds, \$108 million at the end of FY 2023, resulting from budgeting for resources beyond what is needed to execute the mission.

The NRC’s Principles of Good Regulation call for “the best possible management and administration of regulatory activities” and say that “Regulatory decisions should be made without undue delay.”⁶ Yet, among the 32 strategies in the NRC’s Strategic Plan, only one specifically addresses timely decision-making.⁷

These facts begin to paint a picture that shows licensing must compete for leadership attention. The Commission must restore leadership focus that prioritizes effective and efficient licensing reviews.

Tracking the agency’s performance is key to improving efficiency. Meaningful, objective performance metrics for licensing activities would allow the agency to benchmark best practices, discover opportunities for process improvements, and refine budget estimates. This is especially relevant as the agency conducts first-of-a-kind reactor licensing reviews that will likely bear higher costs than later reviews due to a learning curve. Improved performance management will help verify whether the agency’s learning curve is leading to more efficient, consistent, and predictable reviews.

For these reasons, Commissioner Wright and I provided a proposal to our colleagues to establish meaningful metrics to track agency performance.⁸ Such information would guide performance improvement through better allocation of staff and resources, setting expectations and goals for improved execution of licensing work and holding staff leadership accountable for results.

- a. Would you include in your recommendations how the Commission should measure or monitor the effectiveness of staff leadership?

RESPONSE:

⁴ See FY 2016 Final Fee Rule; FY 2023 Final Fee Rule.

⁵ See Letter from Christopher Regan (NRC) to Dianne Strand (Florida Power & Light Co.), “Revised Schedule for the Environmental Review of the Turkey Point Nuclear Generating Station, Units 3 and 4, Subsequent License Renewal Application” (June 5, 2023) (ADAMS Accession No. [ML23145A260](#)) (communicating a schedule change due to several factors including “staff resource challenges related to high priority work”).

⁶ See Principles of Good Regulation, <https://www.nrc.gov/about-nrc/values.html#principles> (last reviewed/updated Jan. 31, 2024).

⁷ NUREG-1614, Vol. 8, “Strategic Plan Fiscal Years 2022-2026” (Apr. 2022) ([ML22067A170](#)).

⁸ COMDAW-23-0001/COMAXC-23-0002, “Measuring NRC Success” (Aug. 29, 2023) ([ML23241B013](#)).

There is a growing pattern of applicants viewing agency processes as unpredictable and financially risky. Many policymakers and stakeholders have expressed concern that the NRC needs to improve the execution and timely completion of its licensing activities if nuclear energy is to make a significant contribution to meeting national and global needs for clean energy and energy security.⁹ The NRC must recognize within its important mission the need for effective, efficient decision making. Given the agency's reputation as a world leader in nuclear safety regulation and experience in using risk to guide decision making, the NRC should be implementing best practices for reducing regulatory risk and improving the predictability and timeliness of licensing reviews.

It has been rightly stated: "If you can't measure it, you can't manage it." Without meaningful metrics, it is impossible to discern whether the agency's performance is improving or declining. The longstanding metrics published in the agency's Congressional Budget Justification have become anachronistic; ineffective at either depicting performance or driving improvement. Hence, Commissioner Wright and I proposed to our colleagues that the agency establish transparent, meaningful metrics collected in near-real-time.¹⁰

2. Recent NRC experience with advanced reactor licensing and development of new regulatory frameworks for advanced reactors has highlighted the importance of effective communication. Discussions with NRC applicants and licensees indicate that effective communication between applicants and NRC staff and management is critical to successful resolution of licensing questions. Ineffective communication between NRC and stakeholders has contributed to challenges encountered during the development of the 10 CFR Part 53 regulatory framework.
 - a. What steps is the NRC taking to promote effective communication between the NRC and stakeholders including applicants, licensees, members of the public, and other stakeholders?

RESPONSE:

Information about the staff's efforts in this area are summarized and contextualized in Chair Hanson's response.

In the instance of the development of the Part 53 regulatory framework, the staff endeavored to conduct a first-of-a-kind rulemaking process for the agency with significant engagement prior to the comment period. This type of public engagement may have additional value once the staff gains experience with the appropriate level

⁹ See, e.g., Ranking Member Capito Opening Statement at Nuclear Regulatory Commission Budget Hearing (Apr. 19, 2023) <https://www.epw.senate.gov/public/index.cfm/press-releases-republican?ID=514B6627-2DA1-4B12-9F42-A7761A13E0CF>; Idaho National Laboratory, "[Recommendations to Improve the Nuclear Regulatory Commission Reactor Licensing and Approval Process](#)" (Apr. 2023); [Letter from Craig H. Piercy](#) (American Nuclear Society) to Hon. Cathy McMorris Rodgers, (U.S. Senate) *et al.*, (May 5, 2023).

¹⁰ *Id.*

of response to input from stakeholders prior to the formal comment period. This approach warrants continued attention to ensure that the agency responds appropriately to communication from internal and external stakeholders.

- b. What is the value of allowing informal, non-public meetings between applicants and staff to facilitate more efficient, effective communication and licensing processes?

RESPONSE:

The Chair's response details the NRC's public meeting policy¹¹ and the processes in place that allow for non-public interactions with applicants or licensees consistent with this policy and the NRC's Principles of Good Regulation. As the Chair notes in his response, these processes include publicly noticed, closed meetings and regulatory audits. The staff benefits from these non-public interactions with applicants because proprietary material and other sensitive information (e.g., security-related information) can be discussed, which facilitates familiarity with supporting non-public information for an application and can be used for the staff to verify its understanding of design information. These meetings do not and should not supplant public meetings. While there is a need to balance the benefits of non-public interactions against the NRC's Principle of Good Regulation of Openness, it is important to note that any information on which the staff relies to support a regulatory decision is submitted to the agency on the docket.

- c. What should be done to increase informal communication?

RESPONSE:

Audits can be a beneficial means to seek clarification or verify the staff's understanding of information pertinent to a review. The need for and benefit of these audits will vary depending on the complexity of a review or the staff's familiarity with the matter at hand. As such, I think the staff should be encouraged to utilize this tool to improve understanding and efficiency, but the discretion to do so should remain with the staff. This should be done in addition to public meetings and other modes of communication customarily utilized during reviews.

- 3. In the Nuclear Energy Innovation and Modernization Act (NEIMA), Congress directed the agency to develop a new risk-informed, performance-based rulemaking to enable the timely and predictable licensing of advanced reactors. NRC staff provided a draft proposed rule to the Commission that the Nuclear Energy Institute and the U.S. Nuclear Infrastructure Council consider not viable.
 - a. What was the staff's justification for providing an unusable rule to the Commission?

¹¹ Enhancing Participation in NRC Public Meetings, [86 Fed. Reg. 14,964](#) (Mar. 19, 2021).

RESPONSE:

Chair Hanson's response summarizes the staff's justification. In my view, imperfect communications, gaps in external awareness, and a lack of receptiveness to the information provided by stakeholders likely contributed to the outcome. In any event, these issues should have been brought to light and addressed in the staff's lengthy concurrence process prior to submission to the Commission. In the future, I hope to see senior leadership recognize and address potentially similar situations much earlier in the process.

- b. How much was spent to develop the proposed rule, both in dollars and FTE?

RESPONSE:

As noted in Chair Hanson's response, the NRC has spent 36.9 FTE (\$7,283.7K) on NRC staff and \$2,077K in contractor support, respectively, to develop the Part 53 draft proposed rule.

- c. How will the Commission remedy this situation and produce a useful rule in accordance with Congress' direction in NEIMA?

