

October 28, 2024

Mr. Michael F. King
Special Assistant for ADVANCE Act Implementation
Office of the Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-000

Subject: NEI Input on Improvements to Licensing and Oversight Programs

Project Number: 689

Dear Mr. King,

As you know, the need for carbon-free, reliable energy in the United States and worldwide has skyrocketed. The recently passed bipartisan legislation known as the ADVANCE Act¹ will help nuclear energy play a key role in the Nation's effort to achieve its climate and energy security goals. Provisions of the ADVANCE Act will bolster U.S. international competitiveness, accelerate the domestic deployment of innovative advanced nuclear technologies, promote greater efficiency and timeliness in the U.S. Nuclear Regulatory Commission's (NRC) processes and modernize the oversight and licensing of the operating fleet of reactors. We appreciate that the NRC has already taken steps to respond to the requirements of the ADVANCE Act, including forming internal teams to address provisions of the ADVANCE Act, establishing a web page to communicate with stakeholders², and having public meetings to engage external stakeholders.

To assist the NRC in obtaining feedback from the industry, the Nuclear Energy Institute (NEI)³ has worked with our members to develop recommendations for the NRC's consideration with respect to Sections 505 and 507 of the ADVANCE Act related to licensing efficiency and improving oversight and inspection programs. Over-arching recommendations are summarized below, and additional details and recommendations related to Sections 505 and 507 are provided in Attachments 1 and 2 respectively. While recommendations may be categorized in the attachment within specific business lines, we encourage the NRC to consider each of these recommendations across NRC business lines, where possible.

The NRC's regulatory processes must be efficient and timely to accommodate the significant increase in workload expected based on NEI's recent Future of Nuclear Power 2024 Survey⁴ stemming from

¹ The "Accelerating Deployment Of Versatile, Advanced Nuclear For Clean Energy Act Of 2024", (ADVANCE Act), full text available at https://www.epw.senate.gov/public/_cache/files/5/0/5053d4be-a56e-446d-8341-53ad78c3e82f/82728233c96dc75092f9436066fab212.bills-118s870eah.pdf

² <https://www.nrc.gov/about-nrc/governing-laws/advance-act.html>

³ The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

⁴ <https://www.nei.org/resources/reports-briefs/the-future-of-nuclear-power-2024-survey>

applications for long-term operation and power uprates of operating plants, restart of decommissioning plants and licensing and construction of advanced nuclear reactors.

Over-Arching Recommendations

(1) Rapidly disposition issues of low safety significance.

Over its almost 50 years of operation, the NRC has learned from thousands of reactor-years of plant operation and regulatory experience and has embraced the use of probabilistic risk assessment (PRA). We appreciate that in recent years, the NRC has tried to broaden the use of risk insights across the agency and request that this effort be revitalized. Today's mature and high performing industry presents the NRC with more issues of low safety significance than of high significance, and the agency should consistently resolve these issues in an efficient and timely manner, regardless of whether an issue arises from licensing, oversight, or through the agency's differing views program.

- The NRC developed the Very Low Safety Significant Issues Resolution (VLSSIR) process to address compliance issues judged to have negligible impact on safety. As of the date of this letter, the staff has utilized the process 28 times, a great accomplishment. As this process is well established, we request that the NRC expand the applicability of the process and ensure it is used consistently across all regions and Offices.
- Too often, time and resources are expended on issues of low safety significance. The NRC has developed many risk-informed approaches that can help focus industry and NRC staff resources. A gap appears to exist in the level of understanding and acceptance of risk-informed approaches across the existing staff and new staff will need to be trained on risk-informed thinking. To this end, the staff should develop a practical training program to level up the understanding, acceptance and use of risk-informed approaches across the agency.
- We acknowledge that the NRC already has internal guidance for the differing professional opinion and non-concurrence processes that describes the need to execute these processes effectively, efficiently, and in a timely manner.⁵ NEI previously⁶ offered suggestions for NRC's consideration to improve the timeliness and efficiency of processes and request the NRC reconsider them as part of its efforts responding to the ADVANCE Act.

(2) Timely review of License Amendment Requests.

The NRC has recently taken steps to reduce the length of time and level of resources needed to complete reviews of license amendment requests (LARs). These process improvements were primarily based on analysis of prior agency performance. We request that the NRC set more ambitious targets for process reform that maintain safety but increase efficiency with the aim of completing most LARs within six months and all LARs within 12 months. The attachment offers specific recommendations that could be used to help achieve these targets.

⁵ See NRC Management Directive 10.159, NRC Differing Professional Opinion Program, Section II, "Objectives", July 27, 2023, ADAMS ML23123A099.

⁶ Jennifer Uhle (NEI) letter to Ray Furstenau (NRC), "Need For Agencywide Approach To Efficient And Effective Decision Making", May 8, 2024.

(3) Seek efficiency in baseline inspection program.

Nuclear industry performance has improved⁷ since the beginning of the Reactor Oversight Program (ROP). This has been achieved through the industry's striving for continuous improvement and pursuing excellence. The NRC has yet to fully reflect this remarkable improvement in performance in the NRC's oversight and inspection of operating reactors. A more fulsome investigation of industry performance and inspection effectiveness based on the huge body of ROP experience could identify areas where inspection efficiencies could be obtained. For example, NEI recently conducted an analysis of greater than green (GTG) non-security related inspection findings since 2011 and our analysis shows that approximately 80% of the issues were initially identified by the licensee or were the result of a self-revealing event, notwithstanding current definitions. The most significant inspection findings were predominantly identified by the licensee, which confirms the effectiveness of licensees' corrective action programs (CAP) and their ability to identify and correct issues. In the Initiating Event and Mitigating Systems cornerstones, over 94% of the findings were either self-revealing, licensee identified, or identified by the resident inspector, and less than 6% were the result of regional or headquarter inspections. In the attachment, NEI offers specific recommendations to embrace risk-informed thinking more thoroughly throughout the inspection program and remove redundant activities from the inspection program.

(4) Reevaluate regional/headquarters organization structure.

