SUNI Review Complete
Template=ADM-013
E-RIDS=ADM-03

ADD: Carla Cruz-Roque, Mary Neely
Comment (3)
Publication Date: 9/16/2020
CITATION 85 FR 56275

PUBLIC SUBMISSION

As of: 11/19/20 1:34 PM
Received: November 13, 2020
Status: Pending_Post
Tracking No. khg-onah-5p90
Comments Due: November 13, 2020
Submission Type: Web

Docket: NRC-2020-0194
Development of NRC's Strategic Plan for Fiscal Years 2022 Through 2026

Comment On: NRC-2020-0194-0001
Development of NRC's Strategic Plan for Fiscal Years 2022 Through 2026

Document: NRC-2020-0194-DRAFT-0003
Comment on FR Doc # 2020-20048

Submitter Information

Email: atb@nei.org
Organization: Nuclear Energy Institute

General Comment

See attached file(s)

Attachments

11-13-2020_NRC_True Comments on Development of NRCs Strategic Plan for Fiscal Years 2022 Through 2026

DOUGLAS E. TRUE
Senior Vice President and
Chief Nuclear Officer

1201 F Street, NW, Suite 1100
Washington, DC 20004
P: 202.739.8083
det@nei.org
nei.org

NUCLEAR ENERGY INSTITUTE

November 13, 2020

Program Management, Announcements and Editing Staff
Office of Administration
Mail Stop: TWFN-7-A60M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Submitted via Regulations.gov

Subject: Comments on NRC Strategic Plan for Fiscal Years 2022 through 2026 (Docket ID NRC-2020-0194)

Project Number: 689

Program Management, Announcements and Editing Staff:

On behalf of the nuclear industry, the Nuclear Energy Institute (NEI)[1] submits the attached comments on the development of the NRC's Fiscal Years (FYs) 2022-2026 Strategic Plan.

Please contact me if you have any questions or require additional information.

Sincerely,

Doug True

Attachment

c: Ms. Margaret M. Doane, NRC/EDO
Ms. Catherine Haney, NRC/OEDO
Ms. Carla Roque-Cruz, NRC/OEDO

[1] 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.

I. Significance of the 2022-2026 NRC Strategic Plan

The current U.S. fleet is performing at unprecedented levels of safety, reliability, and cost-competitiveness.[1] The next five to seven years are arguably the most critical period for the U.S. nuclear power industry in over 40 years. Advances in nuclear technology offer new opportunities to improve upon this unprecedented performance and will enable nuclear energy to address the threat posed by climate change. As our nation and the world grapple with the challenge of reducing carbon emissions, many U.S. utilities are doing their part by making carbon reduction commitments. Reliable and dispatchable carbon-free generation sources – including nuclear power – must be available in order for U.S. utilities to fulfill these commitments. Simply put, nuclear power is essential to successfully mitigate the threat posed by climate change. [2]

A strong, independent, and efficient safety regulator is an essential element of meeting the nation's goals. The primary challenge faced by the NRC in the Fiscal Years (FYs) 2022-2026 timeframe will be its transformation into a modern, risk-informed regulator so that it can execute its radiological safety and security mission in the most effective, efficient and least burdensome manner possible. This will require the NRC to recognize the high levels of performance of the current fleet and apply a risk-informed approach to make possible the timely deployment of new, safe, cost-effective technologies, which are critical to the nation's success in, for example, reducing carbon. Adopting this strategic approach over the period covered by the next iteration of the agency's Strategic Plan will ensure that, in executing its safety mission, the NRC does not – without a compelling safety basis – maintain or erect unnecessary barriers to achieving the nation's broader carbon-reduction objectives.

The NRC's FYs 2022-2026 Strategic Plan is critical to addressing the challenge described above. The changes the NRC should undertake are more fundamental than initial transformation efforts. The NRC's execution of its safety mission must continue to evolve; the Strategic Plan itself must be written in a manner that leads the agency to the needed change; and implementation of the Plan must continuously drive the needed change. Consequently, industry's input to the formulation of the NRC's 2022-2026 Strategic Plan is divided into the following elements:

- **The Strategic Plan Must Reflect a Shift in NRC's Implementation of its Mission in Light of the Broader Context of U.S. Energy Policy**
- **The Strategic Plan Must Drive Real Transformation**
- **NRC Should Continuously Reinforce the Strategic Plan's Goals and Objectives**

[1] NEI 20-04, "The Nexus Between Safety and Operational Performance in the U.S. Nuclear Industry," March 2020; Nuclear by the Numbers Fact Sheet, August 2020 (available at https://www.nei.org/CorporateSite/media/filefolder/resources/fact-sheets/nei-nuclear-by-the-numbers-092520-final.pdf).

[2] Pacific Northwest Zero-Emitting Resources Study, January 13, 2020, Energy + Environmental Economics (E3); "The Role of Firm Low-Carbon Electricity Resources in Deep Decarbonization of Power Generation" Joule, Volume 2, Issue 11, P2403-2420, November 21, 2018.