RESPONSE:

As detailed in my response to the July 14, 2023, letter from 64 Senators and Representatives,¹² and in keeping with my commitment to provide specific direction to staff to resolve outstanding issues, my vote on Part 53 includes line-by-line edits of the draft rule text.¹³ While this approach required significant effort, I believe it results in clear, specific direction to support timely completion of the rulemaking and to be responsive to Congress, potential applicants, and other stakeholders. I will continue to collaborate with my colleagues to provide a flexible regulatory framework supported by guidance that will enable innovation by advanced reactor technology developers. I will also seek to enable regulatory innovation, to reduce potential subjectivity where possible, and to retain consistency with current regulatory practices where it makes sense.

4. NRC applicants and licensees have reported that the quality of the NRC Project Manager responsible for a license application review or other regulatory review can have an outsized impact on the outcomes of the review. A high-quality project manager can facilitate an effective and efficient review while a poor-quality project manager may allow unnecessary

¹² [Letter from Thomas R. Carper](#), Chair, Committee on Environment and Public Works, United States Senate, *et al.*, to Christopher T. Hanson, Chair, Nuclear Regulatory Commission (July 14, 2023); [Letter from Annie Caputo](#), Commissioner, Nuclear Regulatory Commission to Thomas R. Carper, Chair, Committee on Environment and Public Works, United States Senate, *et al.* (Aug. 18, 2023).

¹³ Commissioner Caputo Voting Record, "SECY-23-0021—Proposed Rule: Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors" (July 18, 2023) ([ML23199A289](#)).

delays or unproductive and distracting reviews by unfocused NRC staff. Some stakeholders have expressed concern that NRC project managers are not empowered to effectively manage technical staff and focus reviews on issues more important to safety.

- a. What steps is NRC taking to improve project management, empower project managers to do their jobs and do them well, and ensure that all projects are assigned high quality project managers?

RESPONSE:

I appreciate the Chair's responses and the efforts undertaken by the staff to update existing processes, procedures, and training for project management. However, I share the concern that our project managers are not empowered to manage resources or direct workload taskings, thus limiting their ability to effectively manage a project.

The agency must ensure it retains our existing skilled and dedicated project managers and enhances their skills with access to sufficient training. We currently face a workforce transition and a potentially increasing workload that will require significant effort to hire, train, and integrate a sizable cadre of new staff, including project managers.¹⁴ While this presents a challenge, it also provides an opportunity for the agency to establish improved training and standardized processes to enable project managers to perform high-quality licensing work more efficiently.

I believe the agency would greatly benefit from an external review of our project management capabilities and practices from the National Academy of Public Administration, or an organization with similar expertise, that can compare our capabilities to state-of-the-art project management practices and offer insights regarding our program's effectiveness and opportunities to improve.

- b. How are you incorporating industry accepted project management best practices and expertise?

RESPONSE:

As noted in the Chair's reply, we offer project managers industry-recognized training and additional external project management training. This training helps establish foundational competencies for entry-level project managers and leverages current industry standard aptitudes for seasoned project managers. In addition, the NRC also has staff who have attained or are pursuing government or industry-recognized project management certifications.

However, external training may not be required as part of the project managers qualification process, which is thereby inconsistently applied throughout the agency. There could be considerable value in pursuing a standardized set of required external training for project manager competencies from an organization like the Project

¹⁴ NUREG-2251, Vol. 2, Capacity Assessment for Statistics, Research, Evaluation, and Other Analysis Fiscal Year 2023, at 10 ([ML23271A210](#)).

Management Institute (PMI) to ensure a broad range of best practices and fresh thinking are incorporated in a project manager's training program.

The Honorable Jeff Duncan

1. The Committee is updating a bill to direct the NRC to evaluate the current environmental review process for reactors and identify areas where there are reasonable options for less burdensome assessments under NEPA.
 - d. What opportunity, beyond recent changes to NEPA, do you see to reduce duplicative or unnecessary environmental reviews to license reactors more efficiently?

RESPONSE:

I appreciate the Chair's response, which discusses several opportunities the NRC has identified to increase efficiency in its environmental reviews. I will not repeat all of them here but would like to highlight a few items mentioned in his response.

As the Chair notes, the NRC is working on several generic environmental impact statements (GEISs) to improve efficiency in environmental reviews. I see the use of codified GEISs as an area where the NRC can make progress. As detailed in the Chair's response, the Commission currently has before it a GEIS for advanced reactors. The purpose of the advanced reactor GEIS, as described by the staff, "is to present analyses of potential environmental impacts that are common to many or most advanced nuclear reactors that can be addressed generically, thereby eliminating the need to repeatedly reproduce the same analyses each time a licensing application is submitted and allowing applicants and NRC staff to focus future environmental review efforts on issues that can be resolved only once a site is identified."¹⁵ I recently weighed in on this matter.

In addition, and as noted in the Chair's response, the staff is once again revising the license renewal GEIS and our regulations for initial and subsequent license renewals. I echo Commissioner Wright's statements regarding the importance of codifying GEIS findings in our pertinent regulations. The use of a codified GEIS has been helpful in the license renewal process because it focuses staff and stakeholder attention on areas where environmental impacts may be site-specific or differ from project to project.

The Chair also highlights a draft proposed rule currently before the Commission for its consideration. This draft proposed rule would revise certain categorical exclusions in 10 CFR Part 51, which the staff expects "would reduce inefficiencies and inconsistencies in the implementation of the NRC's regulatory program" and "ensure

¹⁵ SECY-21-0098, [Enclosure 2](#), "Draft Advanced Nuclear Reactor Generic Environmental Impact Statement" (Nov. 29, 2021) ([ML21222A044](#)).

resources are directed to activities that have the potential to significantly affect the environment.”¹⁶ I am actively reviewing this matter.

Finally, and as further described in the Chair’s response, the staff has taken measures to streamline the environmental review process for applications currently under review, while also continuing to meet the agency’s NEPA responsibilities. For example, in a recent construction permit application review, the staff produced a more concise and focused environmental impact statement (EIS): a total of 258 pages including appendices and table of contents.¹⁷ Indeed, in response to a public comment regarding the need for efficient reviews, the staff stated that “the draft EIS represents a substantial reduction in page count and schedule length compared to past NRC new reactor EISs” while “still ensur[ing] that all NRC’s obligations under NEPA and related laws, regulations, and processes were fully met.”¹⁸ In this instance, stakeholders have stated that they are “pleased with the quality, timeliness, and efficiency” of the NRC’s draft EIS and noted that “a high-quality application and working with the NRC staff to meet its related information needs” are both “essential to timely and efficient NRC reviews.”¹⁹

While that is true, there are additional steps the agency must take to ensure timely and efficient reviews are the norm, not the exception, and demonstrate a learning curve that benefits future applicants. Agency leadership must improve their external awareness to recognize and respond to changes in the operating environment. Environmental reviews for subsequent license renewals are a cautionary example. The agency must do a better job of projecting workload and contingency planning to ensure an agile response to fact-of-life schedule changes. This includes more accurate allocation of staff resources, cross-training and reassigning staff from lower priority work as needed, and supplementing with contractor resources as appropriate.

2. What authorities can Congress provide to improve the efficiency of NRC's decision-making on advanced reactors?

RESPONSE:

The authorities given in NEICA, NEIMA, and introduced in the ADVANCE Act of 2023 provide the agency with the authority to review new reactor technologies efficiently and effectively. However, there may be additional opportunities to provide the Commission with

¹⁶ [SECY-22-0100](#), “Proposed Rule Categorical Exclusions from Environmental Review” (Nov. 18, 2022).

¹⁷ As the Chair notes, the body of the final EIS is under 150 pages, which is almost a 75% decrease in the number of pages from the last new reactor EIS published by the NRC and within the EIS page limit established by the Fiscal Responsibility Act of 2023.

¹⁸ NUREG-2263, “Environmental Impact Statement for the Construction Permit for the Kairos Hermes Test Reactor,” Final Report, Appendix G, G-29 (Aug. 2023) ([ML23214A269](#)).