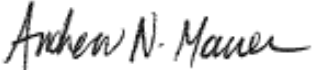
We recommend that the NRC reevaluate the current organization structure with four regional offices. The current organization includes each regional office reporting to the Deputy Executive Director for Reactor and Preparedness Programs. However, the regional office responsibilities support multiple program offices, including the Office of Nuclear Material Safety and Safeguards, which reports to a different Deputy Executive Director. The programmatic lead of the regional inspection programs is led by the Office of Nuclear Reactor Regulation, and this organization has resulted in inconsistency. In 2013, the Government Accountability Office found differences in identifying and resolving findings across regional offices. More recently, NRC reports to Congress show that the inconsistencies continue. NEI has observed inconsistent implementation of the ROP, including significant differences in the number of findings per region, varying regional feedback/comments on potential generic violations (e.g., an issue related to 10 CFR 72.48), varying use and support of important new processes, such as the VLSSIR process, inconsistent regulatory interpretations and application of the minor/more than minor threshold. In addition, several nuclear fleets span multiple regions. Providing one oversight organization for a fleet could improve consistency and enable more efficient use of NRC and licensee resources.

Such an approach recognizes that resident inspectors are site-based and can report to a leadership organization at any location. Virtual technology and travel accommodations allow inspectors to live outside of current regional offices. The NRC has historically allowed inspectors to live in locations other than a regional office, demonstrating that traveling inspectors do not have to be located near a regional office. NEI recognizes that an NRC regional presence is beneficial, allowing for easier engagement with local stakeholders and public officials, and a faster response to postulated situations that could require prompt, in-person attention. In 1998, when the NRC closed the Region V office, it served as a field office for a period of time. Such a model of regional field offices directly reporting to and supporting the respective program office would allow more streamlined operations and would provide additional developmental opportunities for headquarters staff seeking to broaden their skills.

⁷ <https://www.nei.org/resources/reports-briefs/performance-safety>

NEI appreciates the NRC's consideration of the industry's input as part of the agency's efforts to address the ADVANCE Act. We are happy to discuss our initial recommendations further and answer any questions you have concerning our input. The industry will look for opportunities to provide additional input as the agency's efforts progress. No written response to this letter is necessary.

Sincerely,



Andrew N. Mauer

Senior Director | Regulatory Affairs

Attachment 1: Additional NEI Input on ADVANCE Act Section 505

Attachment 2: Additional NEI Input on ADVANCE Act Section 507

- c: Mirela Gavrilas – Executive Director for Operations
- Andrea Veil – Director, Office of Nuclear Reactor Regulation
- John Lubinski – Director, Office of Nuclear Material Safety and Safeguards
- Craig Erlanger – Director, Office of Nuclear Security and Incident Response

Additional NEI Input on ADVANCE Act Section 505

Nuclear Licensing Efficiency

Section 505 of the ADVANCE Act directs the NRC to establish techniques and guidance for evaluating applications for licenses and amending licenses to support efficient, timely, and predictable reviews. When certain modifications to nuclear plant equipment, procedures and plans are needed, operating reactor licensees must seek an amendment to their operating license. The timeliness and efficiency of the NRC's licensing efforts directly affect the ability of plant owners and operators to plan and execute plant improvements and major outages as safely and efficiently as possible. While the NRC has taken steps to improve timeliness and efficiency of licensing reviews, additional actions should be taken.

The Commission recently provided specific direction to the NRC staff to complete license renewal (LR) and subsequent license renewal (SLR) reviews within more efficient schedule and resource parameters.⁸ The NRC staff has also made public its goals for six, nine, and twelve-month reviews for measurement uncertainty recapture, stretch power uprate, and extended power uprate requests. More timely completion of power uprate reviews is important to help meet the nation's skyrocketing power demand. We appreciate the NRC's willingness to explore opportunities to be more efficient in its future reviews of combined submittals for applications such as a power uprate and increased enrichment or higher burnup amendment.

NEI's recommendations for operating reactor licensing improvements focus on routine licensing actions. However, the principles and recommendations highlighted below can be applied to reviews of all types.

Operating Reactor Licensing

Review schedules for routine licensing actions should be based on the level of safety significance of the staff review of the requested change, with the goal of completing reviews within six months or less, without an increase in resources. Based on NRC data presented at the May 29, 2024, meeting with NEI's Regulatory Issues Task Force,⁹ NEI estimates that 90 percent of LARs are sufficiently simple and of relatively low safety significance such that NRC should be able to complete its review within that six-month window. For the remaining 10 percent that are more complex or involve greater safety significance, NEI recommends that the NRC aim to complete licensing reviews in no more than one year.

NEI believes that the NRC has the tools and processes needed to meet these targets if they are coupled to an agency-wide commitment to achieve greater efficiency and consistency. We believe this will require the NRC to bring strong leadership and discipline to its licensing reviews. The industry will also ensure that submittals are of high quality. NEI recommends that the NRC:

- **Maximize the value of pre-submittal meetings.** Pre-submittal meetings give the applicant and NRC staff an opportunity to discuss the scope, schedule and key questions associated with a planned licensing action. These meetings can be valuable in aligning expectations and improving the quality of the submittal and the review. Both the NRC and the applicant should ensure the pre-submittal meeting leads to alignment between the staff and applicant on the key technical elements and level of detail that need to be addressed in the submittal.

⁸ NRC memorandum from Carrie M. Safford, Secretary, to Mirela Gavrilas, Executive Director for Operations, SRM-COMCTH-24-003, "License Renewal And Subsequent License Renewal Review Expectations", August 8, 2024, ADAMS ML24221A319.

⁹ Estimate by NEI staff based on information in NRC staff presentation, "Public Meeting With The Nuclear Energy Institute (NEI) Regulatory Issues Task Force", May 29, 2024, ADAMS ML24017A299.