II. Refocusing on the NRC's Safety and Security Mission in the Broader Context of U.S. Energy Policy (*responds to Federal Register Notice Questions 1, 2, 3, and 4)*

In essentially the first words of the Atomic Energy Act of 1954, as Amended (the Act), Congress declared it to be "the policy of the United States that . . . the development, use, and control of atomic energy shall be directed so as to make the maximum contribution to the general welfare, subject at all times to the paramount objective of making the maximum contribution to the common defense and security."[3] Congress also found that "[t]he development, utilization, and control of atomic energy for military and for all other purposes are vital to the common defense and security."[4] At the same time, Congress recognized that "regulation . . . of the production and utilization of atomic energy . . . is necessary."[5] in the national interest to assure the common defense and security and to protect the health and safety of the public."[6] Thus, from the beginning, the primary purpose of the Act has been to establish a program for the safe, secure, and widespread use of atomic energy to maximize the contribution to the national welfare.[7] Given the threat posed by climate change, this objective is more urgent now than ever before.

Although Congress later separated the Atomic Energy Commission's (AEC's) regulatory and promotional functions,[8] that separation did not change the overall U.S. policy with respect to use of atomic energy. The NRC should view and implement its mission through the lens of the broader context of the U.S. policy, which establishes that nuclear energy should make the "maximum contribution to the general welfare." To be clear, the NRC's decision-making on specific issues related to the operation of nuclear power reactors should remain focused on its primary statutory mandate to ensure that "utilization or production of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public."[9] This mission is clearly focused on protecting the public from radiological hazards associated with production and utilization of special nuclear material.[10]

That said, it is also well-established that the Commission's discretion in the manner in which it regulates radiological safety is so "broad" and "free of close prescription" that it is "virtually unique."[11] Radiological safety must remain the NRC's primary focus, but that does not give the agency license to regulate in a vacuum. To the contrary, in the critical period addressed by this Strategic Plan, it is essential that the NRC set strategic goals that reflect an understanding of the broader policy context within which the agency has been given regulatory authority. Specifically, we encourage the NRC to redouble its efforts to ensure that it operates as a modern, risk-informed regulator and is executing its radiological safety and security mission in the most effective, efficient, and least burdensome manner possible. This will ensure that in executing its safety mission, the

---

[3] Atomic Energy Act of 1954, as amended (P.L. 83-703), at §. 1.a (emphasis added), 42 U.S.C. § 2201(a) (emphasis added).
[4] *Id.* at §. 1.b.
[5] *Id.* at §. 1.b.
[6] *Id.* at § 2.e.
[7] *Id.* at §. 3.c, d (purposes of the Act include providing for a program "to make the maximum contribution to the common defense and security and the national welfare" and "to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public").
[8] *See* Energy Reorganization Act of 1974, as amended (P.L. 93-438).
[9] Atomic Energy Act of 1954, §. 182a.; *See also, Union of Concerned Scientists v. U.S. NRC*, 824 F.2d 108 (DC Cir. 1987).
[10] *See New Hampshire v. AEC*, 406 F.2d 170, 14-75 (1st Cir. 1969)
[11] *Siegel v. AEC*, 400 F.2d 778 (D.C. Cir. 1968).

NRC removes current unnecessary burden, and does not inadvertently erect new barriers to achieving the broader policy objectives of the Atomic Energy Act and more recent legislation[12] – particularly at a time when nuclear power must play a vital role in addressing the climate crisis.

The urgency of the need for the NRC to refocus on risk-informing and maximizing the effectiveness and efficiency of its regulatory programs is reflected in many actions and policies by states and at the federal level, including:

- State policies are already driving utility commitments to carbon reduction that require reliable, firm, dispatchable carbon free power that nuclear can provide.
- Congress has directed and funded NRC to develop a new regulatory framework to enable new safe, affordable advanced reactors to be more readily licensed.
- Congress has made advanced nuclear a near-term priority by appropriating significant funding with the expressed goal of achieving technology demonstration within 5 to 7 years.

The NRC's Strategic Plan provides the ideal opportunity for the Commission to recognize these broader energy policy objectives included in the AEA. They form a compelling basis for maintaining strategic focus on ensuring that the agency's regulatory approach keeps pace and evolves, as the nation's need for safe and reliable carbon-free power intensifies.

Failure to recognize the broader context within which the NRC is regulating could hinder the nation's ability to reach its carbon reduction goals. Congress has signaled that safe nuclear power must play a role in addressing the nation's future energy through numerous bipartisan legislative actions. In carrying out its mission, the NRC should strive to make the safe use of nuclear technology possible in order to ensure that nuclear energy is available to fulfill its needed role against climate change.