¹⁹ *Id.* at G-43.

discretion for certain activities that would increase overall efficiencies while continuing to meet the NRC’s safety and security mission.

Section 189a of the Atomic Energy Act requires the Commission to conduct hearings (sometimes referred to as mandatory hearings) for certain applications regardless of whether the application references a standard design or is a license application for an additional, identical facility at the same site. It would be helpful if Congress either eliminated this obsolete requirement or provided discretion to the Commission to determine on a case-by-case basis whether such hearings are warranted.²⁰

Also, section 182b of the Atomic Energy Act requires the Advisory Committee on Reactor Safeguards (ACRS) to review certain applications, again regardless of whether the application references a standard design or is for an identical facility at the same site. The ACRS provides valuable input to the Commission. In my view, however, its focus should be on novel or unique issues rather than license applications for identical facilities. Thus, it would be helpful if Congress provided discretion to the Commission to determine whether it needed ACRS input on a particular review. With such discretion, the Commission could help ensure the considerable expertise of the ACRS and its limited time are focused on new or novel issues and less likely to be overburdened with repetitive reviews such as the addition of identical modular reactors at a given site.

In addition, I understand that applicants seeking manufacturing licenses may wish to test the reactors at the manufacturing site prior to shipping them to the sites where they would be licensed to operate. Microreactor developers have communicated they may pursue this licensing approach, given the potential that a manufacturing license holder could rapidly scale reactor deployment by fabricating several reactors at a manufacturing facility. It is not clear whether section 192 of the Atomic Energy Act provides the Commission with the authority to issue temporary operating licenses to holders of manufacturing licenses to allow such testing at the manufacturer’s site. Clarifying the NRC’s authority might enable more efficient development of manufactured microreactors.

Lastly, as I indicated in a response to Chair Rodgers, the Energy Reorganization Act of 1974 established the NRC for “licensing and related regulatory activities,” thereby appearing to enumerate licensing as the agency’s principal function.²¹ While the agency remains diligent in verifying compliance with existing licenses through its inspection and oversight work, licensing reviews remain a relatively small portion of the agency’s activities, competing for management attention. I believe this is a situation where the agency should reassert the importance of licensing reviews as principal to our mission, use data to track efficiency,

²⁰ See Bowen, M., Ponangi, R.T., and Burns, S.G., “Improving the Efficiency of NRC Power Reactor Licensing: The 1957 Mandatory Hearing Reconsidered,” at 37 (Nov. 2023), https://www.energypolicy.columbia.edu/wp-content/uploads/2023/11/NRCLicensing-CGEP_Report_112123.pdf (stating “[t]he potential value of mandatory hearings is even harder to discern in cases where subsequent deployments of the same reactor design are being considered”).

²¹ 42 U.S.C. § 5801(c).

reevaluate and adjust staff priorities as appropriate, use data to drive performance improvement, and hold leadership accountable for results.

Congress could support such an effort by authorizing a review of our operating processes by outside experts such as the National Academy of Public Administration (NAPA) or similar organization. Such a review would provide insights and best practices on how best to improve the agency's operational effectiveness in the following areas:

- Strategic planning should be reviewed and revised to appropriately prioritize licensing work and the timely execution of licensing reviews;
- Budget development should be reviewed and revised to incorporate best practices and improve accuracy and fairness;
- Enterprise Risk Management processes should be reviewed and revised to improve workload projections, workflow management, and contingency planning;
- Performance management should be reviewed and revised to clearly align with agency goals and ensure timely execution of the agency's mission;
- Leadership development should be reviewed and revised to ensure agency leaders are prepared to fully implement operational processes and achieve results; and
- Strategic Workforce Planning and Knowledge Management should be reviewed and revised to implement best practices and prioritize adequate numbers of properly trained licensing staff.

An external review that benchmarks the NRC against best-in-class agencies would provide insights regarding where the agency is performing well and where there are opportunities for improvement. Enhancing the understanding and implementation of these processes should produce better outcomes, verifiable through metrics.

As I noted in response to a question from Chair Rodgers, the agency's project management processes, practices, and training could also benefit from an external review to gather insights regarding where our program is effective and how to achieve best-in-class performance.

There have been concerns raised about the need for increased hiring authority for the agency and Congress is considering language to address this. However, I don't believe any additional authority is warranted at this time. The agency has hired about 600 personnel during the last two years. This hiring effort has been necessary to address a staffing composition where the agency had a large portion of its workforce that was retirement-eligible. Progress has been made in addressing this workforce transition with the retirement-eligible group now around a third.²² I have not seen employee attrition data that would suggest a need for additional hiring authority at this time. I share Commissioner Wright's views that the agency could more effectively use its current hiring authorities. I also have some foundational concerns about the adequacy of our Strategic Workforce Planning and

²² "Hearing on the Nuclear Regulatory Commission's Proposed Fiscal Year 2024 Budget"; Committee on Environment and Public Works, U.S. Senate, April 19, 2023.

knowledge management efforts being integrated into our workload forecasting and budget development.

Regarding fee recovery, it has been a longstanding legal requirement, reaffirmed in NEIMA, that: “the Commission shall assess and collect fees from any person who receives a service or thing of value from the Commission to cover the costs to the Commission of providing the service or thing of value.”²³ This includes licensing reviews, inspections, and related oversight work attributable to a particular licensee or applicant. NEIMA describes licensing reviews as “requested activities” and requires that the NRC “shall expressly identify anticipated expenditures necessary for completion of the requested activities” and funds authorized for requested activities “shall be used, to the maximum extent practicable, solely for conducting requested activities.”²⁴ In FY 2023, the agency requested \$144M, about 14 percent of the agency’s total budget authority. The Administration, Congressional and industry stakeholders, and some NGOs continue to stress the importance of efficient licensing reviews. As I noted in response to a question from Chair Rodgers:

“The NRC’s Principles of Good Regulation call for “the best possible management and administration of regulatory activities” and say that “Regulatory decisions should be made without undue delay.” Yet, among the 32 strategies in the NRC’s Strategic Plan, only one specifically addresses timely decision-making.

These facts begin to paint a picture that shows licensing must compete for leadership attention. The Commission must restore leadership focus that prioritizes effective and efficient licensing reviews.

Providing and preserving adequate funding specifically for Requested Activities should ensure adequate funds for licensing reviews rather than facilitating overall growth in the NRC budget, of which licensing reviews remain a small fraction. However, there is a need for diligent oversight of these funds since excessive budgeting unfairly increases licensee annual fees if the licensing workload falls short of projections.

3. The NRC has yet to meet the cap NEIMA set for corporate support. For three years in a row, the NRC’s fee-billable licensing and oversight work is below \$200M while the agency's budget requests continue to grow. The agency had \$92M in carryover in FY 2022 and asked for significant budget increases in FY 2023 and FY 2024.
 - a. Whenever the agency overestimates its workload or total budget, the annual fee for operating reactors increases. How does the agency justify this as fair?

RESPONSE:

I have been an advocate for the agency to improve its financial stewardship since my first term as an NRC Commissioner. Our Principles of Good Regulation state that,

²³ NEIMA § 102(b)(2), 42 U.S.C. § 2215(b)(2).

²⁴ NEIMA §Sec. 102(a) (1)-(2), 42 U.S.C. § 2215(a)(1)-(2).

“The American taxpayer, the rate-paying consumer, and licensees are all entitled to the best possible management and administration of regulatory activities.”²⁵ While the agency must have the resources necessary to successfully execute its mission, the trend of ending a fiscal year with significant carryover funds is indefensible. As noted, the agency ended FY 2023 with roughly \$108 million in carryover funds that weren’t necessary to support its operations. There will always be some fact-of-life adjustments with regard to projected licensing work that will be difficult for the agency to anticipate. However, carryover funds amounting to over 11% of the agency’s full budget authority for FY 2023 is excessive and inappropriate.

