

Improving the Fidelity of Agency Estimates of Necessary Full-Time Equivalent Levels and Optimizing the Structure of the Agency over the Next 5 Years

This report details the U.S. Nuclear Regulatory Commission's (NRC) actions to improve the fidelity of estimates of necessary full-time equivalent (FTE) levels and to optimize the structure of the agency over the next 5 years, including making appropriate changes to the size, functions, and the number of program and regional offices. The NRC is providing this report in response to the Joint Explanatory Statement that accompanied the Consolidated Appropriations Act of 2018.

The NRC was created as an independent agency by Congress in 1974 to ensure the safe use of radioactive materials for beneficial civilian purposes. Headquartered in Rockville, MD, the agency has four regional offices, located in King of Prussia, PA (Region I); Atlanta, GA (Region II); Lisle, IL (Region III); and Arlington, TX (Region IV). The NRC oversees 99 operating power reactors at 59 sites in 30 states; new reactor activities including construction of two new power reactors at the Vogtle site in Georgia, design certifications, and early site permits; 11 uranium recovery sites; 13 nuclear fuel cycle facilities; and, approximately 2,800 licensees nationwide who use radioactive materials for medical, academic, and industrial activities.

NRC's fiscal year (FY) 2019 budget request (excluding Yucca Mountain) is \$923 million, including 3,123 FTE. Reflecting its commitment to right-size and adopt efficiencies, the NRC has decreased its budget by a total of 13 percent since FY 2014.

The agency's planning and budgeting approaches consider recent changes in the regulated industry. Because of market conditions, 11 of the 99 operating commercial nuclear power reactors have announced an intention to cease operations within the next 5 years, all before the expiration of their operating license. The NRC is also closely watching developments in three potential key growth areas: (1) development of small modular and advanced reactor technologies, (2) decommissioning of current operating reactors, and (3) developments in the national strategy for storage and disposal of nuclear waste. Inherent uncertainty in projecting licensing action submissions by our licensees makes estimating necessary FTE levels challenging.

An initiative began in June 2014, when current and projected changes to the NRC's workload prompted the agency to launch Project Aim. In June 2015, the Commission approved 19 Project Aim tasks intended to improve efficiency and agility, as well as to right-size the agency, while retaining employees with the appropriate skills needed to perform our regulatory functions. The staff provided the last of the key deliverables for the Project Aim tasks to the Commission in 2017, while implementation of many of the related tasks is ongoing throughout the agency. For example, the merger of the Office of Nuclear Reactor Regulation (NRR) and the Office of New Reactors (NRO), the Enhanced Strategic Workforce Planning effort, and the Mission Support Standardization and Centralization effort, either began as Project Aim tasks or are follow-on activities inspired by specific Project Aim tasks. These initiatives are described in this report. In this way, Project Aim continues to contribute to the agency efforts to improve the fidelity of FTE estimates and to consider the optimum organizational structure of the agency. This report also describes an evaluation of the NRC's regional office structure and budget formulation and execution improvements, which should further improve the fidelity of agency FTE estimates and optimize the structure of the agency.

Merger of the Office of Nuclear Reactor Regulation and the Office of New Reactors to Optimize the NRC Structure

The NRC has begun efforts to merge NRR and NRO with a completion goal of mid FY 2020. Economic changes in the domestic energy sector have altered the outlook for new reactors. These changes and the resolution of post-Fukushima-related activities, allow the offices to be combined. The Administration's reform plan and reorganization recommendations, "Delivering Government Solutions in the 21st Century," released on June 21, 2018, highlighted this planned activity.

The effort has involved a review of the size and functions of the respective offices and their subordinate divisions. The merger will provide flexibility to manage uncertainties associated with the workloads in both the New Reactors and Operating Reactors Business Lines while eliminating redundancies in functions. The merger will combine similar technical and project management organizations, as well as several specialized organizations unique to either NRO or NRR. The reorganization will align functions, branches, and divisions to ensure a logical transition to support efficiency gains and improved supervisor-to-staff ratios. The merger plans and resulting structure are consistent with the NRC's goal of proactively managing a changing workload as the agency remains focused on ensuring safety and security.

Evaluation of Regional Organization and Scope of Work to Optimize the NRC Structure

The agency has conducted several studies on the roles, responsibilities, and organizational structure of the regional offices. Last year, the Commission directed the NRC staff to develop forward-looking criteria related to fact-of-life changes that would prompt development of a detailed evaluation of the current number, organization, and scope of work of the NRC's regional offices.

The NRC staff considered a broad range of potential criteria that might indicate the need for a detailed evaluation of the number, organization, and scope of work for the regional offices. At a high level, these included workload-based criteria (e.g., number of operating power reactors, number of power reactors under construction, number of Agreement States, number and types of materials licensees); effectiveness and efficiency criteria (e.g., operational consistency, ability to ensure adequate focus on licensee operations and activities, incident response and continuity of operations functions, and geographic considerations); and criteria related to overall costs and benefits. The operating reactor program historically accounts for the majority of budgeted regional resources, and a further significant reduction in the number of operating reactors would be an indicator that changes should be considered. In the next 5 years, the NRC does not expect that other changes beyond the reactor program would drastically alter the workload of a particular region. Accordingly, the NRC staff is using three criteria to decide whether to seek the Commission's approval to perform a more detailed evaluation of regional operations and structure:

- (1) a 20-percent anticipated reduction in the total number of operating reactors;
- (2) 15 or fewer operating reactors anticipated to be assigned to a regional office; or
- (3) a difference of 18 operating reactors anticipated between two or more regional offices

Based on currently available information, with the anticipated 2024 closure of Diablo Canyon Nuclear Power Plant, Unit 1 and the possible start-up of two new reactors at the Vogtle Electric Generating Plant in 2020 or 2021, NRC Region II would have oversight of 18 more operating reactors than NRC Region IV. In light of this anticipated difference, the NRC staff is seeking

Commission approval to commence a detailed evaluation of regional operations and structure. Such an evaluation would support an informed decision on the nature and timing of any proposed changes.