The role of U.S. nuclear technologies does not stop at U.S. borders. The NRC is the global gold standard for regulators. Approval of SMRs and advanced nuclear technologies support U.S. national security interests by enabling safe, NRC-approved, nuclear technologies to be deployed in countries that are also looking to harness nuclear carbon-free energy as part of their carbon reduction/energy strategies. The deployment of these NRC-approved technologies ensures reactors in other countries adhere to proper safety and security standards, as well as enabling the U.S. to build long-term relationships with these countries.

Thus, in the period of the next Strategic Plan, the NRC must play a key role in:

- Enabling safe existing and new nuclear technology to play a significant role in addressing the environmental threat to the country and the world resulting from climate change.
- Enabling new, safe US nuclear technologies to be expeditiously licensed and come to market in order to provide an exportable technology to counter the national security threat presented by proliferation of nuclear technology from China and Russia around the globe.

[12] *See, e.g.*, "Nuclear Energy Innovation and Modernization Act," Pub. L. 115-439, at Sec. 103 "Advanced Nuclear Reactor Program" (Jan. 14, 2019)(directing the NRC to establish a risk-informed, technology-inclusive framework to license and oversee advanced nuclear technologies).

III. Driving Real Transformation *(responds to Federal Register Questions 1, 2, 3, and 4)*

Given the NRC's current focus on transforming into a "modern, risk-informed regulator," the next Strategic Plan should specify a bold vision for organizational, cultural, and regulatory transformation. In light of the NRC staff's own acknowledgement of the need for transformation, simply "updating" the existing plan is insufficient. Rather, the NRC should look at this update as an opportunity to demonstrate its commitment to change. Not only should the NRC's goals and objectives be transformational, but the process through which the plan is developed and implemented should also be transformational. Historically, the NRC Strategic Plan seems to have had little impact on the NRC's day-to-day regulatory activities, aside perhaps from its budget development and execution. Rarely do NRC staff or commissioners refer to the Strategic Plan in its interactions with stakeholders; nor do agency documents typically discuss how a particular agency action is consistent with the Plan's objectives, goals, or strategies.

The NRC and the industry are well-positioned to implement a bolder vision for transformative change from a safety and performance standpoint. The NRC has articulated an answer to the question of "how safe is safe enough?" in its Safety Goal Policy Statement.[13] By all measures, based on the NRC Staff's own work, the current fleet's safety performance far exceeds the Commission's safety goals[14] and prior risk-informed focus has reduced the risk of a radiological accident from internal event challenges by more than a factor of ten.[15] Further, the NRC's own Reactor Oversight Process (ROP) has shown a significant and sustained decline in findings.[16] It is clear that the NRC and industry have accumulated substantial safety margin and the time is right for bold, transformative change to maximize the efficiency and effectiveness of the NRC's regulatory program. These improvements can be achieved without compromising safety or security. In fact, at this point in the industry's life cycle, we believe taking a more risk-informed approach will improve safety and performance of existing reactors and will facilitate the development of new, innovative technology with additional inherent safety features.

The NRC has already taken useful, initial steps towards transformation. For example, the goal to become a "modern, risk-informed regulator" was first introduced into the NRC vernacular in the staff's 2018 paper, SECY-18-0060, "Achieving Modern Risk-Informed Regulation." In that paper, the staff commented that, despite long-term efforts to "apply risk insights in a systematic manner," it had "learned from internal and external stakeholders that both the NRC staff and licensees continue to believe that current regulatory practices lead to unnecessary burden evidenced by the expenditure of undue effort on matters of low safety significance across all technical areas."[17] The staff also acknowledged that "unnecessary regulatory burden can discourage the introduction of technologies . . . that may have safety benefits" and that the NRC is obligated to "remove

[13] Safety Goals for the Operation of Nuclear Power Plants: Policy Statement." U.S. Nuclear Regulatory Commission, 51 FR 30028, August 4, 1986.

[14] "Insights on Risk Margins at Nuclear Power Plants: A Technical Evaluation of Margins in Relation to Quantitative Health Objectives and Subsidiary Risk Goals in the United States," Electric Power Research Institute White Paper 3002012967, May 2018.

[15] "The Nexus Between Safety and Operational Performance in the U.S. Nuclear Industry," NEI 20-04, March 2020

[16] "Analysis of Inspection Findings Trend at Nuclear Power Reactors between 2015 and 2018," Memorandum, Shakur Walker, NRC to Ho Nieh, NRC, August 15, 2019 (ML19225D281)

[17] "Achieving Modern Risk-Informed Regulation," SECY-18-0060, May 23, 2018.

unnecessary barriers to enable the safe and secure use of new technology."[18] The staff then aptly concluded:

> Consequently, the staff believes the NRC is at a crossroads for using risk information in regulatory decision-making and determining review scope and level of detail, and the direction we take will impact the future of the agency. Either we embrace change in the industry or we will, through the continued use of dated, inflexible, and inefficient regulatory approaches, be an unnecessary barrier to technology advances. The technologies that the agency will regulate in the next 40 years will be different than the technologies that we have regulated in the previous 40 years. Therefore, our continued success as a safety and security regulator will be impeded by the application of existing approaches to the licensing and oversight of new technologies. Instead, as a modern, risk-informed regulator, we would keep pace with technological innovations, and remove unnecessary barriers to enable the safe and secure use of new technology.[19]