As noted in a response to Chair Rodgers, the NRC is required to “assess and collect fees from any person who receives a service or thing of value from the Commission to cover the costs to the Commission of providing the service or thing of value.”²⁶ The agency does this in part by assessing fees for licensing and inspection services under 10 CFR Part 170, charged by the hour and for contract support costs.²⁷ In FY 2023, this workload totaled \$195 million, approximately 21 percent of the agency’s total budget authority of \$927 million. Thus, roughly 79 percent of the agency’s budget is for other activities. If spending on other indirect work grows, so will the operating reactor annual fee assessed under Part 171, due to the legal requirement for the agency to recover operating costs.

Since 2016, the Part 170 licensing and oversight workload has fallen roughly 46% from approximately 1.2 million staff hours to about 650,000 in FY 2023.²⁸ Using the agency’s productivity estimate of 1551 hours per FTE, the work billed under Part 170 required roughly 419 FTE of the agency’s 2,860 FTE budgeted in FY 2023. And yet there have been delays in some licensing activities, such as Subsequent License Renewal reviews, due in part to a “lack of staff resources.”²⁹ Such results are difficult to justify especially in light of continuing trend of increasing carryover funds.

The first step to ensuring a fair operating reactor annual fee is to budget accurately. Ending the fiscal year with excessive carryover results in increased annual fees. The second step, in recognition of fiscal responsibility to taxpayers, licensees, and

²⁵ See Principles of Good Regulation, <https://www.nrc.gov/about-nrc/values.html#principles> (last reviewed/updated Jan. 31, 2024).

²⁶ Nuclear Energy Innovation and Modernization Act (NEIMA) § 102(b)(2), 42 U.S.C. § 2215(b)(2).

²⁷ There are enumerated exemptions under Part 170 to these fees, which include certain facilities licensed under section 104c. of the Atomic Energy Act and certain contested hearings. See 10 C.F.R. § 170.11(a). In addition, the NRC can grant fee waivers. See 10 C.F.R. § 170.11(b).

²⁸ See FY 2016 Final Fee Rule; FY 2023 Final Fee Rule.

²⁹ See Letter from Christopher Regan (NRC) to Dianne Strand (Florida Power & Light Co.), “Revised Schedule for the Environmental Review of the Turkey Point Nuclear Generating Station, Units 3 and 4, Subsequent License Renewal Application” (June 5, 2023) (ADAMS Accession No. [ML23145A260](#)) (communicating a schedule change due to several factors including “staff resource challenges related to high priority work”).

applicants, is to seek efficiencies in mission-indirect spending. Such an effort should restore a more appropriate ratio of mission-direct and mission-indirect work.

One reason Congress enacted NEIMA was to spur fiscal responsibility. The agency can and should be more responsive to the direction provided in the Act. The agency's budget should be data-driven, performance-based, and focused on our mission needs. Actual expenditures should inform budget development with a measure of detail commensurate to truly inform decisions. This requires the agency to scrutinize and prioritize activities and services that support the core licensing and oversight workload.

- b. Did the funding from licensing fees of the University Nuclear Leadership Program violate NEIMA restrictions? What is the justification for funding with licensing fees?

RESPONSE:

The University Nuclear Leadership Program, formerly the Integrated University Program, provides grants to academic institutions to support education in nuclear science and engineering and related fields. The NRC has provided funding for university research and development, as well as for scholarships, fellowships, and faculty development. The agency funded the University Nuclear Leadership Program in FY 2023 with carryover funds that were collected from fee-recoverable sources. I am apprised that the agency has followed Congressional direction and is technically in compliance with section 102(b) of NEIMA. I believe the program is beneficial but do not agree with the use of fee-recoverable funding to support the University Nuclear Leadership Program.

- c. Of the \$92M in carryover from 2022, how much was collected from taxpayers and how much from licensees?

RESPONSE:

I concur with the Chair's response, which indicates that the \$92M in carryover did not come exclusively from FY 2022. It is a cumulative total of all prior years, with approximately \$60M from fee-recoverable funds and approximately \$32M from non-fee-recoverable funds.

- d. How much would the annual fee for operating reactors have decreased if the NRC had budgeted accurately without resulting in \$92M in carryover?

RESPONSE:

I have reviewed the information provided by the Office of the Chief Financial Officer and contextualized in Chair Hanson's response. The final carryover amount for 2023 was \$108 million. It remains unclear to me how much the annual fee would have decreased under an accurate budget without the carryover amount.

How did the NRC spend the \$92M in carryover from 2022?

RESPONSE:

The agency recently provided additional information regarding this question.³⁰ While that information detailed how the funds were allocated, it is not clear how much of those funds have actually been spent at this time.

- e. How much carryover does the NRC estimate for FY 2023?

RESPONSE:

Since the date of this response is past the end of FY 2023, the actual carryover amount for FY 2023 is known to be approximately \$108 million. Of this amount, roughly \$69 million was fee-recoverable and \$39 million was non-fee-recoverable.

- f. What actions is the agency taking to improve its fiscal discipline and comply with NEIMA?

RESPONSE:

While I appreciate the responses provided by the Chair, I must respectfully disagree with the sentiments expressed. In my view, the agency can and should be a better steward of taxpayer and licensee resources. The continuing trend of increasing carryover is indefensible. Further actions are needed to strengthen our fiscal discipline and comply with NEIMA. Specifically, I support the following actions:

- The budget should be data-driven, performance-based, and focused on mission needs.
- Actual expenditures should inform budget development with a measure of detail commensurate to truly inform decisions.
- The agency should focus resources on licensing and oversight work, prioritize activities and services that support this core workload, enhance efficiencies in agency operations and processes, and reduce overly burdensome, low-priority tasks.
- Providing and preserving adequate funding specifically for licensing reviews, in accordance with the Requested Activities provision in NEIMA, should ensure adequate funds for licensing reviews rather than facilitating overall growth in the NRC budget, of which licensing reviews remain a small fraction.
- In the event of significant projected carryover funds, NRC staff should engage appropriators to enable allocation of carryover funds to offset appropriations.

³⁰ Letter to Representative Duncan (Chairman Energy, Climate, and Grid Security Subcommittee) from Mr. Eugene Dacus (NRC) (Jan. 24, 2024).

4. The NRC has had an ongoing transformation effort for the last five years.
- a. How much has NRC spent on transformation and innovation over the last five years?

RESPONSE:

I am not aware that resources executed for transformation and innovation are being captured or tracked at a level of detail to inform this response.

- b. Please provide a list of the transformation and innovation goals and objectives.

RESPONSE:

The standing goal has been to “Become a modern, risk-informed regulator.”³¹ While that is a laudable vision that I support, I have been disappointed by the lack of clearly defined goals or objectives designed to achieve that outcome or metrics to track the agency’s progress.

The transformation-related Objectives and Key Results (OKRs) for 2023 were:

- Objective: Foster a healthy organizational culture in which the workforce is engaged, adaptable, and receptive to change and makes data-driven and evidence-based decisions.
 - Key Result: Eighty percent or more of agency employees would say, “I recommend my organization as a good place to work.”
 - Objective: Attract, develop, and maintain a high-performing, diverse, engaged, and flexible workforce with the skills needed to carry out the NRC’s mission now and in the future.
 - Key Result: The agency leverages technology and resources across the agency to onboard within 1 percent of the agency’s FY 2024 allocation.
 - Key Result: The agency achieves less than 2 percent nonretirement attrition.”³²
- c. What metrics does the NRC have in place to track progress toward the transformation goals and objectives?

RESPONSE:

While many activities have been undertaken that have likely yielded varying levels of benefit, it is unclear what measurable results have been achieved.³³ I am not aware of data that would support a conclusion that the agency is ultimately more effective or efficient as a result of these efforts. This further demonstrates that the agency would

³¹ NRC’s Transformation Journey, <https://www.nrc.gov/about-nrc/plans-performance/modern-risk-informed-reg/trans-journey.html> (last reviewed/updated Dec. 26, 2023).