- Track the effectiveness of pre-submittal meetings. It is in the NRC's interest to ensure that pre-submittal meetings are effective. To this end, the NRC should track the outcomes of pre-submittal meetings to verify they are producing the desired result. One potential measure of effectiveness could be to track acceptance/non-acceptance decisions for license applications that were discussed at a pre-submittal meeting. If the pre-submittal meetings are effective, then the NRC should find that non-acceptance decisions are not made for submittals discussed at an effective pre-submittal meeting. The industry will do the same and ensure that applications include the information discussed in the meeting.
- Refine the safety evaluation format. NRC safety evaluations are produced in a narrative or prose format. This "story telling" format reads well and helps communicate the scope and depth of review to outside stakeholders. However, the narrative format may also make it more difficult to recognize specific data elements that were crucial to the conclusion of the safety evaluation. In addition, creating, editing, reviewing, and approving the prose requires additional time beyond the simple comparison of applicant values to regulatory acceptance criteria. The NRC should consider alternatives that might be more efficient. Examples of such improved formats may include consistent use of templates, checklists, timelines, bullets, embedded links, or graphics.
- Use AI and other technological innovations to streamline the NRC licensing processes. Several portions of the safety evaluation are paraphrased from the licensee's submittal. The NRC should use technological innovations, such as artificial intelligence, to reuse text from the application and focus the review of the technical information. As envisioned, the reviewer would verify the application complies with the regulations and the technical information is accurate and AI would be used in a supporting role.
- Expand the use of Integrated Review Teams (IRTs)¹⁰ and Be riskSMART¹¹ decision-making techniques. As mentioned previously, the staff should focus on the most safety-significant aspects of the requested licensing action and tailor the resources of the review to be commensurate with risk. The consistent use of LIC-206¹² and adherence to Be riskSMART framework would ensure that reasonable assurance of adequate protection is achieved while optimizing review efficiency. In addition, and as noted below, the staff should apply accepted project management techniques in establishing review schedules and resource targets to enhance review predictability, while considering the benefit of these practices.
- Prioritize the use of more efficient tools like requests for confirmation of information (RCI). Because RCIs are presented in a format that lends itself to "yes" or "no" responses, the applicant can respond to an RCI more quickly than to a request for additional information (RAI). The use of RCIs also empowers the NRC staff to use their engineering and regulatory expertise.
- Ensure every RAI or RCI is linked to a specific gap in a draft safety evaluation. We believe adhering to the standard that a draft safety evaluation be written to identify the gaps between what the staff deems necessary for approval and what has been docketed by the licensee will lead to more efficient and timely reviews. The staff presentation during the May 29, 2024, public meeting with NEI's Regulatory Issues Task Force noted that, "The number of RAIs associated with a review correlate[s] with the likelihood of a review exceeding 115% of the estimated schedule."¹³ To enhance the efficiency of

¹⁰ Establishing the framework and practical guidance for staff to use in forming integrated review teams was the intent of LIC-206, Revision 1, "Integrated Risk-Informed Decision-Making For Licensing Reviews", June 26, 2020, ADAMS ML19263A645.

¹¹ NUREG/KM-0016, "Be Risksmart: Guidance For Integrating Risk Insights Into NRC Decisions", March 2021, ADAMS ML21071A238.

¹² Op Cit.

¹³ See previous citation for May 29, 2024 meeting with the LITF.

licensing reviews, the NRC should continue to apply discipline in the issuance of RAIs and RCIs to avoid resources being devoted to unnecessary information. The use of RCIs also empowers the NRC staff to use their expertise, knowledge of plant operations, and engineering judgment to make safety decisions regarding the application. The use of an RCI can quickly verify the staff's understanding of plant-specific details and accelerate the review.

- Expand the use of the Risk-Informed Process for Evaluations (RIPE). The NRC should allow the use of qualitative information in RIPE reviews because some low risk and/or low safety significance issues may not be quantifiable, precluding the use of the process. We recommend expanding RIPE to maximize the value of the input from the Integrated Decision-making Panel review, engineering judgment, and the responses to the screening questions to perform expedited reviews of changes known to be of very low safety significance. The NRC should also seek to use processes such as RIPE across the program offices.
- Maximize communication between licensees, applicants, and the NRC during the review process. Communication is the cornerstone of efficient and effective reviews. The NRC should reexamine the available tools the NRC staff has to communicate with a licensee or applicant and remove any unnecessary administrative or procedural barriers that prolong the review process. Recommendations such as, but not limited to, streamlining the audit process, maximizing the use of clarification calls, and facilitating more efficient expert-to-expert interactions should all be investigated for additional efficiency gains in the review process.
- Leverage readily available advanced modeling and simulation codes to determine the safety significance of issues raised by the staff in licensing reviews. Such codes and methods include tools developed by the U.S. Department of Energy and industry vendors. This would allow the NRC to focus valuable resources on key technical issues that impact safety and improve licensing efficiencies. For example, the NRC staff should consider using the Oak Ridge National Laboratory SCALE code to evaluate the effect of higher fuel enrichment on uncertainties in spent fuel pool criticality analyses to help address an unresolved issue.

New and Advanced Reactor Licensing

The NRC's efforts to become more predictable and efficient in its licensing actions have improved the timeliness of new reactor application reviews. However, further improvement can be achieved.

NEI provided recommendations to improve new reactor licensing in 2021, based, in part, from applicant experience, but the NRC did not seem to pursue many of them.¹⁴ NEI requests that the NRC reconsider those recommendations that would complement the NRC's ongoing regulatory improvement efforts. If implemented, these initiatives would lead to a more modern and efficient regulatory framework for new and advanced reactors. The recommendations include:

- Apply accepted project management techniques in establishing review schedules and resource targets to enhance review predictability. Consistent with good project management practices, each applicant should be provided with review schedules and review-hour estimates broken down by the key elements of the review when the application is accepted. Schedule targets should be aggressive, consider the carbon-free energy needs of the country, and reflect the direction provided by Congress in the ADVANCE Act. Schedule targets should include the entire schedule for completing the NRC licensing action, not just staff reviews, in order to provide a complete picture of the timeline to the applicant. The NRC should provide the basis for the targets. The NRC's licensing resource targets

¹⁴ [Marc Nichol \(NEI\) letter to Rob Taylor \(NRC\), "NEI Input On Recent Application Experience For New Reactors", June 9, 2021.](#)

should be predicated on reaching a robust safety/security decision but also should be efficient, supported by a sound, documented basis, and account for the applicant's business model objectives and the government's policy objectives supported by the licensing action. In the event NRC resource requirements for specific elements change during the review, the applicant should be notified immediately and provided with a justification.