The staff also found that "[c]entral to transformation is the staff's sense of urgency and its view that 'Modern risk-informed regulation cannot wait.'"[20]

The need for significant and immediate change seems to have been embraced to a certain degree. For example, the Office of Nuclear Reactor Regulation (NRR) recently developed the following vision statement: "We make safe use of nuclear technology possible." The statement inherently recognizes NRC's role in facilitating the use of nuclear technology to further the general welfare through execution of its safety mission. The staff's prescient conclusions in SECY-18-0060 and the acknowledgement in NRR's vision statement are incremental steps in the right direction, but more is needed. And time is of the essence.

In parallel with the NRC's transformation efforts, the industry is going through its own transformation, adopting and developing new technology at a rate not seen before. This spans from the adoption of readily available, industrial technologies such as digital systems to the use of performance monitoring supplemented by artificial intelligence to development of accident tolerant fuels. Work on advanced nuclear technologies that will define the fleet of the future is also moving forward. These advances manifest themselves in both enhanced technology and modern approaches to design, fabrication, construction, and operation that will not succeed if current regulatory approaches are applied. NRC's regulatory strategies, actions, and processes must quickly adapt to support the deployment of new technologies in many forms and applications.

The Atomic Energy Act does not stand in the way of such an evolution. Rather, the AEA has provided enduring guidance allowing the agency to advance the regulatory framework and decisions with advancements in science and technology, as well as those made by the regulated community. The NRC's statutory mandate to provide reasonable assurance of adequate protection does not and has never been interpreted to maintain obsolete regulatory approaches. It allows for the NRC to adjust requirements and expectations over time, regardless of whether this means "less" or "more" regulation. A good example is the decision regarding the application of single failure criteria in the

[18] "Achieving Modern Risk-Informed Regulation," SECY-18-0060, May 23, 2018
[19] (emphasis added).
[20] "Achieving Modern Risk-Informed Regulation," SECY-18-0060, May 23, 2018

NuScale design certification review where the Commission determined that "In any licensing review or other regulatory decision, the staff should apply risk-informed principles when strict, prescriptive application of deterministic criteria such as the single failure criterion is unnecessary to provide for reasonable assurance of adequate protection of public health and safety"[21]. A critical point is that the agency has the authority to determine "necessary" regulatory burden but should not place "unnecessary" regulatory burden on the industry. The NRC's Strategic Plan can provide much-needed clarity that eliminating "unnecessary" regulatory burden does not mean reducing safety.

The implementation of the NRC's mission should reflect a modern, risk-informed view of what "reasonable assurance of adequate protection of public health and safety" means in 2020, as opposed to what it might have meant earlier in the industry's history. Implementation of the NRC's mission should take into consideration scientific, technical, and operational advancements since many of NRC mission-based standards were established.[22] It should also consider how sustained, high levels of industry performance have directly improved operational safety, which should in turn shape the NRC's goals, objectives and strategies.[23] Becoming a modern, risk-informed regulator also means that NRC would benefit from an improved understanding of the utility business planning process for new builds and decommissioning plants to better align the agency's strategic goals, objectives, strategies and performance metrics.

We recommend that the goal of being a "modern, risk-informed regulator" be a central theme of the 2022-2026 Strategic Plan. Further, we recommend that the Plan be used as an opportunity to provide clarity and a uniform understanding of this phrase.

For instance, industry's view is that "modern" should not simply be represented by the NRC's use of new technology and its openness to industry use of technology in performing its mission. Being "modern" also implies up-to-date, meaning that regulatory, enforcement, and licensing techniques should not be static, but should evolve as technology evolves. Modernization should also include the improved use of current scientific knowledge, understanding of technology and risk, and of decades of industry operating experience in how the NRC understands and implements its regulatory mission. In this light, the NRC's regulations and oversight should directly reflect these considerations. Modernizing the agency should enable it to capture, for example, key lessons learned from the COVID-19 Public Health Emergency, not only to improve future planning for pandemics, natural disasters, or other contingencies, but also NRC's licensing and inspections programs in the post-COVID-19 regulatory paradigm.

Providing more clarity on the term "risk-informed" and offering direction through the Strategic Plan would facilitate development of a more consistent understanding of the term between the NRC, licensees, and stakeholders. Additional clarity and direction would also, per Commission direction, assist efforts to "identify and consider additional opportunities to apply more broadly risk insights to enhance our decision-making beyond traditional technical issues [including] our corporate and infrastructure programs." [24]

---

[21] "Staff Requirements- SECY-19-0036-Application of the Single Failure Criterion to NuScale Power LLC's Inadvertent Actuation Block Valves" (ML19183A408), July 2, 2019

[22] Safety and Operational Benefits of Risk-Informed Initiatives, EPRI White Paper, February 2008

[23] "The Nexus Between Safety and Operational Performance in the U.S. Nuclear Industry," NEI 20-04, March 2020

[24] Staff Requirements Memorandum SECY-15-0015, "Project AIM 2020 Report and Recommendations," June 8, 2015 (ADAMS Accession No. ML15159A234).