³² [SECY 23-0008](#), “Agency-Level Objectives and Key Results for Calendar Year 2023,” at 3 (Jan. 30, 2023).

³³ Transformation at the NRC – Sustaining Progress as a Modern, Risk-Informed Regulator (June 1, 2022) ([ML22146A078](#)).

benefit from more effective use of performance metrics. As I testified in the hearing, I joined Commissioner Wright on a proposal to establish detailed, transparent, near-real-time performance metrics challenging enough to drive improvement and specific enough to identify challenges or inefficiencies.³⁴ Such metrics would provide transparency to Congress, licensees and applicants, the public, and other stakeholders on the agency's progress.

- d. Please provide a list of the innovations, efficiencies, and cost savings resulting from the transformation effort.

RESPONSE:

Chair Hanson provided a list of innovations to which I have nothing further to add.

As stated above, I am not aware that resources executed for transformation and innovation are being captured or tracked at an adequate level of detail to inform this response. While many activities have been undertaken that have likely yielded varying levels of benefit, it is unclear what measurable results have been achieved.³⁵

A cursory review looking forward from 2020 shows spending on the Part 170 licensing and oversight workload declined from \$206 million to \$195 million in 2023 while the budget increased from \$840 million to \$927 million. This suggests a trend of spending more money to do less mission-direct work. In addition, the agency continues to have growing amounts of carryover funding. While there may be some cases of efficiencies or cost savings, the benefit is not observable in the agency's overall finances.

5. For the last three years, the NRC has billed less than \$200M for all of its oversight and licensing work, a small fraction of the NRC's budget.
 - a. What actions does NRC take to ensure its safety mission is balanced with the need for timely decision-making?

RESPONSE:

As stated in my response to Chair Rodgers, the Energy Reorganization Act of 1974 established the NRC for the purpose of "licensing and related regulatory functions" effectively designating licensing as our principal, enumerated function.³⁶ Of course, this is complemented by oversight to verify compliance. While the agency remains diligent in verifying compliance with existing licenses through its inspection and oversight work, licensing reviews remain a relatively small portion of the agency's activities, competing for management attention. I believe this is a situation where the agency should reassert the importance of licensing reviews as principal to our

³⁴ COMDAW-23-0001/COMAXC-23-0002, "Measuring NRC Success" (Aug. 29, 2023) ([ML23241B013](#)).

³⁵ Transformation at the NRC – Sustaining Progress as a Modern, Risk-Informed Regulator ([ML22146A078](#)).

³⁶ 42 U.S.C. § 5801(c).

mission, use data to track efficiency and drive performance improvement, reevaluate and adjust staff priorities as appropriate, and hold leadership accountable for results.

As noted earlier, these are some of the reasons Commissioner Wright and I provided a proposal to our colleagues to establish meaningful metrics to track agency performance.³⁷ Such information would guide performance improvement through better allocation of staff and resources, setting expectations and goals for improved execution of licensing work and holding staff leadership accountable for results.

The NRC's Principles of Good Regulation call for "the best possible management and administration of regulatory activities"³⁸ and say that "Regulatory decisions should be made without undue delay."³⁹ Yet, among the 32 strategies in the NRC's Strategic Plan, only one specifically addresses timely decision-making.⁴⁰

As I noted above, there are additional steps the agency must take to ensure timely and efficient reviews are the norm, not the exception, and demonstrate a learning curve that benefits future applicants. Agency leadership must improve their external awareness to recognize and respond to changes in the operating environment. Environmental reviews for subsequent license renewals are a cautionary example. The agency must do a better job of projecting workload and contingency planning to ensure an agile response to fact-of-life schedule changes. This includes more accurate allocation of staff resources, cross-training and reassigning staff from lower priority work as needed and supplementing with contractor resources as appropriate.

Subsequent License Renewal reviews are an opportunity to embody the principle that "Regulatory activities should be consistent with the degree of risk reduction they achieve."⁴¹ Subsequent License Renewal reviews should exhibit improved efficiency and expend fewer resources than was necessary for initial license renewals. The experience gained should produce a learning curve for subsequent reviews to be more efficient based on lessons learned in previous ones. Furthermore, the majority of the aging management programs that are in place with regulatory approval and oversight for the first period of extended operations should largely remain valid for continued operation. Applicants should be credited for these and other existing regulatory programs, like maintenance requirements, so that the scope of the review should focus on issues unique to the 60–80-year timeframe. This should yield reviews that are more efficient than the initial license renewal reviews and consistent with the risk reduction achieved.

³⁷ COMDAW-23-0001/COMAXC-23-0002, "Measuring NRC Success" (Aug. 29, 2023) ([ML23241B013](#)).

³⁸ See Principles of Good Regulation, <https://www.nrc.gov/about-nrc/values.html#principles> (last reviewed/updated Jan. 31, 2024).

³⁹ *Id.*

⁴⁰ NUREG-1614, Vol. 8, "Strategic Plan Fiscal Years 2022-2026" (Apr. 2022) ([ML22067A170](#)).

⁴¹ See Principles of Good Regulation, <https://www.nrc.gov/about-nrc/values.html#principles> (last reviewed/updated Jan. 31, 2024).⁴² COMDAW-23-0001/COMAXC-23-0002 (Aug. 29, 2023) ([ML23241B013](#)).

The Commission must restore leadership focus and prioritize effective and efficient licensing reviews. Congress could support such an effort by authorizing an independent review of the agency's operations as described in my response to Question 2.

- b. What actions does the NRC take to ensure adequate resources are prioritized for licensing reviews to ensure those reviews are completed timely and on schedule?

RESPONSE:

The agency has processes for budget development, strategic planning, strategic workforce planning, and enterprise risk management. However, the current results suggest the agency's implementation of these processes has not been fully successful. My response to several of the questions below describes my support and issuance of a Commission Action Memorandum with Commissioner Wright to establish metrics and real-time data analysis.

- c. What metrics are in place to track the timeliness of licensing reviews?

RESPONSE:

The NRC's current practices for tracking the timeliness of licensing reviews include publicly available metrics in its Congressional Budget Justification. These metrics are an anachronism that only provide a once-a-year snapshot of the agency's performance compared to simplistic goals. They do not provide a transparent, current indication of how well the agency is performing on licensing actions. As noted above, Commissioner Wright and I issued a joint Commission Action Memorandum (COM) titled "Measuring NRC Success."⁴² If approved by a majority of the Commission, our COM will establish metrics in key areas that we believe will help the NRC to accomplish its vital safety mission in a more efficient and transparent manner. Real-time data can be used by the NRC staff leadership to provide greater predictability to licensees and to identify potential issues earlier in the process. Quality, publicly facing data will also help increase the NRC's transparency to external stakeholders and accountability to Congress. In addition, real-time updated data should help inform the conversations Commissioners have with NRC staff leadership and provide opportunities for the NRC to measure and celebrate its successes.

- d. How does NRC leadership indicate a sense of urgency to completing:
- application reviews for advanced reactors?
 - subsequent license extension reviews?
 - power uprate reviews?
 - other license amendment reviews for operating reactors?
 - fuel facility licensing reviews?

⁴² COMDAW-23-0001/COMAXC-23-0002 (Aug. 29, 2023) ([ML23241B013](#)).

RESPONSE:

As noted previously, many processes exist and resources are available to enable timely execution of reviews, including reviews for advanced reactors. In addition, the staff conducts lessons learned reviews to document best practices and insights gained.⁴³ While the staff are well intentioned, licensing reviews are competing for leadership attention. As I noted in response to a question from Chair Rodgers, the Commission must restore leadership focus and prioritize effective and efficient licensing reviews.

