

**Attachment 1—Additional Questions for the
Record**

The Honorable David A. Wright, Commissioner U.S. Nuclear Regulatory Commission

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:

It is vitally important that national goals are communicated and understood at all levels of the agency. Right now, I convey the importance of these goals to NRC staff leadership through one-on-one conversations about ongoing issues and maintaining a dialogue with NRC staff members throughout the agency. Then, I work with my colleagues and leadership to help identify areas for improvement.

In addition, there are certain senior leadership positions (e.g., Executive Director for Operations) that are subject to approval by the Commission. I believe that it's important that the Commission have multiple options to select from, so that we have the opportunity to identify and select the person best suited to meet the needs of the agency at that particular moment in time in order to move the agency forward.

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

RESPONSE:

I believe the effectiveness of staff leadership is best measured by looking at results and specifically, I think we should increase our use of objective metrics for NRC staff leadership. This is why Commissioner Caputo and I recently released a joint Commission Action Memorandum (COM) titled "Measuring NRC Success¹." If approved by a majority of the Commission, our COM will establish metrics in key areas that will provide us with a better understanding of our performance as an agency, which is reflective of our senior leaders as well. Real-time data can be used by the NRC staff leadership to provide greater predictability to licensees and to identify issues earlier in the process. Quality, publicly facing data will also help increase the NRC's accountability to external stakeholders. In addition, real-time updated data should help inform the conversations Commissioners have with NRC staff leadership and provide data for us to effectively evaluate their performance.

¹ See: <https://www.nrc.gov/docs/ML2324/ML23241B013.pdf>

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:

The NRC staff continues to engage extensively with external stakeholders, including applicants, licensees, members of the public, and other stakeholders, with the goal of promoting an effective exchange of information among all parties. Since 2018, the NRC staff has held over 140 public engagements per year on specific advanced reactor licensing reviews, including for light water small modular reactors and non-light water reactors, as well as on generic regulatory infrastructure improvements such as the Part 53 rulemaking. These engagements also include periodic advanced reactor stakeholder meetings held approximately every 6 - 8 weeks to share information on topics related to the development and licensing of advanced reactors with the nuclear industry, the Department of Energy, national laboratories, members of the public, and other stakeholders. These meetings serve as an effective venue to exchange information.

With that said, I want to ensure that we are actively listening during these exchanges and I've asked the staff to focus on that. In addition to direct talks that I've held, I've also directed my personal staff to talk to internal and external stakeholders about Part 53, and I am factoring what they're hearing through these interactions into my vote.

- 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 NRC's "Principles of Good Regulation," state that the NRC should conduct its business in a manner that is open and accessible to the public to the greatest extent practicable. With that said, there are certain times when it is appropriate to hold non-public conversations with licensees and applicants. For example, meetings may appropriately be closed to the public to allow for discussion of sensitive information, such as proprietary or security related information.

In addition, the NRC staff has also increased the use of regulatory audits during application reviews as a streamlined process tool to promote efficiency. Regulatory audits provide a mechanism for more robust and direct exchange of information. Any information identified in an

audit as needed to support the NRC staff's safety findings is submitted on the docket and made publicly available, as appropriate. Regulatory audits have proven to be valuable in enhancing the understanding of technical issues and increasing the overall effectiveness of reviews.

Additionally, prospective licensees and vendors can schedule drop-in meetings, which are informal, non-public discussions limited to a general exchange of information. The NRC staff conducts numerous public meetings with prospective applicants ahead of submittals to create an opportunity for attaining a common understanding of expected timelines, regulatory requirements, and expectations, as well as to identify significant policy and technical issues to enable timely resolution.

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

RESPONSE:

As I mentioned in my response to the previous question, I believe that regulatory audits are an excellent tool that can increase efficiency and improve our ability to make timely decisions, particularly as it pertains to licensing. While the information needed to make a final safety decision must be provided on the docket, audits are an effective way for the staff to receive technical information from the licensee or applicant and they can help the staff determine the scope and level of detail necessary to reach a final decision.