The bottom line is that the Strategic Plan should serve as a foundational framework, setting forth the agency's commitment to becoming a "modern, risk-informed regulator," and drive the application of that fundamental concept by those carrying out the NRC's mission during this critical period.

IV. Continuous Reinforcement of the Goals and Objectives Provided in the Strategic Plan *(responds to Federal Register Questions 1, 2, 3 and 4)*

Historically, NRC Strategic Plans seem to have had little impact on the day-to-day activities of the agency aside from its use in formulating and executing the budget. The average NRC employee has little knowledge of or interaction with the Strategic Plan on a routine basis, compared to other NRC products such as the Principles of Good Regulation. We recommend that the NRC's next Strategic Plan be communicated to the staff at all levels much more comprehensively than in past years to ensure that every employee understands that they are accountable for embracing the objectives contained in the Plan as they carry out their work.

Prior to the current 2018-2022 Strategic Plan, the NRC's Strategic Plan contained goals related to agency performance. In 2014-2018, these were identified as "Management Objectives," and in 2008-2013, the NRC plan called them "Organizational Excellence." Similar concepts appear in earlier plans. In the 2018-2022 Strategic Plan, however, the NRC eliminated any goals or objectives related to management or organizational performance. These are worthy goals and should be reinstated. Current guidance from the Office of Management and Budget in Circular A-11, Section 230, encourages agencies to adopt what is now referred to as a "Stewardship Objective" (which has replaced the former "Management Objective"). Circular A-11 states that "Stewardship objectives communicate improvement priorities for management functions such as strategic human capital management, information technology, sustainability or financial stewardship. In general, these efforts will cut across the organization and <u>should reflect priorities that leadership would like to emphasize over the period of performance established in the strategic plan.</u>" (emphasis added)

Many of the challenges that the NRC is currently grappling with, including transformation, modernization, becoming more risk-informed, and establishing a culture of innovation that is willing to embrace change fit well into a Stewardship Objective. Again, the NRC Strategic Plan could serve as the platform to unify all of these objectives and provide an improved guidepost to which the NRC staff can refer.

In addition, establishing a Stewardship Objective in the Strategic Plan could also reflect the use of technology to enable the NRC to more efficiently and effectively carry out its mission. Increased use of machine learning, data analytics, and availability of data to the public should also be included under an agency performance goal.

V. Priority Questions for Learning Agenda (*responds to Federal Register Questions 5 and 6)*

1. How should NRC evolve to improve implementation of its statutory mission?

Radiological safety and security must remain the NRC's focus, but during the critical period addressed by this Strategic Plan, it is essential that the NRC set goals and complete actions that recognize the NRC's role in facilitating the deployment of safe and secure nuclear power to address our nation's energy needs and carbon reduction goals. The implementation of the NRC's mission

should reflect a modern, risk-informed view of what "reasonable assurance of adequate protection" means. Implementation of the NRC's mission should take into consideration how scientific, technical, and operational knowledge has increased since many of NRC mission-based standards were established. It should also consider how improved industry performance shapes the goals, objectives, and strategies.

A survey of the current strategic plans of other federal agencies with missions or governance structures similar to the NRC reveals interesting approaches to setting regulatory missions that explicitly recognize the need to facilitate innovation, reduce regulatory burden, and leverage knowledge about the regulated industry. We recommend that the NRC look closely at these different approaches. We offer the following observations on plans that stood out in this regard:

- **The Department of Transportation**. The DOT has several elements of its strategic plan that are applicable to the NRC. The DOT's first "Strategic Objective" is to "Mitigate risks and encourage infrastructure and behavior change by using a data-driven systemic safety approach to identify risks, enhance standards and programs, and evaluate effectiveness." The DOT implements this in part through "evidence-based risk elimination and mitigation strategies." The DOT also has an entire Goal dedicated to "Innovation." Strategic Objective 2 under this goal is to "reduc[e] barriers to innovation and actively promoting innovations that enhance the safety and performance of the Nation's transportation system." The DOT implements this in part through "Advanc[ing] the integration of new transportation technologies and practices into transportation systems to improve safety and performance," and "Updat[ing] Departmental regulations, policies, and guidance to support deployment of advancements in technology and innovation." The DOT's strategic plan also includes an "Accountability" goal, including a Management Directive to "Reduce current regulatory burdens and bureaucracy to ensure a safe, efficient, accessible, and convenient transportation system for people and commerce." https://www.transportation.gov/sites/dot.gov/files/docs/mission/administrations/office-policy/304866/dot-strategic-plan-fy2018-2022508.pdf

