

Evidence-Building Plan

High-Level Draft Strategic Plan Fiscal Years 2022 – 2026

1.0 PURPOSE

The Foundations for Evidence-Based Policymaking Act of 2018 (“Evidence Act”) requires agencies to include an evidence-building plan in the agency strategic plan. The U.S. Nuclear Regulatory Commission (NRC) developed this annotated outline to provide the framework of the evidence-building plan that will be included as an appendix in the Fiscal Years (FY) 2022 – 2026 Strategic Plan. The annotated outline includes proposed priority questions along with a summary to provide context around the anticipated evidence-building activities. The evidence-building plan is a systematic approach for identifying and addressing priority questions relevant to the agency’s programs, policies, and regulations.¹ More broadly, it is a coordination tool to engage stakeholders in evidence planning and building to help achieve an agency’s mission. The evidence-building plan is intended to emphasize and foster an agency culture of learning and continuous improvement. The proposed priority questions include key areas to support agency needs and the FY 2022 – 2026 strategic goals and objectives.

2.0 METHODOLOGY

The priority questions for the evidence-building plan were solicited from internal and external stakeholders using multiple approaches. Internally, the NRC used a crowdsourcing platform to solicit potential priority questions and feedback from the NRC staff. The NRC staff submitted potential priority questions with topics ranging from automating data generation to improving agency processes. Externally, the NRC solicited stakeholder input to develop the strategic plan, including the priority questions for the evidence-building plan. In September 2020, representatives of various stakeholder groups participated in a public meeting and provided comments in response to a *Federal Register* Notice. The input the NRC received was reviewed and combined with the input provided by the NRC staff to develop a set of proposed priority questions. The NRC’s Data Governance Board, comprised of senior agency officials, further refined, added new questions, and endorsed the proposed priority questions.

3.0 EVIDENCE-BUILDING PLAN PRIORITY QUESTIONS

Priority questions help the agency focus, drive planning activities, and prioritize the most impactful improvements to agency programs, policies, and regulations by using evidence to make informed decisions. Below are the NRC’s proposed priority questions for the evidence-building plan, categorized by topical area. A summary accompanies each priority question and includes the purpose of the question and the type of evidence-building activity anticipated. For each question, the associated evidence-

¹ Pub. L. 115-435, 132 STAT. 5529.

building activity uses data and information to develop evidence that allows decision makers to make informed decisions.

Additional details such as data needs, stakeholder engagement, and challenges will be provided for these proposed priority questions in the full draft evidence-building plan which is the next development step.

PRIORITY QUESTIONS FOR STRATEGIC PLAN GOAL 1 – ENSURE THE SAFE AND SECURE USE OF RADIOACTIVE MATERIALS

PRIORITY QUESTION 1: HOW CAN THE NRC IMPROVE LICENSING AND OVERSIGHT, BASED ON RECENT OPERATIONAL EXPERIENCE (INCLUDING LESSONS LEARNED FROM THE COVID-19 PUBLIC HEALTH EMERGENCY)?

SUMMARY

Gathering lessons learned and incorporating best practices from recent licensing and oversight activities could help NRC staff focus on those activities most important to safety. In response to the challenges of the COVID-19 public health emergency (PHE), the NRC quickly identified temporary alternative and risk-informed methods for conducting licensing and oversight activities while continuing to provide reasonable assurance of adequate protection of public health and safety. The NRC will identify lessons learned and collectively document temporary changes made to NRC licensing and oversight processes in response to the COVID-19 PHE. The NRC will further analyze these and other lessons learned to determine potential benefits and improvements to the NRC's licensing and oversight processes.

PRIORITY QUESTION 2: WHAT STAKEHOLDER DATA WOULD BE MOST BENEFICIAL FOR USE IN ADVANCED ANALYTICAL TOOLS (E.G., MACHINE LEARNING, ARTIFICIAL INTELLIGENCE) TO SUPPORT NRC DECISION MAKING?

SUMMARY

The NRC receives information from stakeholders in various formats through mandatory and voluntary information collections. This information is used in agency activities to support the safety and security mission. The NRC relies heavily on individual employee analysis for reviewing items such as licensee submittals, licensing basis documents, reporting requirements, and rulemaking activities. By improving how the NRC collects data and information, advanced analytical tools can be used and have the potential to make decision making easier, faster, and more efficient. Receiving data and information in formats that readily allow analysis through modeling or calculations allows for a more effective use of resources for both the NRC and licensees. These data improvements will also be beneficial to members of the general public, as well as universities performing academic research in these areas.