- 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?

RESPONSE:

I agree that the rule needs to be usable and useful, so my staff and I are conducting a thorough review of the staff's draft rule to see what improvements, whether minor or significant, can be made. My staff is talking with the people who are potentially going to be using this rule. This is an opportunity to be more efficient in licensing novel designs in order to meet energy demands, and I look forward to working with my colleagues on this rule.

What we do matters, not just to the NRC and the United States but also to countries of like mind around the world. In fact, it's not lost on me that this is a matter of national security, which means that we can't be a barrier to progress. It's not enough to just get to the right outcome; we have to get to the right outcome in a timely manner.

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

RESPONSE:

Since 2019, the NRC has spent 36.9 FTE (\$7,283,700) on NRC staff and \$2,077,000 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:

Since the proposed draft of Part 53 was provided to us from staff, the Commission offices have been having regular dialogue. A priority for me has been rectifying the fact that several external stakeholders do not feel they have been listened to, and they don't feel that their concerns have been taken seriously. My staff and I have been talking to and actively listening to these stakeholders who may be the end-users of this rule, and we will continue this outreach and dialogue. In addition, different perspectives from within the staff may not have been reflected in the rulemaking package that we have. I recognize that not all views can be accommodated, but I would like to at least have the opportunity to hear the different perspectives that are out there so that I can consider them and make the most informed decision possible. My staff and I are interested in this subject, and we've been speaking to those NRC staff that may have alternative views on the rule. I believe that we have not only an opportunity but the responsibility to think differently about licensing when it comes to these advanced reactors, and we should create a rule that reflects that paradigm shift.

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 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:

The NRC staff agrees that project managers are critical to executing efficient and effective license reviews, and they are empowered to do so by processes currently in place.

The agency has a formal qualification process to which all project managers are subject. This qualification process includes dedicated time to learn processes and procedures, train under a qualified project manager, apply project manager skills, and demonstrate knowledge by successfully completing a qualification board. In addition, the agency has established guidance to support project managers' effective and consistent execution of projects as outlined in office instructions such as "License Amendment Review Procedures," "Acceptance Review Procedures for Licensing Basis Changes," and "Processing Requests for Additional Information." Built into each of these processes are opportunities for licensees and stakeholders to engage with the NRC to question the staff's findings and determinations and, among other things, raise concerns with the regulatory basis for the staff's decisions. Project managers also facilitate significant agency decision-making such as potential non-acceptance, requests for additional information, or denials of applications, prior to engaging with the licensees. The NRC's guidance is also periodically reviewed and modified, as needed, to incorporate any process improvements and reflect lessons learned from prior licensing reviews.

Updating NRC processes, procedures, and training has a critical impact on the ability to conduct timely and reliable safety reviews. In 2023, the NRC updated its guidance to include a new appendix specific to the qualification of new reactor project managers. Leveraging lessons learned from recent application reviews, the NRC made improvements in how we prepare for and conduct reviews. Examples of improvements include enhanced pre-application engagement, and early alignment meetings, as needed, to provide a common understanding of the expected scope of review, streamlined reviews, use of requests for additional information templates, increased use of audits to support preparation of safety and environmental reports, and the development of draft documents in parallel with ongoing reviews.

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

RESPONSE:

The NRC staff adheres to project management best practice principles, which include establishing clear objectives, proper planning, managing resources, contingency planning, and monitoring progress and performance. These principles are reflected in key staff guidance documents that cover each phase of the licensing review process. In addition, the NRC has internal controls, such as periodic updates to the guidance or audits by the Inspector General for such processes to reaffirm or recommend improvements.

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 leverage current industry standard aptitudes for seasoned project managers. For instance, we recently graduated a class of thirty students in Agile Project Management and will be graduating another thirty students in the first quarter of fiscal year (FY) 2024. In addition, the NRC also has staff who have attained or are pursuing government or industry-recognized project management certifications.