- **Securities and Exchange Commission (SEC).** The SEC's plan contains several goals that are insightful. For example, Goal 2 is to "Recognize significant developments and trends in our evolving capital markets and adjust our efforts to ensure we are effectively allocating our resources." Sub-goals include to "[e]xpand market knowledge and oversight capabilities to identify, understand, analyze, and respond effectively to market developments and risks" and to "[i]dentify, and take steps to address, existing SEC rules and approaches that are outdated." This goal and its subcomponents align well with the NRC's efforts such as the Futures Assessment, to better understand the continuously evolving energy markets and their impact on the nuclear industry. Integration of this concept into the Strategic Plan would provide clearer direction regarding the importance of this understanding. https://www.sec.gov/files/SEC_Strategic_Plan_FY18-FY22_FINAL_0.pdf

- **Federal Communications Commission (FCC).** The FCC's strategic plan seeks to "close the digital divide" through "[d]evelop[ing] a regulatory environment to encourage the private sector to build, maintain, and upgrade next generation networks so that the benefits of advanced communications services are available to all Americans." The FCC's formulation of this goal is similar to what we suggested in our earlier comments regarding the connection

between NRC's mission and U.S. policy on nuclear energy. https://www.fcc.gov/document/strategic-plan-2018-2022

- **Organizational Effectiveness.** As discussed above, we recommend that the 2022-2016 Strategic Plan should contain one or more objectives related to agency performance, or Stewardship Objective. Our benchmarking revealed that such an objective is part of many other federal agencies' current strategic plans, for instance, the Federal Energy Regulatory Commission, the Department of Health and Human Services, the DOT, the SEC, the FCC, and the Department of Energy.

2. Are NRC's licensing and inspection programs optimized to ensure reasonable assurance of adequate protection while at the same time allowing for innovation that is informed by the business needs of the regulated community?

During the timeframe covered by the FYs 2022 – 2026 NRC Strategic Plan, the national policy interests in decarbonizing the economy will continue to come into sharper focus. To this end, many U.S. utilities are making commitments or establishing goals to reduce carbon emissions. These goals depend on a mix of energy generation, including renewable sources that are complemented by firm, dispatchable carbon-free energy sources in order to maintain a reliable grid. Nuclear power is uniquely suited to fill that need at a scale that can support rapid, broad decarbonization. Consequently, there is a growing national urgency to enable the safe operation of existing and new nuclear. Despite the pressing need for nuclear energy to fight climate change and the unprecedented level of industry performance, much of the NRC's regulatory framework continues to focus on driving additional, small increases in an already deep safety margin, without consideration of the fact that those modest increases may not be necessary to fulfill the agency's statutory mandate and may negatively impact achievement of the broader environmental objective of carbon reduction.

Nuclear energy has and will continue to be a major source of carbon-free energy in driving toward a net zero emissions by mid-century. Today, nearly 55 percent of the nation's carbon-free energy comes from nuclear energy, which highlights the strategic importance of NRC ensuring a highly efficient, risk-informed, predictable and reliable subsequent license renewal process as many utilities are firming up strategies for achieving net zero emissions goals. As the nation's sole licensing authority for nuclear reactors, the NRC would be well served to increase its understanding of the economic regulatory and business environment that licensees and technology developers operate within. The licensing and inspection for NRC's nuclear safety and security programs – in particular, the licensing and inspection performance goals and metrics – should be informed by insights from these business realities.

Optimizing NRC programs, policies, operations, and regulations with a better-informed understanding of the external business and economic regulatory environment would not compromise NRC's independence. As then-Chairman Burns stated in his prepared remarks to the Institute for Nuclear Power Operations Atlanta, GA, on November 3, 2015:

> The NRC is often considered to be the "gold standard" nuclear regulator in the world, and a model of independence and technical competence. I should note that we are independent not because you are bad and we are good, but because independence is vital for our

> credibility; it's what people trust. It gives the public confidence that we are, indeed, protecting health and safety and the environment. That's what we all want.
>
> But I don't believe independence means isolation. I think it's important that the NRC effectively communicate with and engage in meaningful dialogue with industry, the Congress, the states, nongovernmental organizations, and the public. We need to continue to communicate and recognize that safety and security is the mission of both the NRC and the plants. In that shared vision we are, to quote the book by that title, 'Hostages of Each Other.'

3. What COVID-19 public health emergency lessons learned can be adapted to further evolve NRC's programs, policies, operations, and regulations in the post-COVID-19 regulatory paradigm while continuing to ensure reasonable assurance of adequate protection?

In the continuing challenges arising from the ongoing COVID-19 public health emergency, both NRC and its licensees have successfully managed their respective roles in ensuring the safe operation of the US nuclear fleet. It appears likely that the end of the pandemic will happen gradually as efforts to develop effective vaccines mature, but it will not be like flipping a switch. For these reasons, some of the COVID-19 adaptations will continue for the foreseeable future and should be evaluated as part of the post-COVID-19 regulatory paradigm.