- Improve efficiency in the review process. The NRC should increase consistency in the use of risk insights to inform the NRC's review. That is, the NRC review should focus on risk significant areas and dwell less on areas that are not. The NRC should also adjust the level of detail and content of applications commensurate with safety significance. The NRC should consider implementing a well-defined appeal process for issues encountered during new reactor application reviews and reinforce audit best practices.
- Innovate the NRC licensing processes. In a July 31, 2024, paper to the NRC, NEI proposed¹⁵ a rapid and efficient licensing process for advanced reactors that will be needed for large-scale deployment. The recommendations complement the NRC's valuable efforts to establish a modern and efficient regulatory framework for advanced reactors and, although focused on micro-reactors, many of these efficiencies could apply to larger reactors.
- Establishing performance-based and graded approaches for advanced reactors. Advanced reactor designs include inherent safety features, advanced technology, and control systems that dramatically differ from those of most currently operating plants. New approaches to regulate advanced reactors that are more performance-based and graded based upon safety characteristics are needed for advanced reactors, including the areas of site characterization, licensing, oversight, and staffing. As such, the minimum staffing levels for advanced reactors should reflect these differences. The NRC should seek input from external stakeholders to establish minimum staffing levels appropriate for these designs based on specific functions requiring human action and the unique design and operational details of the advanced reactor.
- Apply the risk-informed approaches used for advanced reactors to non-power reactors. The NRC should apply the lessons learned from licensing reviews of advanced power reactors to reviews of new non-power reactors. For new reactor designs with similar risk profiles, whether they are power or non-power designs, the NRC review should be efficient. Efficient reviews are important to ensure the NRC does not inadvertently and unnecessarily impede the widest possible uses of nuclear energy for the benefit of society and the environment.

Fuel Cycle Facility Licensing

Improving regulatory predictability is especially important for fuel cycle facilities. Existing licensees and applicants and NRC staff need to know what to expect from a licensing review, both in terms of the content of the review, and the cost and schedule of the review. Regulatory certainty improves when regulatory precedents are followed and when management of the review is transparent. The following recommendations address these opportunities for improvement.

- Require the review of precedent. The Standard Review Plan (SRP)¹⁶ for fuel cycle facility license applications does not instruct the NRC staff to review precedents, which has led to unpredictability in licensing activities. The extent of the precedent review should be sufficient to give the reviewer(s) the history and context of approaches taken in approved applications. NEI recommends that the NRC establish a formal requirement for the staff to review methodologies applied to existing fuel cycle

¹⁵ [Regulation of Rapid High-Volume Deployable Reactors in Remote Applications \(RHDR\) And Other Advanced Reactors, July 2024](#)

¹⁶ NUREG-1520, Revision 2, "Standard Review Plan For Fuel Cycle Facilities License Applications — Final Report", June 2015, ADAMS ML15176A258.

facility licensees, along with similar technical submissions. This would provide several benefits, including:

- a. Avoiding unnecessary duplication of review effort by NRC staff,
 - b. Allowing consideration of prior conclusions reached during previous application reviews, and
 - c. Narrowing the focus of the review activity to what is different and unique in the new application.
- Establish licensing project health metrics. The NRC should establish detailed project health metrics to track, report on, and improve the performance of licensing reviews. For example, NMSS Office Instruction LIC-FM-1¹⁷ does not define or require detailed project health metrics that would support the ability to meet Nuclear Energy Innovation and Modernization Act¹⁸ generic schedules and ADVANCE Act mandates for efficient and timely reviews. NEI recommends that the NRC implement standards to routinely and consistently report and discuss the status of reviews (e.g., schedule, budgeted and actual hours) of license applications and license amendments. Public-facing dashboards¹⁹ have been implemented recently for several NMSS and Office of Nuclear Reactor Regulation (NRR) licensing actions with varying formats and levels of detail. A standard should be established that all offices follow.
 - Increase transparency. The NRC should increase transparency and improve accountability and predictability of the review schedule using routine leadership discussions²⁰ following a standardized agenda about the review project status, metrics, and data behind the dashboards (e.g., how many RAIs/RCIs have been issued, how many are closed, and how many are open). This in turn should also improve budget actuals for both the NRC and the applicant/licensee. This will also provide a forum for candid discussion about challenging areas in the review, level of safety/risk significance of those areas, and the actions being taken to achieve resolution, even if a partially closed meeting is necessary due to content of the discussions. NRC leadership should make clear to the staff that data-driven tracking of review status is expected.

¹⁷ U.S. NRC, NMSS/DFM Division Instruction LIC-FM-1, "Overview And Expectations Of The Certification And Licensing Process Of Spent Fuel And Radioactive Material," ADAMS Accession No. ML20295A524.

¹⁸ <https://ww2.aip.org/fyi/federal-science-bill-tracker/115th/nuclear-energy-innovation-and-modernization-act>

¹⁹ <https://www.nrc.gov/Info-Finder/FC/Urenco-Enrichment-Fac-Nm-Lc/Project-Status.html>;
<https://www.nrc.gov/Reactors/New-Reactors/smr/Licensing-Activities/Current-Licensing-Reviews/Nuscale-Us460.Html#Status>

Recommendations for Enhancing the Safety Focus of New Reactor Regulatory Reviews

²⁰ Example briefing shown in staff presentation, "Nuscale Standard Design Approval Application For The US460", July 17, 2024, ADAMS ML24194A090.

Additional NEI Input on ADVANCE Act Section 507

Improving Oversight and Inspection Programs

Section 507 of the ADVANCE Act requires the NRC to identify improvements to the reactor and materials oversight and inspection programs using risk-informed, performance-based procedures, expanded incorporation of information technologies, and staff training. NEI's recommendations focus on the oversight and inspection of operating power reactors, but the NRC should consider the applicability of these recommendations across all business lines.

The work conducted through the NRC oversight program is a key contributor to the public's belief in the safety of nuclear power and is critical to maintaining the social license for nuclear energy generation in the United States and around the world. NRC's reactor inspection program complements the tracking of performance indicators, which are objective measures of performance. The agency has adjusted the reactor inspection program periodically in the 25 years since the inception of the reactor oversight process (ROP). These adjustments were based primarily on NRC experience with the program and its annual self-assessments. NEI provided input to the NRC during previous reviews of the inspection program²¹ to help make it more efficient and offer the following recommendations for the NRC's consideration.