We have introduced resources that detail review schedules and integrate master timelines, which

support risk-informed decision-making and safety-focused reviews. Use of these schedules and dashboards allow for better communications and transparency, resulting in improved resourcing and application quality that enhances identifying, tracking, and addressing safety significant issues. Cohesion between technical staff and project managers during both the planning and execution phases of projects allows for technical challenges or policy issues to be clearly understood and identified. This early engagement allows for a prompt review by an interdisciplinary team.

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.
 - a. What opportunity, beyond recent changes to NEPA, do you see to reduce duplicative or unnecessary environmental reviews to license reactors more efficiently?

RESPONSE:

It's important that we continue to explore ways to improve the speed of our environmental reviews. While the NRC must understand the consequences of its actions, we should recognize that delays in our decisions reinforce the status quo and inhibit innovation.

In my opinion, the largest short-term improvements involve taking increased credit for earlier environmental analyses in new NEPA evaluations. We can further reduce duplication by continuing to issue and rely on Generic Environmental Impact Statements and by codifying the findings in our pertinent regulations. Additionally, we can always work to improve early communication with our partners at the federal, state, and local governments to explain the timeframes we are working towards and the importance of our mission.

Finally, our current regulations require that certain actions, such as issuing construction permits, require a complete Environmental Impact Statement. NEPA provides agencies discretion to determine what type of review is appropriate for particular classes of licensing actions. Specifically, CEQ regulations provide that some actions do not require an environmental review; some actions trigger an Environmental Assessment, which could lead to an Environmental Impact Statement if a finding of no significant impact cannot be made; and some actions require an Environmental Impact Statement. In my view, the quality of a NEPA document is not based on its length or on a default to an EIS. Use of an Environmental Assessment brings its own schedule risks if the agency cannot make a finding of no significant impact. However, by utilizing staff expertise to determine which projects may be good candidates, I believe performing an Environmental Assessment can in many cases improve the timeliness of our decision-making. To that end, the

Commission has directed the NRC Staff to consider an update to this requirement, so that some future advanced reactors could instead issue a decision based on an Environmental Assessment and a finding of no significant impact.

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

RESPONSE:

I appreciate the active role Congress has played in providing the NRC with the tools that we need in order to meet the moment when it comes to advanced reactors. I believe that the tools currently available to us (e.g., the Nuclear Energy Innovation Capabilities Act (NEICA) and Nuclear Innovation and Modernization Act (NEIMA), etc.) and those contained in recently introduced bills (e.g., Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy (ADVANCE) Act of 2023, etc.) will be very helpful when it comes to reviewing and approving advanced reactors. With respect to hiring, I think that we can do a better job of using the tools that we already have in our toolbox. My understanding is that we have only sparingly used our student loan repayment program, step increases for outstanding work, temporary promotions, retention bonuses, and Direct Hire Authority. We have the opportunity to more actively use these tools to recruit and retain top talent, particularly in hard-to-fill specialty areas such as fuel design, thermal-hydraulics, and non-LWR reactor physics.

I believe that the ADVANCE Act has some positive features when it comes to providing the NRC with the ability to attract new talent; however, I do think we need to be careful here. We cannot hire our way to efficiency. Therefore, it will be important to select the right people with the right skill sets. In my opinion, this means selecting folks with a range of experience from entry level to senior employees. I also think that it is important that we go at the right speed. It takes time to train and acclimate new employees and we need to be thoughtful here as we are already planning to hire 400 new employees in 2023 alone.