We need to set clear and aggressive, but achievable goals in workload execution and use meaningful metrics to drive performance improvement. I believe this is crucial for the agency to enable the safe and timely development of small and advanced reactors in line with Congressional expectations. I believe demonstrating that we can achieve timely reviews and celebrating those successes is vital to improving staff morale. Demonstrating efficient, predictable reviews is also important to maintain stakeholder confidence in the agency's effectiveness.

With regard to Subsequent License Renewals in particular, the Commission has directed the staff to provide monthly updates on the progress of the Subsequent License Renewal reviews. These status reports will provide the Commission additional information and may elevate attention to potential future challenges in the execution of these reviews. The Commission has also directed the staff to provide a roadmap to restore the program to a path of timely and predictable reviews and achieve the goal of 18-month reviews.⁴⁴ The roadmap should include action items and deadlines to risk-inform renewal reviews, leverage operating programs, leverage previous reviews, and leverage the agency's and industry's operating experience in aging management.⁴⁵

The NRC doesn't currently have any power uprate applications under review, but as a result of Congressional action resulting in the incentives in the Inflation Reduction Act, such applications may be economically feasible and pursued by licensees. I will be following the staff's performance in this area routinely.

The Chair's response describes the agency's processes for fuel facility licensing reviews. The agency is currently reviewing the TRISO-X fuel fabrication facility

⁴³ See, e.g., Lessons Learned from the U.S. Nuclear Regulatory Commission Staff's Review of the NuScale Design Certification Application (Mar. 2022) ([ML22088A161](#)).

⁴⁴ Staff Requirements – Strategic Programmatic Overview of the Operating Reactors and New Reactors Business Lines, December 11, 2023 ([ML23345A214](#)).

⁴⁵ See *id.* The staff is also conducting public meetings related to increasing efficiencies in subsequent license renewal. See e.g., Public Meeting Announcement “Public meeting to discuss possible efficiencies on the Subsequent License Renewal review” (Aug. 18, 2023) ([ML23229A530](#)); Public Meeting Announcement, “Periodic public meeting to discuss possible efficiencies for the Subsequent License Renewal Review,” (Oct. 31, 2023) ([ML23303A211](#)).

application. This review will provide an indication of NRC’s readiness to review the anticipated future workload. I will be closely following the staff performance in this area.

- e. The NRC issued a decision on the Kairos Hermes non-power reactor in 18 months. How long will it take to reach a decision on an advanced power reactor?

RESPONSE:

The NRC staff issued its final *safety evaluation report* for the Kairos Hermes construction permit in 18 months, ahead of its nominal schedule. This was one key element of the construction permit review. The decision to issue the construction permit for this project also required the completion of an environmental impact statement, consultation with Federally-recognized Tribes in the area under Section 106 of the National Historic Preservation Act of 1966, and a mandatory Commission hearing. The mandatory hearing process for the Kairos Hermes construction permit was completed when the Commission issued its decision in December 2023, at a cost of over \$400,000 to the licensee for NRC direct labor.

The staff has developed generic milestone schedules for its licensing reviews⁴⁶ and the schedule varies based on the type of license requested. For example, the staff’s schedule milestone for an advanced reactor applicant seeking a construction permit is 36 months, whereas an advanced reactor applicant seeking a combined license that references a certified design is 30 months.

For each application, the staff determines whether its review can be conducted more efficiently than the generic milestone schedule. It makes this determination based on a variety of factors, including the quality of the submitted application. For instance, while the generic milestone schedule for the staff’s review of a construction permit application is 36 months, the staff estimated a 24-month review schedule for its review of the Kairos Hermes construction permit application.⁴⁷

While the particular schedule for an advanced reactor application is based on a variety of factors, there are items that would provide for more predictable, efficient licensing reviews. In the environmental review area, the Commission currently has under review a generic environmental impact statement for advanced reactors.⁴⁸

⁴⁶ Generic Milestone Schedules of Requested Activities of the Commission, <https://www.nrc.gov/about-nrc/generic-schedules.html> (last reviewed/updated Sept. 10, 2021).

⁴⁷ Letter from Benjamin Beasley (NRC) to Peter Hastings (Kairos Power, LLC), “Acceptance for Docketing of the Hermes Non-Power Test Reactor Construction Permit Application Submitted by Kairos Power LLC” (Nov. 29, 2021) ([ML21319A354](#)) (stating Kairos submitted its application in September 2021, and the staff anticipated completing its final safety evaluation report and final environmental impact statement in September 2023.)

⁴⁸ SECY-21-0098, “Draft Advanced Nuclear Reactor Generic Environmental Impact Statement” (Nov. 29, 2021) ([ML21222A044](#)).

Once this is codified, it would generically present environmental impacts that are common to many or most advanced nuclear reactors, eliminating the need to repeatedly reproduce the same analyses for each application and focus the staff's environmental review for submitted applications on items that can only be resolved once a site is identified, thereby yielding time and effort savings for all stakeholders, without undercutting the NRC's responsibilities under NEPA.

- f. How long does it generally take for the Commission to develop and finalize a policy statement?

RESPONSE:

The Chair's response describes the process for developing a policy statement. As he notes, the schedule for developing and issuing policy statements can vary based on the subject matter, complexity of the issues involved, and the extent of public engagement and competition for rulemaking resources. It is not unusual for a policy statement to require several years to develop.

6. What steps will the Commission take in lieu of Commissioner Baran's proposed policy statement on timely decision-making?

RESPONSE:

I agree in principle with setting Commission expectations for the timely review of advanced reactor applications in a policy statement. However, I believe such expectations should be set for all licensing reviews, not just advanced reactors. Additionally, I believe it may be premature to set such expectations without a robust baseline of agency performance data. For such a policy statement to be effective, it must have a foundation rooted in appropriate analysis to establish expectations. Any near-term effort to improve timeliness must focus on implementing performance metrics and accountability. Congress, stakeholders, and the Commission have repeatedly indicated the desire for the agency to improve its performance in licensing reviews in additional areas like subsequent license renewals. I believe significant direction must be provided to the staff, with regard to performance metrics. Therefore, as noted in my responses to Questions 4 and 5, I joined Commissioner Wright on a proposal to establish performance metrics, which I view as a necessary complement to any efforts to draft a policy statement.

7. Surveys of NRC staff over the past 10 years have shown a relatively steady decline in NRC staff satisfaction with the workplace and management. What do you believe are the root causes for declining employee satisfaction at the NRC, and what steps are you taking to improve NRC staff morale and culture?

RESPONSE:

Workforce surveys are an important tool for leaders to gain feedback from employees and focus on continuous improvement. Employee feedback is important but is not a substitute

for leadership and direction. I am concerned that agency FEVS scores have declined, indicating a decline in employee perceptions related to leadership, communication, and motivation of the workforce.

Scores are likely suffering in part due to a lack of clear goals and objectives and lack of effective and consistent communication by senior leadership. Without clear goals and objectives, it's difficult for staff to see how their day-to-day efforts align with and support higher-level mission objectives. This can erode engagement and job satisfaction. Appropriate goal setting and clearly articulating those goals can increase employee engagement and reduce attrition.

I would like to see the agency return in its scores to be one of the best places to work in the federal government and demonstrate that we have capable leaders. In 2008 and 2009, when NRC was rated "the best place to work in the federal government," it was the start of the "nuclear renaissance," when the agency was executing an extremely heavy workload with challenging schedules and a sense of urgency. The agency continues to have brilliant and capable staff today. I'm confident they will strive to meet or exceed the goals set for them. Achieving and celebrating such success is an essential element to job satisfaction, staff engagement, and pride in the agency.

8. Please provide a copy of your proposal for metrics when available.

RESPONSE:

The Commission Action Memorandum is available at:
<https://www.nrc.gov/docs/ML2324/ML23241B013.pdf>.

I welcome any feedback or questions from your office for further discussion.

9. You raised a concern with the budget for the Commission itself. Please provide a detailed explanation of your concerns.