Baseline Inspection Program Efficiencies

- Documentation of green and SL IV non-cited violations (NCVs) should be reduced. Inspectors can potentially spend many hours documenting green and SL IV NCVs, which are subsequently charged to licensees. The performance issues comprising an NCV are required to be entered in the licensee's corrective action program (CAP) and since they are of very low safety significance, we recommend that the NRC reduce the amount of time and effort expended by the NRC in documenting them.
- Redefine the terms "self-revealing" and "licensee-identified." The NRC should adopt definitions that credit positive licensee behaviors, including questioning attitudes and proactive identification of issues. In our analysis of greater than green non-security related inspection findings since 2011, we identified that almost half of these findings were documented as NRC-identified based on current definitions. However, we believe that over 60% of these "NRC-identified" findings were licensee-identified or self-revealing. The current definition of "licensee-identified" limits credit for identification of an issue to those discovered through a licensee program or process or deliberate and focused observation during performance of normal duties. While those instances are appropriate, licensee staff are encouraged to have a strong questioning attitude and identify issues, regardless of whether it is part of their normal duties or a structured process. Additionally, licensees may establish proactive measures, such as early setpoints on electronic dosimetry alarms, during plant activities to provide advance notice of a potential issue. Current inspection guidance would define that as a "self-revealing" issue but should credit such measures as "licensee-identified."
- Redefine the minor/more-than-minor threshold. We appreciate the NRC's drive for consistency across the regions. To advance this effort, the NRC should revise the definitions of this threshold to be as objective as possible and to more fully consider risk insights. The NRC should then ensure consistent interpretation and application by inspectors.
- Eliminate documentation of findings not associated with a regulatory requirement. NEI data indicates that approximately 5-10% of all ROP findings are not associated with an NRC regulatory requirement.

²¹ Reviews such as the ROP Enhancement Project in 2018 (E.G., ADAMS ML14017A338).

For performance issues that are of very low safety significance that are entered into the licensee's CAP, and are not associated with an NRC regulatory requirement, there should be no need for the NRC to document them in inspection reports, reducing the time spent by the inspector writing and allowing more time for inspection activities. The inspector can follow up by ensuring the issue is addressed by the licensee under the CAP.

- Substantially reduce preparation/documentation (prep/doc) hours. NEI analysis shows the hours charged by inspectors associated with inspection preparation and documentation can be equal to or exceed the direct inspection effort. There is currently little guidance for and transparency in the application of the "prep and doc" hours. We believe that establishing standards for prep and doc would increase the efficiency of the activities. In addition, NRC should maximize the use of inspection report templates and separate inspection preparation and documentation charge codes to provide clarity and transparency. These actions should help the NRC focus inspector effort on direct inspection activities and reduce licensee fees. To monitor effectiveness of these measures, NEI recommends that ROP annual self-assessments track the total hours (direct/indirect) charged per inspection compared to the applicable inspection procedure and compare the results across the regions.
- Reevaluate cross-cutting issues process. Today, both licensees and NRC inspectors can expend significant resources in implementing the cross-cutting issue (CCI) process, but the benefits remain unclear. The industry and the Institute of Nuclear Power Operations (INPO) take great efforts to foster and maintain a healthy nuclear safety culture at operating nuclear plants. Existing regulatory tools (chilling effect letters, semi-annual trend reviews performed by the resident inspectors, etc.) provide the NRC with ample means to communicate concerns with licensee performance. Thus, NEI recommends that NRC reevaluate the CCI process and consider more effective and efficient measures, such as the alternate oversight model that NEI proposed to the NRC in 2014²² that reflects the maturation of the CAP and safety culture monitoring and management conducted by licensees and INPO.
- Investigate and evaluate the value return on baseline inspections. With 25 years of experience and greatly improved industry performance, a comprehensive data-focused review of inspection experience should be performed to identify low value inspection activities and consider opportunities for optimizing inspection scope and periodicity. This evaluation should also consider where performance-based or condition-based inspection intervals could be applied. NEI is currently performing such an evaluation based on publicly available data and data provided by members as input to the NRC staff.

Immediate Notification Requirements for Non-emergency Events - 10 CFR 50.72 Rulemaking

The NRC should proceed with the proposed rulemaking on reporting requirements for non-emergency events at nuclear power plants as documented in SECY-24-0049. The NRC staff's technical basis carefully considered that the NRC is made aware of these events through licensee communications with resident inspectors, the impact of non-emergency notifications on plant operators and recommended that rulemaking should limit notifications to safety significant events. This would enhance the safety focus of NRC's reporting requirements, consistent with the NRC's Principles of Good Regulation. The NRC staff determined that these notifications are not needed for the NRC to fulfill its mission to provide reasonable assurance of adequate protection of public health and safety. This includes assuring the health and safety of communities around commercial nuclear power plants. The staff noted that while these reports could be useful to some external parties, the situational awareness of State and local officials for nonemergency

²² One-page schematic diagram titled, "Alternative Model For Oversight In Lieu Of Substantive Cross-Cutting Issues – Update Of Concept Paper For Discussion At SCCI Meeting On May 20, 2014", James Slider (NEI), ADAMS ML14155A098.

events is outside the scope of the NRC's regulatory authority. Further, the NRC staff used a decision-making process driven by 1) past reporting data, 2) NRC actions in response to those reports, and 3) a qualitative risk assessment based on the NRC's Principles of Good Regulation and the Be riskSMART framework to determine which reporting requirements must be maintained to support the NRC's ability to fulfill its mission. The NRC staff made these determinations prior to the enactment of the ADVANCE Act, which directed modification of the NRC mission as provided in Section 501 and the elimination of "areas of duplicative or otherwise unnecessary activities" provided in Section 507. The Congressional direction bolsters the staff's initial determination in the proposed rulemaking since this rulemaking directly contributes to efficiency and eliminates duplicative reporting under 10 CFR 50.73. We encourage the NRC's timely completion of this rulemaking, which will reduce unnecessary distractions to plant operators.

Eliminate Duplicative Inspection Activities

The ROP duplicates some inspection activities. Consistent with the ADVANCE Act, the NRC should eliminate unnecessary duplication of effort.

- Review inspection procedures and eliminate duplicative inspection requirements. The NRC should perform a comprehensive review of its inspection procedures to identify and eliminate unnecessary repetition of activities. The staff should include engineering inspections, such as the current Comprehensive Engineering Team Inspections (CETI) and Focused Engineering Inspections (FEI) as part of that review.
- Revisit previous staff problem identification and resolution (PI&R) inspection recommendations. The NRC staff previously recommended²³ inspection procedure enhancements based on operating experience, risk insights, and feedback from internal and external stakeholders. For example, under the previous recommendations, the team inspection would inspect licensee implementation of the PI&R program with a focus on identification, prioritization, evaluation, and corrective action in a manner that would remove or reduce elements that duplicate and overlap with semi-annual trend reviews and annual samples.
- Eliminate requests for data already inspected. Inspectors of other programs often request to review the raw data previously examined in the performance indicator review²⁴ or during the close out of licensee event reports²⁵. For example, a recent RFI for a PI&R inspection²⁶ asked for a list of plant transients, unplanned downpowers, unscheduled limiting conditions for operation entries, licensee event reports (LERs) and a list of control room deficiencies. These items should have been inspected under the NRC ROP performance indicator reviews or during the review and close out of LERs performed by the resident inspectors. Similarly, operability evaluations and Maintenance Rule (a)(1) issues are inspected directly and should generally not be necessary for other inspections.
- Reconsider the focus areas and tasks of resident inspectors. NRC should reconsider the focus areas and tasks of the resident inspectors to streamline and eliminate areas of duplicative inspection activities. For example, resident inspectors could review in-service test failures and temporary modifications, instead of including these types of samples in a PI&R inspection.