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:

In general, I believe the staff can do a better job in their budget forecasting and be far more mindful of how our budgeting trends are impacting the fees that we charge our licensees. Doing this work upfront will go a long way in reducing our need to make corrections later or carry over funds for the next year. The Commission will continue to look at how budget

execution data can better inform budget formulation in the future. Some of the main reasons for carryover are often changes in licensing schedules and underutilization of full-time equivalents (FTEs). It's important that the agency improve its understanding of predicted licensing actions for the coming year, and I look forward to the results of the evaluation of the Strategic Workforce Planning process. In addition, the NRC needs to continue to find ways to streamline agency operations and innovate agency processes. Also, we recently welcomed Howard Osborne to the NRC as our new Chief Financial Officer. Mr. Osborne has experience implementing data strategies to enhance decision-making, which I think will be a great asset to us as we move forward. He's already begun work to pivot towards more multi-year planning in order to optimize resources and better inform investment decisions, and I look forward to continuing to work with him to help achieve this vision.

- 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:

In recent years, the University Nuclear Leadership Program has been funded with carryover consistent with Congressional direction included in the explanatory statement accompanying the appropriations legislation for the fiscal year. The fee-recovery requirements in section 102(b) of NEIMA apply to budget authority enacted for the current fiscal year.

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

RESPONSE:

The \$92M in carryover did not come exclusively from FY 2022. It is a cumulative total of all prior years. Of the \$92M carryover balance, approximately \$60M came from fee-recoverable funds and approximately \$32M came 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:

Only a portion of the \$92M in carryover was factored into the budgeted resources recovered through annual fees for operating reactors in the FY 2022 fee rule. Of the \$92M in carryover, the portion from fee-recoverable funds in the Nuclear Reactor Safety control point is \$42.9M, which consists of \$32.7M from FY 2022 funds that were not obligated, \$4.9M in carryover from prior years, and \$5.3M in de-obligations from prior years recognized in FY 2022. Although the fee calculation is more complicated, using a simple approximation the \$32.7M would equate to about \$350,000 per operating reactor. The FY 2024 budget request proposes using \$27.1 million

in carryover to offset the Nuclear Reactor Safety budget, which would reduce the annual fee for operating reactors in FY 2024.

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

RESPONSE:

The NRC has not spent all of the \$92M in carryover. Of this balance, the NRC allocated funds as follows:

Amount (In Millions)	Description
\$15.5	University Nuclear Leadership Program/Integrated University Program grants
6.4	Commission carryover
4.9	Fee recoverable operating reactor emergent needs
3.6	Advanced reactor emergent needs
2.0	Corporate support - space planning and renovations
2.0	International activities emergent needs
1.0	Office of the Inspector General carryover
1.0	Minority Serving Institution grants
0.6	New reactors emergent needs
0.4	Ukraine supplemental appropriation carryover
0.4	Spent Fuel Storage and Transportation emergent needs
0.1	Nuclear Waste Fund carryover
0.1	Agreement State oversight travel needs
	Miscellaneous emergent needs (\$40,000 for Nuclear Material Users and
0.1	\$17,500 for Official Representation)
\$38.1	Total

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

RESPONSE:

The NRC estimates the carryover balance at the end of FY 2023 will be approximately \$103M.

Of this balance, approximately \$54M is anticipated to come from the beginning balance not used in FY 2023, approximately \$3M is anticipated to come from de-obligations of prior year funds not used in FY 2023, and the remaining \$46M is anticipated to come from unobligated FY 2023 funds, much of which is due to schedule changes driven by licensees, applicants, and potential applicants. The FY 2024 budget request proposes using \$27.1 million in carryover to offset the Nuclear Reactor Safety budget, which would reduce the estimated carryover from \$103M to approximately \$76M.

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

RESPONSE:

The Commission recently voted on the FY25 budget, and my colleagues and I worked hard to ensure that the request reflects the amount of resources truly needed to perform mission-critical work, while reducing overestimation and excess as much as possible. As I have argued before, mapping the agency's Strategic Plan with the budgetary needs of the agency needs to be the first step. Staff should be able to demonstrate and clearly communicate how key components of the agency's organizational structure, including the mission, Strategic Plan, workforce planning processes, and the budget are all working together.