PRIORITY QUESTION 3: TO WHAT EXTENT ARE THE NRC'S COMPUTER CODES CAPABLE OF SUPPORTING INDEPENDENT ANALYSIS OF THE SAFETY OF ADVANCED REACTOR DESIGNS AND OPERATIONS?

SUMMARY

The NRC routinely uses scientific computer codes and analytical tools to perform confirmatory, sensitivity, and uncertainty analyses to independently analyze the safety of advanced reactor designs. These codes and tools help examine safety margins inherent in the design, commensurate with the risk and safety significance of the phenomena applicable to specific reactor designs. The NRC will perform analysis and research to (1) identify the reactor-systems-analysis computer codes, analytical tools, information, and data that the staff may need in evaluating the safety of non-light water reactor (non-LWR) designs; (2) assess the existing capability of computer codes, analytical tools, and supporting information; (3) identify gaps in both analytical capabilities and supporting information and data; and (4) interact with both domestic and international organizations working on non-LWR technologies to enhance collaboration and cooperation. The NRC will engage stakeholders including the Department of Energy, the Electric Power Research Institute, the national laboratories, reactor vendors, utilities, and the international community on issues related to computer codes and analytical tools.

PRIORITY QUESTIONS FOR STRATEGIC PLAN GOAL 2 – CONTINUE TO FOSTER A HEALTHY ORGANIZATION

PRIORITY QUESTION 4: TO WHAT EXTENT ARE LICENSING ACTIONS PERFORMED BY THE NRC BECOMING MORE OR LESS RESOURCE INTENSIVE OVER TIME AND HAVE THERE BEEN ANY CHANGES IN WORK PRODUCT QUALITY?

SUMMARY

High quality license reviews are essential to ensuring the NRC is accomplishing its mission. Answering this priority question will help to ensure NRC licensing reviews are high quality, use a risk-informed approach, and use an appropriate level of resources. The NRC will assess the licensing actions associated with the generic milestone schedules required by the Nuclear Energy Innovation and Modernization Act. The assessment will 1) determine if similar licensing actions have become more or less resource-intensive over time; 2) identify resource variances between similar licensing actions; 3) identify the factors contributing to the increase, decrease, and variance of resources for each type of licensing action; and 4) determine if there were any changes to the quality of the work products. The NRC will engage internal stakeholders to conduct this assessment. This assessment will provide a better understanding of how resources are being used for similar licensing actions and may provide key insights to further risk inform the agency's licensing process.

PRIORITY QUESTION 5: TO WHAT EXTENT ARE NRC'S WORKFORCE PLANNING PROCESSES ADEQUATELY ACCOMMODATING POTENTIAL WORKLOAD FLUCTUATIONS?

SUMMARY

The goal of Strategic Workforce Planning (SWP) is to formulate strategies and action plans that enable the NRC to recruit, retain, and develop the workforce required to address emerging needs and workload fluctuations. The SWP process supports agency efforts to better forecast the amount and type of work now and in the future, and the workforce needed to perform this work. The SWP process also helps staff understand the future direction of the agency's work and empowers staff to plan for their professional career development. The NRC will perform an evaluation that assesses the effectiveness and efficiency of the current SWP processes and will compare estimated workloads and staffing projections against actual results. The NRC will engage with internal stakeholders using the SWP process and benchmark against other Federal agencies.

PRIORITY QUESTION 6: WHAT PROCESS IMPROVEMENTS CAN BE IMPLEMENTED TO MAKE THE NRC A MORE MODERN, RISK-INFORMED REGULATOR AND HOW ARE THEY ALIGNED WITH PERFORMANCE INDICATORS?