²³ "Team Report for the Comprehensive Review of the Problem Identification and Resolution Inspection Program," November 19, 2020, ADAMS ML20247J602.

²⁴ NRC Inspection Procedure 71151, "Performance Indicator Verification".

²⁵ NRC Inspection Procedure 71153, "Follow Up Of Events And Notices Of Enforcement Discretion".

²⁶ NRC Inspection Procedure 71152, "Problem Identification And Resolution".

- Reconsider the requirement to review and close LERs and security event reports through IP 71153. Inspection Manual Chapter (IMC) 0308, Attachment 2, “Technical Basis for Inspection Program,”²⁷ notes that “events of low safety significance receive minimal follow up, usually by the resident inspectors,” and “the baseline program is designed to initially screen all operational events and licensee event reports and to follow up only *some* of the more routine, noncomplex events.” As part of the resident inspectors’ plant status activities conducted in accordance with IMC 2515²⁸, the inspectors make the determination to transition into the appropriate inspection procedure to evaluate a potential inspection issue. Events or issues of significance are evaluated in accordance with MD 8.3 to determine the appropriate agency response. Requiring an inspection to close an LER is duplicative and redundant to existing inspection guidance.
- Eliminate duplicate inspections and double counting of issues due to plant events. Following plant events, the NRC uses Management Directive 8.3 to determine the need for reactive incident inspections. These inspections may identify performance deficiencies leading to the event. In addition, the event itself may trigger an inspection finding, leading to the plant receiving duplicate, or double counting of issues. In cases where the performance deficiency from the event is GTG, the 95001 or 95002 inspections re-inspect the area already inspected by the supplemental incident inspection. In these cases, the scope of the 95001/95002 inspection should be reduced to reflect the previous inspections.
- Consider the elimination of NRC Inspection Procedure (IP) 92723²⁹. This inspection is often no more than an aggregation of very low safety significance issues. These issues have already been inspected and are considered as part of the mid-cycle and end-of-cycle assessment activities. NEI recommends the NRC eliminate this inspection procedure or revise the entry criteria as they pertain to Severity Level IV findings.

Balance the Level of Inspection Resources Commensurate with Safety Significance

- Establish risk-informed, performance-based objectives for supplemental inspections. The NRC should consider applying the NRC’s Be riskSMART framework to establish risk-informed, performance-based objectives for supplemental inspections (IP 95001³⁰, 95002³¹, 95003³²) and reevaluate the current assessment criteria for addressing greater-than-green (GTG) performance issues.
- Revise cyber security program inspection procedure to reflect the maturity of licensee programs. The NRC has been inspecting power reactor licensee cyber security programs since 2013 and is currently considering a revision to the inspection frequency, duration, and team size. The ongoing revision should be expedited and expanded to eliminate unnecessary or redundant information gathering in support of cyber inspections since the current inspection is based on the needs for inspecting a newly established cyber security program, which is no longer appropriate, given that all plants have a well-established program. This has proven to be inefficient for both licensees, who often provide

²⁷ NRC Inspection Manual, Chapter 0308, Attachment 2, “Technical Basis For Inspection Program”, January 1, 2024, ADAMS ML23214A382.

²⁸ NRC Inspection Manual, Chapter 2515, “Light-Water Reactor Inspection Program – Operations Phase”, April 22, 2024, ADAMS ML23305A237.

²⁹ NRC Inspection Procedure 92723, “Follow-Up Inspection for One Severity Level III and Two Severity Level IV Traditional Enforcement Violations or for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period”, October 1, 2021, ADAMS ML20261H378.

³⁰ NRC Inspection Procedure 95001, “Supplemental Inspection Response to Action Matrix Column 2 (Regulatory Response) Inputs”, August 19, 2021, ADAMS ML21175A172.

³¹ NRC Inspection Procedure 95002, “Supplemental Inspection Response to Action Matrix Column 3 (Degraded Performance) Inputs”, April 1, 2021, ADAMS ML20238C055.

³² NRC Inspection Procedure 95003, “Supplemental Inspection Response to Action Matrix Column 4 (Multiple/Repetitive Degraded Cornerstone) Inputs”, June 7, 2022, ADAMS ML16050A095.

information that was previously inspected, and inspectors, who must sift through volumes of information to find the portions relevant to the current inspection.

Streamline Inspection Program Based on Licensee Performance

- Restructure inspection format. Industry performance has improved considerably since the inception of the ROP. The resources expended in preparation and support of regional-based inspections, especially large team inspections such as CETIs and FEIs, can be significant and detract from licensee focus on plant operations and maintenance. We recommend that the baseline inspection program be restructured such that regional-based inspections comprise one onsite week of direct inspection by one or two inspectors. Inspection samples could be adjusted to allow some inspection objectives and samples to be performed by the resident inspectors. The resident inspectors are familiar with plant processes and procedures, including security, emergency preparedness, engineering, radiation protection and maintenance and could conduct the inspection with support from regional-based or NRR personnel.
- Revisit PI&R team inspection frequency. As previously discussed, the staff's recommendations in SECY-22-0087 should be revisited. In light of the ADVANCE Act and the strength of licensee CAPs, the option to change the frequency of IP 71152 to a triennial cycle as originally described in SECY-19-0067³³ is warranted.
- Substantially reduce the impact of the PI&R inspection. NEI recommends that the NRC consider substantially reducing the level of effort of the PI&R inspection for licensees that have demonstrated sustained high performance. Data suggests that approximately two-thirds of all findings documented under IP 71152 come from samples performed by the resident inspectors, who can closely monitor and assess the health of a licensee's CAP. PI&R inspections could be retained as an optional activity for licensees with performance concerns, provided clear and appropriate criteria are established.
- Remove subjective performance criteria thresholds. Reevaluate ROP Performance Indicators to remove subjective performance criteria thresholds and either establish risk-informed thresholds or alternative assessment methods to better reflect risk significance that would warrant a change from licensee response column to the regulatory response column of the ROP action matrix. Additionally, the use of technology such as statistical analysis of data, should be considered to replace licensee resources devoted to the tracking and submittal of this data. Duplicative criteria that would already be assessed and considered in inspection space should be eliminated.
- Improve realism in the Significance Determination Process. Make screening consistent between programs by ensuring that NRC's SPAR models more accurately reflect the as-built, as-operated plant, or by considering information from the licensee models that have been reviewed against the ASME/ANS PRA Standard.
- Simplify the baseline Security Significance Determination Process (BSSDP) for power reactors. The BSSDP can be improved to eliminate complexity, account for defense-in-depth, and incorporate risk insights. The NRC staff have been developing improvements to the BSSDP. NEI appreciates the NRC's efforts in this area and encourages the agency to accelerate efforts to finalize the revision.