RESPONSE:

From 2014 to 2023, the Commission remained within the \$9.5 million in total for its requested resources. During this time no increases to this amount were requested to account for the cost of salaries and benefits increases, or inflationary costs for travel and training. While prior Commissions were able to exist within this budget, it has become increasingly difficult for Commissioners to staff their offices in keeping with past capabilities without significant constraints. It is becoming increasingly necessary to utilize strategies such as staff rotations rather than permanent hires or forgo travel to stay within the existing budget.

This dynamic could impair the Commission's ability to function collegially and the ability of commissioners to act independently. Commission offices should not be constrained by insufficient resources and unable to hire expert staff, to travel, or to provide training. The budget should be formulated to ensure each Commission office has the resources necessary

to function appropriately when the Commission is at its full complement of five commissioners. The FY 2024 Congressional Budget Justification requests a modest increase of funding to total \$10.3 million. While this is an important first step, such a funding level would be inadequate in future fiscal years with a Commission operating at its full complement.

Given the challenges facing the agency and the need to meet the expectations of Congress and external stakeholders, it is crucial for each commissioner to maintain their independence and attract the skilled staff necessary to support the execution of their responsibilities. I appreciate my colleagues for their support in rectifying this situation and I am confident we will work together to address this as a collegial body. I urge Congress' reevaluation of its current approach to funding the Commission.

The Honorable Troy Balderson

1. You've mentioned the need for enhanced performance indicators so the Commission and the public can track the duration and status for licensing reviews.
 - a. Can you expand on how this could help improve the efficiency and consistency of reviews? And how could real-time measures or updates on licensing reviews benefit stakeholders that are looking to be licensed by the NRC?

RESPONSE:

It has been rightly stated: "If you can't measure it, you can't manage it." Without meaningful metrics, it is impossible to discern whether the agency's performance is improving or declining. The longstanding metrics published in the agency's Congressional Budget Justification are anachronistic and have significant limitations in depicting performance or driving improvement. Hence, Commissioner Wright and I proposed to our colleagues that the agency establish meaningful metrics collected in near-real-time and made publicly available.⁴⁹

Establishing performance metrics would set the agency's expectations for effectiveness, efficiency, and timeliness. The NRC should make these performance metrics publicly available on its website in near-real-time, should address the performance metrics in its strategic plan, and should use the performance metrics to inform future Congressional Budget Justifications. Meaningful, measurable, and actionable performance metrics are essential to identifying what the agency is doing well and what it needs to work on.

As I noted in response to Chair Rodgers, there is a growing pattern of applicants viewing our processes as unpredictable and financially risky. Many policymakers and stakeholders have expressed concern that the NRC needs to improve the execution and timely completion of its licensing activities if nuclear energy is to

⁴⁹ COMDAW-23-0001/COMAXC-23-0002, "Measuring NRC Success" (Aug. 29, 2023) ([ML23241B013](#)).

make a significant contribution to meeting national and global needs for clean energy and energy security.⁵⁰

The agency does not routinely exhibit a “learning curve” in its review where subsequent reviews become more efficient and predictable over time. While there may be various reasons for this, meaningful, measurable, and actionable performance metrics are essential to identifying what the agency is doing well and what it needs to work on. Such insights are key to guiding the agency to address factors that are within its control and improve the efficiency and predictability of its reviews. This will be crucial to the agency’s ability to meet a potential growing workload. Additional staff and resources will not be enough to meet this future challenge without first improving the underlying processes and practices.

The NRC must recognize the need for effective, efficient decision making within its safety mission. Given the agency’s reputation as a world leader in nuclear safety regulation and experience in pioneering the use of risk to guide decision-making, the NRC should also be the recognized leader in establishing best practices for reducing regulatory risk and improving the predictability and timeliness of license reviews.

The Honorable Rick W. Allen

1. How can we use the lessons learned at Vogtle 3&4, and apply these to the operating fleet?
 - a. Can the NRC approach licensing requests with the regulatory agility and flexibility NRC demonstrated on Vogtle 3&4 to improve efficiency and timeliness?

RESPONSE:

Our staff repeatedly demonstrated initiative, efficiency, and a safety focus in handling hundreds of license amendments during its oversight of the construction of Vogtle Units 3 and 4. It is a success story that should be cultivated broadly in licensing reviews.

In general, several factors may impact the review time for a license amendment request, including the complexity of the request and the timeliness of the applicant’s response to requests for additional information from the staff. NRC staff generally schedule and prioritize licensing requests commensurate with the licensee’s communicated schedule needs. However, there are likely best practices from the Vogtle 3 and 4 effort that could be captured to spur agility, flexibility, and efficiency in other licensing reviews. Replicating the successes demonstrated with Vogtle 3 and 4 could improve our timeliness.

⁵⁰ See, e.g., Ranking Member Capito Opening Statement at Nuclear Regulatory Commission Budget Hearing (Apr. 19, 2023) <https://www.epw.senate.gov/public/index.cfm/press-releases-republican?ID=514B6627-2DA1-4B12-9F42-A7761A13E0CF>; Idaho National Laboratory, “[Recommendations to Improve the Nuclear Regulatory Commission Reactor Licensing and Approval Process](#)” (Apr. 2023); [Letter from Craig H. Piercy](#) (American Nuclear Society) to Hon. Cathy McMorris Rodgers, (U.S. Senate) *et al.*, (May 5, 2023).

- b. I hear of some licensing amendments taking one to two years. What may the NRC do to use the licensing processes applied during Vogtle construction to the existing fleet?

RESPONSE:

I believe the best practices that the staff developed to manage, prioritize, and timely review license amendment requests for Vogtle 3 and 4 during construction should be captured and expanded to all licensing actions where possible. For the Vogtle plants under construction, the NRC staff applied lessons learned from the Watts Bar construction.⁵¹ The staff also completed a similar lessons-learned effort for the Vogtle Units 3&4 construction.⁵² Those lessons learned and best practices should be applied across the agency's licensing review process wherever possible, rather than limited to plants under construction.

License amendment reviews is an area that I believe would benefit substantially from the establishment of metrics as Commissioner Wright and I proposed.⁵³ During Project AIM, the agency noted that 85 percent of the total licensing action inventory were routine licensing actions, requiring 300 hours or less, yet the metrics listed in the Congressional Budget Justification are one year and two years for complicated items, as you noted.⁵⁴ This is one example that illustrates why the establishment of meaningful metrics is essential for transparency and performance improvement. Meaningful, objective performance metrics would enable the agency to monitor its performance on its licensing reviews, highlighting effective practices and identifying challenges or inefficiencies.⁵⁵

- c. Does NRC track the data to measure improvements learned at Vogtle?

RESPONSE:

I am not aware of the NRC tracking data to measure specific improvements learned at Vogtle 3&4. However, the NRC staff completed a formal review of lessons learned related to Vogtle Units 3&4.⁵⁶ The staff's review of lessons learned related to the

⁵¹ See 10 CFR Part 52 Construction Lessons-Learned Report (Jan. 16, 2024) ([ML23325A202](#)); see also Revised Charter for the Vogtle Readiness Group to Oversee the Transition to Operations for Vogtle Units 3 and 4, at 1 (Jan. 3, 2023) ([ML22355A032](#)) (stating the NRC instituted a readiness group consistent with lessons learned from Watts Bar construction).

⁵² See *Id.* at 2; 10 CFR Part 52 Lessons-Learned with Construction at Vogtle 3 & 4 and V.C. Summer 2 & 3 (July 12, 2021) ([ML21160A031](#)).

⁵³ COMDAW-23-0001/COMAXC-23-0002, "Measuring NRC Success" (Aug. 29, 2023) ([ML23241B013](#)).

⁵⁴ COMSECY-17-0004, "Proposed Closure of Project Aim Integrated Implementation Plan Task No. 19 – Licensing Business Process Improvement (Jan. 24, 2017) ([ML16340A115](#)).