I would like to commend the Chief Financial Officer and his staff for working to think differently and more strategically about the NRC's budget formulation process, an effort that I wholeheartedly encourage. It is my view that the process needs to be more data-driven and transparent, and I appreciate the staff's endeavors to pivot towards more multi-year planning in order to optimize resources and better inform investment decisions. Furthermore, I've been consistently vocal about the need to comply with the corporate support caps within NEIMA and to also ensure the agency is well positioned to meet the needs of advanced reactor licensing, which Congress has made clear should be a priority for the NRC.

- 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:

The staff has informed the Commission that the hours spent on transformation-related activities have not been specifically tracked so unfortunately, I am not able to provide this information.

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

RESPONSE:

The original, overall goal for transformation was to turn the agency into a modern, risk-informed regulator. This means being an agency that can quickly and efficiently adjust course depending

on how external factors (such as changes in nuclear technology, global politics, and energy demands) shift. To help focus that goal, the staff came up with areas on which to devote resources: using technology and data analytics; retaining and developing a high-quality workforce; using risk insights for decision making; and innovating. While I think the agency has made progress over the last several years, I believe there's still a lot of work to be done. For instance, Part 53 is an example of an opportunity for the NRC to embrace a truly innovative regulatory approach for licensing advanced reactors, but the draft proposed rule package currently falls short of that goal.

- c. What metrics does the NRC have in place to track progress toward the transformation goals and objectives?

RESPONSE:

The agency's transformation initiative is rooted in making cultural changes in the way that the NRC does its work. At a large-scale organizational level, success in transformation can be tracked through shifts in agency processes that result in more risk-informed and durable regulatory decisions.

The objectives and key results methodology is one way the NRC seeks to quantify the transformation initiative's success. Objectives are higher level goals and meant to be aspirational; for example, one transformation objective for 2023 is "Foster a healthy organizational culture in which the workforce is engaged, adaptable, and receptive to change and makes data-driven and evidence-based decisions." A key result is one or more indicators designed to measure success toward an objective; an example of a key result tied to the transformational objective above is "Eighty percent or more of agency employees would say, 'I recommend my organization as a good place to work.'"

This objectives and key results methodology correlates to annual goals (e.g., objectives) and identifies measures of success by key results in a given year. In 2020, one agency-level objective was selected with three corresponding key results. Thereafter, each annual iteration of agency-level objectives and key results were designed to successively build upon the prior year's transformational successes. The objectives and key results methodology has allowed for a focused and coordinated agencywide approach to achieving the NRC's vision of becoming a more modern, risk-informed regulator.

This methodology has allowed the agency to strategically drive agency-wide alignment while identifying targeted progress areas within the four transformation focus areas (i.e., Be riskSMART, Innovation, Focus on Our People, and Use Technology).

The tools and resources that were developed in 2020 include the Be riskSMART framework, IdeaScale innovation platform, and the Guide to Career Enhancement. This work served as the foundation for the 2021 objectives and key results, which were crafted, in part, to collect data on the staff's use of transformation tools as well as external stakeholder views on the agency's efforts. The 2022 objectives and key results were intended to sustain transformational progress in the long term and further reinforced the four transformation focus areas. The 2023 agency-

level objectives and key results are focused on our organizational health, particularly in the areas of staff retention and engagement as well as recruitment and hiring.

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

RESPONSE:

The purpose of transformation efforts at the NRC is twofold: to foster a culture of creativity and continuous improvement and to make better, more robust regulatory decisions.