³³ SECY-19-067, "Recommendations for Enhancing the Reactor Oversight Process", June 28, 2019, ADAMS ML19070A050.

Planning and Preparation for Inspections

The industry has evolved significantly since the NRC was first formed. In the past 20 years, operating companies have consolidated, and operating functions have been centralized in corporate offices. Lessons from the COVID-19 period have also highlighted what is most important to the success of inspections and how much of an inspection can be carried out from the regional office. Considering these changing circumstances, NEI recommends that the NRC:

- Optimize the use of fleet-level inspections. The NRC should implement inspection guidance to perform fleet-level inspections to minimize duplication of effort, provide efficient use of inspector resources and minimize burden on fleet resources.
- Make the conduct of entrance and exit meetings more efficient. The conduct of inspections has changed, including the conduct of entrance meetings at the beginning of inspections and exit meetings at the end. Inspection guidance should allow these meetings to be optional if the licensee agrees and should be conducted in a manner that minimizes NRC resources spent in support of the meeting and costs billed to the licensee.
- Reevaluate the use of “offsite” weeks. In multi-week inspections, the NRC commonly plans the inspection to include a middle week that is designated for offsite work. Years ago, this offsite work week was spent reviewing documents retrieved during the preceding onsite week. With the widespread availability of plant documents through electronic means before, during and following the inspectors’ onsite week and with the emergence of entirely remote work, the distinction between the onsite and offsite weeks is diminished. Considering these changed circumstances, the NRC should reconsider and, wherever possible, eliminate the intervening offsite week in multi-week inspections.

Document Collection and Preparation

- Identify licensing basis documents in ADAMS. NRC should make improvements to ADAMS to facilitate the retrieval and identification of licensing basis documents. This could take the form of metadata or structures in ADAMS to track current licensing basis documents (e.g., technical specifications, Updated Final Safety Analysis Reports, Emergency Plan).
- Avoid duplicative document requests. The NRC staff commonly includes licensing basis documents in their requests for documents for inspection preparation and license reviews even though they are readily available in ADAMS. As specified in IMC 0620, Step 04.01.a.2, “Inspectors should not normally request documents that already exist as NRC official records in ADAMS.” The NRC should discontinue these unnecessary requests for documents. If the NRC staff cannot easily find the licensing basis documents in ADAMS, then the NRC should resolve this internal impediment to staff efficiency instead of putting the burden on licensees to produce documents repeatedly.
- Standardize requests for information to support baseline inspection activities. The industry has noted inconsistencies in NRC’s requests for information, including scope and sample sizes. The NRC should standardize the requests across the regions. This would improve inspection preparation efficiency for both the NRC and licensees.

Increase Use of Inspection Templates

- Adherence to templates. NRC inspection reports should conform to report templates to achieve greater efficiency. Deviations from the template should be taken only in special circumstances or when the licensee requests that the NRC include additional information. Deviations from the template should be

taken only in special circumstances or when the licensee requests that the NRC include additional information. The NRC should determine how the use of templates has affected efficiency in the preparation of inspection reports.

Remotely Assisted Inspection and Travel Policies

The industry's experience during the COVID-19 pandemic changed many companies' expectations about in-person staffing. As did many industries, the nuclear industry adopted some flexible work options that include remote work for certain plant support staff. The NRC conducted some inspections remotely during this time period, learning lessons about inspector functions that can be performed in new ways. In recognition of this, NEI recommends the NRC:

- Reevaluate remotely assisted inspections. The NRC should consider specific criteria for determining which inspections, or portions of inspections, can be performed remotely, including some staff supporting the onsite inspectors from the region. This practice could benefit the NRC in utilizing its inspectors more effectively and in attracting and retaining new inspection staff.
- Reevaluate travel policies. The NRC should reevaluate its policies requiring licensees to pay for travel time and expenses of some inspectors. In the past, the basis for calculating travel time and costs was the inspectors' regional office. Under NRC's remote duty location policies, inspectors may choose to live far away from their assigned regional office and the regional facilities they inspect. Licensees are being billed for the increased costs and additional time for those inspectors to travel to the site of an inspection, which seems unreasonable. The NRC should review its policies to ensure that the agency does not pass inappropriate fees onto licensees.

Advanced Reactor Inspections

The aforementioned recommendations will benefit the oversight programs for advanced reactors, but additional modifications will be needed to account for the different features of these new designs. NEI agrees with the NRC's goal of making the Advanced Reactor Construction Oversight Program (ARCOP) and the Advanced Reactors Oversight Program (AROP) more efficient and effective as is appropriate for the enhanced safety of advanced reactors. The NRC should consider potential modifications to the SDP that are more appropriate for these designs, and guidance for the implementation of the Maintenance Rule (10 CFR 50.65), risk-informed completion times and the surveillance frequency control program. The NRC should also begin work on an AROP to inform the development of advanced reactor designs, operational plans, and licensing strategies.

Enabling Innovation

Section 507(d)(4) of the ADVANCE Act requires the NRC to assess its ability to enable licensee innovations that may enhance advanced reactor operational efficiency and safety. To this end, NEI recommends that the NRC consider a practice implemented by the Canadian Nuclear Safety Commission. The CNSC has established the Disruptive, Innovative, and Emerging Technologies (DIET) working group³⁴, which brings together industry, academia, and regulators to chart a path forward for new technologies affecting the nuclear industry. The NRC should consider establishing a similar forum.