⁵⁵ COMDAW-23-0001/COMAXC-23-0002, "Measuring NRC Success" (Aug. 29, 2023) ([ML23241B013](#)).

⁵⁶ See 10 CFR Part 52 Construction Lessons-Learned Report (Jan. 16, 2024) ([ML23325A202](#)); see also Revised Charter for the Vogtle Readiness Group to Oversee the Transition to Operations for Vogtle Units 3 and 4, at 2 (Jan. 3, 2023) ([ML22355A032](#)); 10 CFR Part 52 Lessons-Learned with Construction at Vogtle 3 & 4 and V.C. Summer 2 & 3 (July 12, 2021) ([ML21160A031](#)).

Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) hearing process is also complete and publicly available.⁵⁷

The Honorable Randy Weber

1. We will need a lot of new nuclear energy to keep our grid reliable and affordable. There are many types of exciting new reactors that could provide that reliability and affordability at home and for our allies abroad. However, the timelines for our current licensing process are not aligned with the necessary pace of deployment.

- a. Why does licensing take so long? What parts could be improved?

RESPONSE:

Licensing under the current deterministic regulations takes a long time because of the need for staff to independently verify compliance with the many prescriptive requirements. Establishing a modern, risk-informed, performance-based regulatory framework, as directed in NEIMA, should reduce many of the prescriptive requirements that may not be necessary to ensure the safe operation of an advanced reactor technology. Additionally, the enhanced safety benefits and lower environmental impacts of advanced designs could allow the agency to satisfy environmental review requirements under NEPA through simpler processes such as streamlined environmental impact statements or environmental assessments.

In addition, I believe the staff should more fully explore the use of its existing authorities for licensing essentially identical reactors at multiple sites under the current regulatory framework. While the provisions for standardization of nuclear power plants have been in place in appendix N to 10 CFR Part 50, for example, since the 1970s, they have never been fully used. If the agency is to deliver on licensing the construction and operation of multiple modules of a small modular reactor or groupings of identical reactors, we should strive to fully implement this authority.

- b. What is necessary to make these timelines meaningful?

RESPONSE:

The best way for the NRC to lead internationally on new and advanced reactors is to demonstrate its ability to effectively and efficiently reach licensing decisions domestically. The Commission is considering the NRC staff's proposal on a new risk-informed, performance-based, and technology-inclusive framework for licensing the next generation of commercial nuclear plants, called Part 53. I will continue to work

⁵⁷ Report Summarizing Lessons Learned from the ITAAC Hearing Process for Vogtle Electric Generating Plant, Units 3 and 4 (Dec. 18, 2023) ([ML23352A124](#)); *see also* Summary of October 24, 2023, Comment Gathering Public Meeting on Lessons Learned from the ITAAC Hearing Process for Vogtle Units 3 and 4 (Nov. 9, 2023) ([ML23304A025](#)).

with my colleagues to ensure Part 53 results in a simpler, more efficient, and predictable review for new reactors.

As I noted in response to Chair Rodgers, there is a growing pattern of applicants viewing our processes as unpredictable and financially risky. Many policymakers and stakeholders have expressed concern that the NRC needs to improve the execution and timely completion of its licensing activities if nuclear energy is to make a significant contribution to meeting national and global needs for clean energy and energy security.⁵⁸

The agency does not routinely exhibit a “learning curve” in its review where subsequent reviews become more efficient and predictable over time. While there may be various reasons for this, meaningful, measurable, and actionable performance metrics are essential to identifying what the agency is doing well and what it needs to work on. Such insights are key to guiding the agency to address factors that are within its control and improve the efficiency and predictability of its reviews. This will be crucial to the agency’s ability to meet a potential growing workload. Additional staff and resources will not be enough to meet this future challenge without first improving the underlying processes and practices.

- c. Which of those activities can the Commission undertake themselves today, and which of them require new authorization from Congress?

RESPONSE:

The Commission’s conclusion on the staff’s proposed Part 53 rule will be a significant factor to make licensing more efficient for advanced reactors in the future.

The Commission also has responsibility to ensure the staff has the necessary resources and tools to operate in a timely, predictable, and efficient manner. In order to understand in greater detail whether agency decisions are timely, predictable, and efficient, Commissioner Wright and I have proposed that the agency establish meaningful, objective, and transparent performance metrics which would identify areas for improvement and enable predictable and timely review schedules.⁵⁹

Regarding activities that may require Congressional action, there may be additional opportunities to provide the Commission with discretion for certain activities that would increase overall efficiencies while continuing to meet the NRC’s safety and security mission. Section 189a of the Atomic Energy Act requires the Commission to conduct hearings (sometimes referred to as mandatory hearings) for certain applications regardless of whether the application references a standard design or is a license

⁵⁸ See, e.g., Ranking Member Capito Opening Statement at Nuclear Regulatory Commission Budget Hearing (Apr. 19, 2023) <https://www.epw.senate.gov/public/index.cfm/press-releases-republican?ID=514B6627-2DA1-4B12-9F42-A7761A13E0CF>; Idaho National Laboratory, “Recommendations to Improve the Nuclear Regulatory Commission Reactor Licensing and Approval Process” (Apr. 2023); [Letter from Craig H. Piercy](#) (American Nuclear Society) to Hon. Cathy McMorris Rodgers, (U.S. Senate) *et al.*, (May 5, 2023).

⁵⁹ COMDAW-23-0001/COMAXC-23-0002, “Measuring NRC Success” (Aug. 29, 2023) ([ML23241B013](#)).

application for an additional, identical facility at the same site. It would be helpful if Congress either eliminated this obsolete requirement or provided discretion to the Commission to determine on a case-by-case basis whether such hearings are warranted.⁶⁰

In addition, section 182b of the Atomic Energy Act requires the Advisory Committee on Reactor Safeguards (ACRS) to review certain applications, again regardless of whether the application references a standard design or is for an identical facility at the same site. The ACRS provides valuable input to the Commission. In my view, however, its focus should be on novel or unique issues rather than license applications for identical facilities. Thus, it would be helpful if Congress provided discretion to the Commission to determine whether it needed ACRS input on a particular review. With such discretion, the Commission could help ensure the considerable expertise of the ACRS and its limited time are focused and less likely to be overburdened with repetitive reviews such as the addition of identical modular reactors at a given site.

As I noted in a response to Chairman Duncan, Congress could authorize a review of our operating processes by outside experts such as the National Academy of Public Administration (NAPA) or similar organization. Such a review could provide insights into what agency processes work well and could also highlight best practices on ways to improve the agency's operational effectiveness. As I noted in response to a question from Chair Rodgers, I also believe the agency's project management processes, practices, and training could also benefit from an external review to gather insights regarding where our program is effective and opportunities where it could improve.

Last, I understand that applicants seeking manufacturing licenses may wish to test the reactors at the manufacturing site prior to shipping them to the sites where they would be licensed to operate. Microreactor developers have communicated they may pursue this licensing approach, given the potential that a manufacturing license holder could rapidly scale reactor deployment by fabricating several reactors at a manufacturing facility. Section 192 of the Atomic Energy Act could be clarified to provide the Commission with the authority to issue temporary operating licenses to holders of manufacturing licenses to allow such testing at the manufacturer's site. Clarifying the NRC's authority might enable more efficient development of manufactured microreactors.

⁶⁰ See Bowen, M., Ponangi, R.T., and Burns, S.G., "Improving the Efficiency of NRC Power Reactor Licensing: The 1957 Mandatory Hearing Reconsidered" (Nov. 2023) https://www.energypolicy.columbia.edu/wp-content/uploads/2023/11/NRCLicensing-CGEP_Report_112123.pdf (stating "[t]he potential value of mandatory hearings is even harder to discern in cases where subsequent deployments of the same reactor design are being considered").