Our transformation initiatives are focused on 1) our people; 2) risk-informed decision-making; 3) technology, including data analytics; and 4) innovation. These efforts have resulted in the following innovations and efficiencies:

- Our People
 - We launched the Nuclear Regulator Apprenticeship Network (NRAN), which currently includes 25-member cohorts of diverse and talented staff from different colleges and universities.
- Using Technology
 - Over 160 data analytic dashboards are used at the NRC to assist in its decision-making and help external stakeholders easily find information.
 - Developed online portals to standardize and streamline submission of licensee requests.
- Be riskSMART Framework
 - A plain language framework that:
 - Assesses risk to focus on issues of greater safety significance.
 - Uses risk information to inform the agency's regulatory decisions in all areas: technical, corporate, and legal arena.
 - Using this framework has been key in activities such as developing the new Operating Reactor Analytics public website, allowing users to filter and sort results by site, Region, or licensee. This project provides an overview of plant performance, with the Reactor Oversight Process explained in plain language, to make it easy for members of the public to understand how findings and performance indicators relate to our assessment.
- InnovateNRC 2.0
 - IdeaScale, the agency's innovation platform, has produced success stories such as:
 - 2022 – eConcurrence:
 - Streamlined document concurrence and enhanced transparency by allowing individuals to see comments, respond to comments, and make edits in real time, thereby increasing focus on the most safety significant issues.

- 2023 – Modernized Agency Document and Management System (ADAMS) Content Search using Azure Cloud Services:
 - Leverages technology to allow staff to easily search for documents to enhance decision making.
- 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 safe mission is balanced with the need for timely decision-making?

RESPONSE:

I believe that we can improve our efficiency without compromising on safety. To do this, we need NRC managers to be appropriately engaged in the status of planned and ongoing reviews. For example, workload management meetings are held frequently with NRC management to discuss status, challenges, and actions related to licensing programs, including for operating reactors, non-power production or utilization facilities, new and advanced reactors, decommissioning facilities, and other materials facilities. This active management engagement allows for quicker identification and resolution of issues as they arise.

The NRC has taken a number of steps to incorporate risk-informed decision-making into the performance of the agency's safety and security mission. For example, the NRC staff have received training on the use of risk-informed decision-making. Leaders at all levels have communicated the expectation to incorporate the use of risk concepts in all agency decision-making.

- 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 NRC staff encourages robust pre-application engagement prior to the submission of an application. This allows for the timely identification and resolution of technical and policy issues and assists the NRC in determining resource and budget needs to support efficient reviews.

As discussed in Regulatory Issue Summary, "Process for Scheduling and Allocating Resources for Fiscal Years 2023–2025 for the Review of New Licensing Applications for Light-Water Reactors and Non-Light Water Reactors," potential advanced reactor applicants are encouraged to engage with the NRC as early as possible to help the NRC plan its resources appropriately. Early notification of future application submissions allows the NRC staff to engage in pre-application activities with developers. These pre-application interactions permit the NRC staff to become familiar with the proposed design and approaches to be used by the potential applicant, to promptly identify and resolve potential policy issues, and to help the NRC prioritize resources

in preparation for the review once the application is formally submitted.

Once an application is submitted, the staff performs an acceptance review to determine if there is sufficient information to complete the review in a timely and efficient manner. Also, during the acceptance review process, the staff determines the appropriate technical disciplines required for the review and whether additional support is needed from other parts of the agency or through contract support. Once an application has been accepted, the NRC has the capability to assign additional resources, if needed, to support the timely completion of a review. The staff establishes and communicates review schedules to applicants once applications are accepted.

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

RESPONSE:

Commissioner Caputo and I recently released a joint Commission Action Memorandum (COM) titled “Measuring NRC Success.” 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 issues earlier in the process. Quality, publicly facing data will also help increase the NRC’s accountability to external stakeholders. In addition, real-time updated data should help inform the conversations Commissioners have with NRC staff leadership and provide data for us to effectively evaluate their performance.

As we stated in our COM, the NRC does use metrics to track performance. For example, we include a number of metrics in our Congressional Budget Justification. Unfortunately, these metrics are of limited value in that they are typically high level, only calculated on an annual basis, and are routinely reported as averages. Therefore, our COM proposes a more meaningful set of metrics that would provide near real-time monitoring of the agency’s performance in terms of licensing both the existing fleet and new reactor applications.

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?