³⁴ The CNSC DIET Working Group is described in September 19, 2023 presentation by Kevin Lee (CNSC) to the NRC's Artificial Intelligence Workshop, ADAMS ML23268A348.

Promoting Timely Acceptance of Digital Technologies

Section 507(d)(4) of the ADVANCE Act mentions the importance of timely acceptance of advanced technologies, including digital instrumentation and control (I&C). NEI offers several recommendations to improve regulatory clarity and certainty of NRC guidance pertaining to digital technologies.

- 10 CFR 50.55a(h)³⁵ incorporates by reference IEEE 279-1968³⁶, IEEE 279-1971³⁷, and IEEE 603-1991³⁸ providing prescriptive design criteria for protection and safety systems. 10 CFR 50, Appendix A³⁹ provides General Design Criteria (GDCs) related to I&C, protection systems, and reactivity control systems that address similar design criteria. To enhance the flexibility of the regulations, we believe 10 CFR 50.55a(h) should be eliminated and the GDCs could be relied upon.
- NUREG-0800, Chapter 7⁴⁰ provides 537 pages of staff review guidance for I&C systems, structures, and components for LWRs. Advanced Reactors use the “Design Review Guide (DRG): Instrumentation and Control for Non-Light Water (Non-LWR) Reviews,”⁴¹ which provides 45 pages of staff review guidance. The DRG should be used in developing streamlined guidance for operating plants.
- NUREG-0800, Chapter 18⁴² provides staff review guidance for Human Factors Engineering (HFE) for LWRs. Chapter 18 provides directions for the staff to also use acceptance criteria in NUREG-0700⁴³, NUREG-0711⁴⁴, NUREG-1220⁴⁵, NUREG-1764⁴⁶, and NUREG-1852⁴⁷. The staff should consider incorporating clear, concise review guidance in a single document to facilitate understanding.
- Regulatory Guides 1.152⁴⁸, 1.168⁴⁹, 1.169⁵⁰, 1.170⁵¹, 1.171⁵², 1.172⁵³, and 1.173⁵⁴ provide guidance to licensees related to digital technology design and development activities. These Regulatory Guides focus on distinct elements of the lifecycle. The NRC should consider a systems engineering approach

³⁵ Title 10, Code of Federal Regulations, Part 50.55a, “Codes and Standards”, Subpart (h), “Protection and Safety Systems”.

³⁶ Institute of Electrical and Electronics Engineers (IEEE) Standard 279–1968, “Proposed IEEE Criteria for Nuclear Power Plant Protection Systems”, (Approval Date: August 30, 1968).

³⁷ IEEE Standard 279–1971, “Criteria for Protection Systems for Nuclear Power Generating Stations”, (Approval Date: June 3, 1971).

³⁸ IEEE standard 603–1991, “Standard Criteria for Safety Systems for Nuclear Power Generating Stations”, (Approval Date: June 27, 1991).

³⁹ Title 10, Code of Federal Regulations, Part 50, Appendix A, “General Design Criteria for Nuclear Power Plants”.

⁴⁰ NUREG-0800, Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition – Instrumentation and Controls, available at <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0800/ch7/index.html>.

⁴¹ “Design Review Guide (DRG): Instrumentation and Controls for Non-Light-Water Reactor (Non-LWR) Reviews”, October 8, 2020, ADAMS ML20238B936.

⁴² NUREG-0800, Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition – Human Factors Engineering, available at <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0800/ch18/index.html>.

⁴³ NUREG-0700, Human-System Interface Design Review Guidelines, Revision 3, July 2020, ADAMS ML20162A214

⁴⁴ NUREG-0711, Revision 3, Human Factors Engineering Program Review Model, November 2012, ADAMS ML12324A013.

⁴⁵ NUREG-1220, Revision 1, Training Review Criteria and Procedures, January 1993, ADAMS ML102571869.

⁴⁶ NUREG-1764, Revision 1, Guidance for the Review of Changes to Human Actions, September 2007, ADAMS ML072640413.

⁴⁷ NUREG-1852, Demonstrating the Feasibility and Reliability of Operator Manual Actions in Response to Fire, October 2007, ADAMS ML073020676.

⁴⁸ NRC Regulatory Guide 1.152, Revision 4, Criteria for Programmable Digital Devices in Safety-Related Systems of Nuclear Power Plants, July 2023, ADAMS ML23054A463.

⁴⁹ NRC Regulatory Guide 1.168, Revision 2, Verification, Validation, Reviews, and Audits for Digital Computer Software Used in Safety Systems of Nuclear Power Plants, July 2013, ADAMS ML13073A210.

⁵⁰ NRC Regulatory Guide 1.169, Revision 1, Configuration Management Plans for Digital Computer Software Used in Safety Systems of Nuclear Power Plants, July 2013, ADAMS ML12355A642.

⁵¹ NRC Regulatory Guide 1.170, Revision 1, Test Documentation for Digital Computer Software Used in Safety Systems of Nuclear Power Plants

⁵² NRC Regulatory Guide 1.171, Revision 1, Software Unit Testing for Digital Computer Software Used in Safety Systems of Nuclear Power Plants, July 2013, ADAMS ML13004A375.

⁵³ NRC Regulatory Guide 1.172, Revision 1, Software Requirement Specifications for Digital Computer Software and Complex Electronics Used in Safety Systems of Nuclear Power Plants, July 2013, ADAMS ML13007A173.

⁵⁴ NRC Regulatory Guide 1.173, Revision 1, Developing Software Life Cycle Processes for Digital Computer Software Used in Safety Systems of Nuclear Power Plants, July 2013, ADAMS ML13009A190.

towards digital technology in lieu of prescriptive regulatory guidance associated with each phase of the lifecycle process.

- DI&C-ISG-06⁵⁵ provides the review process for operating LWRs. Revision 3 introduced an Alternate Review Process (ARP) that streamlines digital specific review criteria. Digital LARs often impact other review areas such as HFE, Technical Specifications, Equipment Qualification, etc., that do not follow the ARP. These areas should be included in the scope of the ARP to allow for a single streamlined LAR review process. Additionally, this guidance should be moved out of Interim Staff Guidance and into a long-term, durable regulatory document.

⁵⁵ DI&C-ISG-06, Digital Instrumentation and Controls, Licensing Process, Interim Staff Guidance, Revision 2, December 2018, ADAMS ML18269A259.