SUMMARY

Policies and procedures are vital to ensure consistency, clear expectations, performance measurement, and established roles and responsibilities. The NRC operates with structured policies and procedures, such as management directives and office instructions. The NRC uses a performance management framework that clearly and directly links program goals with the NRC Strategic Plan and institutionalizes the use of performance information in decision making. These policies and procedures and the NRC's performance management framework will move the agency toward being a more modern, risk-informed regulator. Consistent with the FY 2022 Annual Evaluation Plan (Agencywide Documents Access and Management System Accession No. [ML21053A191](#)), the NRC will 1) identify and prioritize agency policies based on the level of potential improvement or benefit to the agency, measured by frequency of use and level of effort, while factoring in potential risks (e.g., loss of transparency, reduced stakeholder engagement) that may result; 2) use mission analytics to identify agencywide process gaps that could be improved or benefit from procedure development; and 3) evaluate processes or identified gaps, using a process evaluation, based on the priority ranking, and make improvements that result in effectiveness and efficiency while managing any added risk. Given the need for alignment between the agency's policies and procedures and its performance management, the NRC will also analyze the agency's performance indicators to determine if they 1) provide meaningful outcomes; 2) provide a hierarchical structure that allows consistent reporting; and 3) should be discontinued, modified, or replaced with new performance indicators that provide more meaningful results.

PRIORITY QUESTION 7: HOW CAN THE NRC BETTER LEVERAGE RESEARCH CONDUCTED THROUGH NRC-SPONSORED UNIVERSITY RESEARCH AND DEVELOPMENT GRANTS?

SUMMARY

The NRC’s University Nuclear Leadership Program awards funding to universities for research and development grants. The program is intended to develop a workforce capable of supporting the design, construction, operation, and regulation of nuclear facilities and the safe handling of nuclear materials. The NRC will perform an evaluation of the University Nuclear Leadership Program to identify opportunities to leverage university grants to support NRC research needs. The evaluation will include activities such as internal and external stakeholder engagement, process reviews, and benchmarking with other Federal agencies. Ideally, the evaluation will reveal strategies for more effective use of research funding in the future.

PRIORITY QUESTIONS FOR STRATEGIC PLAN GOAL 3 – INSPIRE STAKEHOLDER CONFIDENCE IN THE NRC

PRIORITY QUESTION 8: HOW CAN THE NRC IMPROVE EXTERNAL ENGAGEMENT TO INSPIRE STAKEHOLDER CONFIDENCE?

SUMMARY

The NRC takes an active role in the Open Government Initiative by ensuring that the public is informed about and has a reasonable opportunity to meaningfully participate in the NRC’s regulatory processes. The NRC will assess the agency’s current practices for external engagement to determine the effectiveness of these methods and to establish a baseline for stakeholder confidence. The assessment will include reviewing readily available information, such as Federal Employee Viewpoint Survey and Safety Culture and Climate Survey results, public comments for rulemakings and policy statements, participation in public meetings, engagement in social media platforms, and inquiries received through our public webpage. The NRC will conduct an analysis, identify areas for improvement, and develop recommendations to inspire stakeholder confidence in areas where it is lacking.

PRIORITY QUESTION 9: TO WHAT EXTENT ARE THE NRC’S PROGRAMS, POLICIES, AND ACTIVITIES ADDRESSING ENVIRONMENTAL JUSTICE?

SUMMARY

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” states that Federal agencies “shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations....” Independent agencies, such as the NRC, are not bound by the terms of the executive order, but, as stated in the order, are requested to comply with its provisions. The Commission has

committed to the general goals of the Executive Order. In its Policy Statement on the Treatment of Environmental Justice Matters in

NRC Regulatory and Licensing Actions (69 Fed. Reg. 52040; August 4, 2004), the Commission stated that the NRC will consider and integrate environmental justice matters as part of its National Environmental Policy Act review process.

The NRC will systematically review how the agency's programs, policies, and activities address environmental justice. As part of its review, the staff will evaluate recent Executive Orders and assess whether environmental justice is appropriately considered and addressed in the agency's programs, policies, and activities, such as adjudicatory procedures and environmental reviews, given the agency's mission. The NRC will benchmark practices of other federal, state, and tribal agencies and evaluate whether the NRC should incorporate environmental justice beyond implementation through the National Environmental Policy Act. The NRC will review the adequacy of the 2004 Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions. The NRC staff will also consider whether establishing formal mechanisms to gather external stakeholder input would benefit any future environmental justice efforts. The NRC will engage with internal and external stakeholders representing a broad range of perspectives to solicit their views. The staff will leverage institutional knowledge and use NRC transformation initiatives, where practicable, to inform the review.