RESPONSE:

The NRC’s leadership has established schedules for all of the aforementioned reviews; however, I think the agency still has a ways to go in completing these reviews in an efficient way. To that end, I believe that the draft COM that Commissioner Caputo and I just released will improve accountability and will help NRC leadership communicate a sense of urgency to external stakeholders.

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:

I commend the staff for completing their final safety evaluation report for the Kairos Hermes non-power reactor ahead of schedule. The time necessary to review a license application for an advanced power reactor will depend on many factors such as successful pre-application engagement. It will also be dependent on the type of application, size of the reactor, and quality of the application and responses to additional information. However, I believe that 24 months would be an aggressive but reasonable target.

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

RESPONSE:

Unfortunately, I cannot give a clear, satisfying answer on how long it takes the Commission to develop and finalize a policy statement. From my own review of past policy statements, it has typically taken two to three years to develop formal policy statements of the Commission; however, each policy statement is highly issue-specific and the total time depends on factors such as whether stakeholder input is needed, Commission alignment on a proposed approach, and staff resources.

The process generally starts with a proposal from the staff or direction from the Commission to develop a policy statement on a particular topic. Historically, after the staff has developed a draft policy statement, the staff typically conducts public engagement, usually publishing the draft policy statement in the *Federal Register*, receiving public comment, making revisions as appropriate to the policy statement, and then providing the proposed final policy statement to the Commission for its consideration. This proposed final policy statement is then voted on by the Commission.

This is an overview of how policy statements have typically been developed and finalized in the past. More specifically, policy statements, such as the Safety Culture Policy Statement, took approximately 3 and a half years from the time the need for a policy statement was first proposed to the issuance of the final policy statement. A similar policy statement on the Conduct of Nuclear Power Plant Operations took closer to a year and a half from initial proposal to issuance. There, the Commission directed the staff to develop a proposal and after it was provided to the Commission, reached alignment and published the policy statement, without a separate public comment period, within three months. If there was significant alignment among the Commissioners on a proposed policy statement, a policy statement could be drafted and issued within a matter of months, such as what was done in the 1981 Statement of Policy on Conduct of Licensing Proceedings.

Ultimately, there is no requirement on who must author policy statements, nor is there a requirement for public comment, even though in most instances I believe this would be the best practice. As a result, the amount of time to develop and finalize a policy statement varies significantly based on a multitude of factors.

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

RESPONSE:

I believe strongly, and have stated multiple times, that it is imperative that the NRC meet this critical moment in nuclear progress. What we do matters, not just to the NRC and the United States but also to countries of like mind around the world. In fact, it is not lost on me that this is a matter of national security, which means that we can't be a barrier to progress. That's why it's not just to get to the right outcome eventually; we have to make decisions in a timely manner.

Overall, I believe Commissioner Baran's COM makes some good points but I have a different perspective on several of its key features. For example, Commissioner Baran's COM is focused on new reactor reviews. While I think this is important, I believe we also need to improve the efficiency of licensing decisions for the existing fleet (e.g., power uprates, subsequent license renewal, etc). Therefore, the COM that Commissioner Caputo and I have proposed addresses these other key areas as well.

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:

I agree that our FEVS scores need to improve. Although I can't point to a specific root cause, I think that the lack of new nuclear deployments in the 2010s has led to a sense of pessimism about the future among many agency employees. This new wave of advanced reactors and small modular reactors is exciting, and I hope as we make progress in this area, it will increase the optimism of NRC employees. In the short-term though, we need to learn where we are doing well as an agency. For example, our first line supervisors scored quite well, earning a score of 87.1 in the Effective Leadership: Supervisors category. That placed us in 8th out of the 24 agencies in our group. During a Commission meeting last spring, I asked one of our senior leaders what we as an agency can learn from what our first line supervisors are doing right. He shared several initiatives that are underway to capture some of the best practices being demonstrated by our first line supervisors. Obviously, we still have a way to go, but I do want to highlight one of the positive areas that I think our agency can learn from.