As noted by the U.S. NRC Inspector General in OIG-20-A-16:

> The NRC demonstrated agile decisionmaking in rethinking work processes to perform mission activities while using telework to protect the health and safety of the workforce. The planning process considered many areas of agency operations, drawing on the agency's response experience. However, pandemic uncertainties may keep the agency in its current status for a longer term than previously envisioned. The NRC has begun a lessons-learned process by soliciting staff input for evaluation of pandemic-related policies and procedures. Documenting lessons learned from this experience could provide NRC staff valuable insight into future planning for pandemics, natural disasters, or other contingencies.

4. Are agency actions appropriately focused on matters of greatest safety significance?

Efforts to focus on the most important issues from a safety perspective and to "risk-inform" actions and priorities, applies to every aspect of the NRC mission and can provide the necessary framework to determine the level-of-effort expended on various licensing and inspection matters. The evolution to a modern, risk-informed regulator requires a continual assessment of policies, processes and procedures to determine the changes necessary to ensure that agency actions meet established goals in the most efficient and effective manner.

5. Do the agency's regulatory policies, programs and practices appropriately balance safety significance and potential economic impacts on licensees?

In becoming a modern, risk-informed regulator the NRC must have the regulatory agility and flexibility in its policies, programs, and procedures to appropriately balance risk-significance with high economic burden on licenses when possible.

Faithful adherence to the NRC's backfitting requirements is essential to ensure that new or changing agency requirements or interpretations will yield significant safety and security benefits, and that the costs associated with achieving those benefits are justified. Over the past four years, the agency has taken several important actions to improve implementation of the agency's backfitting requirements.[25] We view the staff's ongoing efforts to revise NUREG-1409 and NUREG/BR-0058, along with the Commission's revisions to Management Directive 8.4 as the vital capstones of those actions. As aptly stated by the staff in its proposed revisions to NUREG-1409, "Backfitting is an integral part of the regulatory process" and "ensures discipline, predictability, and optimal use of NRC and licensee resources."[26] The backfitting requirements have been part of the NRC's regulatory framework for over 50 years. While the Commission's backfitting requirements are uniquely tailored to the NRC's mission of regulating nuclear licensees to ensure adequate protection of the public health and safety, and the common defense and security, the backfitting concept is also consistent with broader, long-standing efforts undertaken by the federal government to improve regulatory decision-making. [27] The NRC should continue to make updating of its backfitting guidance a priority and continue efforts to train agency staff in proper application of the Commission's backfitting regulations.

More broadly, the NRC's regulatory analyses also play a vital role in ensuring that the costs and benefits of regulatory alternatives are carefully considered. The NRC should continue its efforts to revise NUREG/BR-0058 to ensure that the agency's regulatory analyses utilize high-quality information and serve as tools to prospectively inform regulatory decision-making.

The NRC's recent efforts to implement procedures to consider the safety-significance of regulatory issues in various regulatory contexts also deserve mention here. If properly developed and implemented, the NRC's "very low safety significance issue resolution" initiative should go a long way to ensure that NRC and industry resources are not focused on issues that are not significant

---

[25] *See*, *e.g.*, "Tasking Related to Implementation of Agency Backfitting and Issue Finality Guidance," June 9, 2016 (citing recent interactions with stakeholders, including NEI, and directing the Committee to Review Generic Requirements to assess the agency's backfitting requirements, guidance, and criteria; backfitting training; and knowledge management); Letter from V.M. McCree (NRC) to A.R. Pietrangelo (NEI), "Response to Nuclear Energy Institute Comments in Support of Exelon Generation Company Second-Level Appeal" (describing the EDO's decision to grant Exelon's second-level appeal challenging use of the compliance exception to justify a backfit involving pressurizer safety valve performance); Memorandum from A.P. Averbach (Solicitor, NRC) to E.M. Hackett (Chairman, CRGR), "Summary of COMSECY-16-0020 Recommendation on Revision of Guidance Concerning Consideration of Cost and Applicability of Compliance Exception to Backfit Rule," Dec. 20, 2016 (providing revised guidance on implementation of the compliance exception and the need to consider costs when imposing compliance backfits); "Staff Requirements – SECY-18-0049 – Management Directive and Handbook 8.4, 'Management of Backfitting, Issue Finality, and Information Collection," May 29, 2019 (approving a revision to Management Directive 8.4 and its companion Directive Handbook, subject to significant revisions).

[26] Draft Revision 1, "NUREG-1409, Backfitting Guidelines," at p. iii (Draft Rev. 1).