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

RESPONSE:

I have attached a copy of my proposal (developed jointly with Commissioner Caputo) to this letter. Our proposal is also available at:

The Honorable Rick W. Allen

1. Can you discuss NRC's work to ensure knowledge is preserved on spent fuel and on other important technical matters that may not be dealt with every day.
 - a. How does the NRC ensure staff knowledge is transferred about this application process?

RESPONSE:

Knowledge Management (KM) is an integral part of the agency's culture and the responsibility of every employee. To ensure the transfer of knowledge and expertise to new NRC staff and the existing workforce, the agency offers a variety of tools and resources that are readily available to the staff. These efforts are captured by the agency's Knowledge Management Strategy, which contains multiple approaches and tools for use in facilitating a culture that prioritizes knowledge retention and transfer.

For example, Nuclepedia is the NRC's internal wiki platform utilized to store and capture various forms of knowledge, such as job aids, reports, recorded trainings, NUREGs, and many other important items. Nuclepedia is accessible through our intranet, is easily searchable, and attributes knowledge to agency experts with embedded links to authoritative agency documents.

Our KM Best Practices Toolkit offers a broad range of KM tools and resources for employees to transfer and share knowledge and complements our KM Toolkit for Supervisors, which is a resource available to management to aid with identifying and implementing successful KM approaches at the NRC to address their organizations' most urgent needs. The toolkit also addresses approaches to mitigate the impact of senior employees' long-term absence and eventual departure while providing valuable assistance for incoming employees or those who have been assigned new tasks. In addition, specifically for the capture and transfer of critical knowledge relating to spent fuel storage and transportation applications, the agency is engaging staff through routine seminars in key technical areas.

The NRC is currently undergoing an external evaluation of its KM program to better align the efforts with expected outcomes and to explore various ways to elevate the priority and urgency of capturing critical knowledge and best practices to overall increase KM engagement. KM engagement is critical to the future of the agency and is emphasized as part of the regular duties of our staff.

- b. Can the NRC provide, for the record, an update on work to assure staff are familiar with the open Yucca application?

RESPONSE:

The NRC maintains an awareness of the Yucca Mountain application through knowledge capture documents, the NRC's Fuel Cycle Processes Course, and other knowledge management tools.

Since 2011, funds from the prior-year Nuclear Waste Fund (NWF) appropriations have been used for certain knowledge management activities to capture information that would position the agency well in the event that the Yucca Mountain repository licensing proceeding is resumed or for potential NRC licensing of another geologic repository.

The first knowledge capture activity was initiated as part of the NRC's orderly closure of its Yucca Mountain review activities in 2011. The staff produced a set of knowledge management reports² that covered topics related to the review of the license application, such as preclosure and postclosure safety, performance assessment, the regional and local geologic framework, disruptive events, and barrier performance. A second knowledge capture activity,³ conducted after the publication of the Safety Evaluation Report for the Potential Repository at Yucca Mountain, documents insights gained in selected technical areas, including new approaches or understanding in the specific fields of preclosure and postclosure safety assessment and climate and hydrologic processes.

The third knowledge capture activity,⁴ conducted in 2021, focused on the technical and regulatory bases related to the review of the Yucca Mountain license application, including the development of disposal regulations.⁵ Although a large body of information exists on the regulatory and technical progress and findings since the 1980s, this knowledge management document identifies and connects key documents with regulatory and technical review information with a goal to improve the efficiency in reconstituting the technical knowledge for a potential future geologic repository program.

² <https://www.nrc.gov/waste/hlw-disposal/historical-information.html#km>

³ Staff Requirements – SECY-16-0122, Status of Yucca Mountain Repository Program Activities, November 8, 2016.

⁴ Staff Requirements – COMSECY-20-0013, Knowledge Management for High-Level Waste Disposal, October 9, 2020

⁵ Knowledge Management Roadmap for Geologic Disposal of High-Level Waste (Agencywide Documents Access and Management System (ADAMS) Package [ML21246A167](#))