[27] *See, e.g.*, Executive Order 12291, "Federal Regulation," Feb. 17, 1981, 46 Fed. Reg. 13193 (Feb. 19, 1981) (issued by President Reagan and, in part, stressing the need for regulations to result in and maximize net benefits, identification of least-cost alternatives, and requiring Regulatory Impact Analyses); Executive Order 12866, "Regulatory Planning and Review," Sept. 30, 1993, 58 Fed. Reg. 51735 (Oct. 4, 1993) (issued by President Clinton and, in part, stressing problem identification, identification of alternatives to direct regulation, cost-effectiveness, and the use of cost-benefit analysis); Executive Order 13563, "Improving Regulation and Regulatory Review," Jan. 18, 2011, 76 Fed. Reg. 3821 (Jan. 21, 2011) (Issued by President Obama and, in part, reaffirming use of cost-benefit analysis, as provided in EO 12866); Executive Order 13579, "Regulation and Independent Agencies," July 11, 2011, 76 Fed. Reg. 41587 (July 14, 2011) (Issued by President Obama and, in part, urging independent agencies to conform to EO 13563); "Remarks of Commissioner Stephen G. Burns," 29th Annual Regulatory Information Conference, March 15, 2017 (analogizing the restrictions contained in the Commission's backfitting rules to the broader restrictions placed upon the Federal Government by the U.S. Constitution).

from a safety standpoint. The NRC should continue to explore development and implementation of that initiative.

Two additional illustrative historic examples are founded the operating reactor cost-beneficial licensing action program (CBLAs) and Direction Setting Issue 24, "Decommissioning Power Reactors."

CBLAs applied to licensing actions with low safety significance that were assigned low priority by the agency. See NRC Press Release 95-28, which said, in part:

> The program, designated Cost Beneficial Licensing Actions, is part of the NRC's continuing effort to improve regulatory oversight of licensees. Made available last year, the program places a higher priority on staff reviews of plant specific license amendment requests that reduce or eliminate requirements which have a small effect on safety but a high economic burden on licensees. In the past, license amendment requests with marginal safety significance, but high cost savings, were given the lowest priority for staff review.

The treatment of CBLAs over time has improved, but there continues to be opportunities for further improvement in today's dynamic environment for NRC licensees.

In SECY-98-258, "DSI-24 Implementation: Decommissioning Licensing Actions and Priorities and Milestones for Addressing Rulemaking and Guidance Development," the staff stated that:

> "…the staff provide[d] the Commission with an overall plan and an integrated set of milestones for addressing initiatives under development or contemplated in the decommissioning area. Further, the staff was requested to include within the plan a prioritization scheme for the various initiatives and specific timeliness goals for licensing actions for the plants in active decommissioning, the level of effort needed to implement the plan, and to identify any policy guidance needed from the Commission to expedite licensing reviews and rulemaking. The prioritization scheme should take into account not only risk information but also cost-beneficial considerations for both the NRC and its licensees."

As the nation's sole licensing authority, the agency must continue to consider not only risk significance but also balance cost considerations for NRC and its licensees.

Of course, we recognize that the NRC must impose changes considered necessary for adequate protection without consideration of cost, but so-called "adequate protection" requirements should be few and far between at this point in the history of the NRC and the industry. Even when matters are "necessary for adequate protection," the backfit rule itself at 10 CFR 50.109 acknowledges that licensee burdens and financial impacts are a factor to be considered.

6. What actions are necessary to improve readiness for technology change?

During the 2022-2026 timeframe, we expect numerous new and advanced reactor technologies to seek licenses and design approvals. The regulatory precedents that are established during this timeframe will be long lasting. Given that the nation would benefit greatly from the large-scale deployment of new and advanced reactors, achieving key goals in the areas of regulatory timeliness, cost-effectiveness and predictability during this time will greatly influence the ability of new and advanced reactors to benefit society.

Adopting new technologies under the current regulatory framework is time consuming and expensive, such that many technological advancements are never adopted because the regulatory costs far outweigh the financial benefit of the technologies. In some cases these foregone technological advancements would have resulted in safety improvements. As an example, the NRC is still struggling with providing an efficient, timely and predictable regulatory framework for digital I&C, nearly 20 years after the technology was first envisioned to be incorporated into nuclear power plants.

A modern, risk-informed regulator must keep pace with technological innovations and remove unnecessary barriers to enable the safe and secure use of new technology. The NRC has a proven track record of ensuring the regulatory framework provides reasonable assurance of adequate protection of public health and safety and promoting the common defense and security. However, the NRC's past strategies have not placed an appropriate focus on regulatory efficiency. The result is that the current regulatory framework for new and advanced reactors imposes requirements and expectations that go beyond what is necessary to provide reasonable assurance of adequate protection, and the NRC's licensing and oversight activities impose unnecessary schedules, costs, and risks on the regulated industry.

Current scientific knowledge and understanding of technology and risk should be combined with decades of industry operating experience to shape how the NRC understands and implements its regulatory mission. Advanced technology presents an opportunity to greatly reduce regulatory burden. The NRC has the authority to determine "necessary" regulatory burden and should take action to remove "unnecessary" regulatory burden in the licensing of advanced designs.