Strategic Workforce Planning to Improve Fidelity of FTE Estimates and Optimize the NRC Structure

Enhanced Strategic Workforce Planning (SWP) is an NRC initiative to improve the agency's ability and tools to integrate considerations related to workload projection, skills identification, human capital management, individual development, workforce management, and organizational size and structure. By systematically integrating these activities across the agency, SWP improves the accuracy of FTE estimates, as well as yielding insights on the appropriate size, function, and number of program offices and regions. Wherever possible, SWP builds on and connects activities that the NRC currently uses to ensure that current and future mission demands are met. SWP is performed annually and uses a 5-year forward planning horizon.

A year-long pilot effort involving two offices and one region ended in June 2018. The agency's SWP working group then provided the Executive Director for Operations with the results of the pilot in a memorandum titled "Enhanced Strategic Workforce Planning Pilot Lessons-Learned Report" (Agencywide Documents Access and Management System Accession No. ML18158A269). The pilot demonstrated that the enhanced framework and process, when fully implemented, will meet the intended purpose of SWP in an effective and efficient manner. The working group concluded that systematic application of SWP provides valuable insights to inform staffing, organizational, and developmental strategies. These insights can improve the agency's human capital management activities, help identify employee opportunities for career growth, and provide for a greater understanding of the future workload and necessary workforce of the NRC. The lessons-learned report identified recommendations for the potential full-scale implementation of the enhanced SWP process at the NRC. On June 20, 2018, the Executive Director for Operations issued a memorandum that approved the recommendations in the lessons-learned report and tasked a broader agency implementation (called Phase II) of the enhanced SWP process.

In parallel with these SWP efforts, any external hiring of NRC staff will continue to be limited to personnel with skills that are both critical to agency operations and not available within the existing agency workforce. The NRC has identified skill needs in the areas of cybersecurity, cloud computing, probabilistic risk assessment, health physics, fuel technology, acquisitions, and advanced reactors (non-light-water reactors) and is implementing strategies to mitigate any future critical skill gaps in these areas. These strategies include retraining and redeploying current agency staff, partnering with other Federal agencies, and supplementing the NRC workforce with contractor support.

Budget Formulation and Execution to Improve Fidelity of FTE Estimates

Necessary FTE levels are estimated annually as part of the NRC budget formulation process. Both historical information and future workload assumptions inform these estimates. However, the FTE estimates to accomplish the anticipated workload when the budget is formulated, compared with the FTE used during the execution year, can vary because of factors such as predicted incoming work not materializing and the varying complexity of the safety and security reviews performed to ensure adequate protection of public health and safety and to promote the common defense and security.

To mitigate these challenges, the agency estimates necessary FTE levels based on workload changes through the development of high-level planning guidance. This guidance outlines the assumptions for workload changes anticipated in the budget year. To supplement this guidance, the agency continually engages both formally and informally with its regulated entities to ensure that it has the most up-to-date workload projections. For example, annual requests for information to licensees and potential applicants help inform the agency's workload and associated budget requests for the Operating Reactors Business Line and New Reactors Business Line. The NRC also obtains such information informally through its regular, established communications with licensees and other stakeholders. These formal and informal means help the agency to better predict its future resource needs through awareness of new licensing applications or potential plant closures. The NRC continually works to increase external awareness of the benefits of obtaining this information in an accurate manner.

FTE utilization data from prior years also inform estimates of necessary FTE levels. A significant effort was made in recent years to revise how NRC employees charge their time. This effort will result in improved fidelity of future FTE estimates. The FTE utilization is analyzed and reported on a quarterly basis during the fiscal year and also in the End of Year Analysis. Actual FTE utilization is also included in the annual Congressional Budget Justification. Significant resource reallocations of greater than four FTE or \$500K are reported to the Commission and monitored for use in improved future estimates. The agency expects to continue to see improvements in our ability to estimate future resource needs based on past expenditures. In preparation for the FY 2020 budget formulation process, the NRC developed new analytical products to enhance its staffing models. To maximize the benefit from the new information available from our authoritative data systems and cost data, NRC also conducted new analytics and benchmarking training. Those new capabilities are now used in Quarterly Performance Review and budget execution oversight.

Standardization and Centralization of Functions to Improve Fidelity of FTE Estimates and Optimize the NRC Structure

Each NRC program and regional office contains an organization that performs mission support functions to complement the work of the NRC corporate support offices (such as financial management, information technology and management, human resources, and administrative support). Recently, the NRC began efforts to standardize the size and functions of these mission support organizations, as well as centralize those functions when such centralization would improve overall agency effectiveness and efficiency. Standardization will also help to improve the consistency and fidelity of FTE estimates to conduct mission support functions.

In 2017, a working group provided an agencywide implementation plan for 21 projects to centralize or standardize financial management, human resource, and administrative functions performed in program offices and regional offices. These projects are underway, with most expected to be completed by the beginning of FY 2019. The agency's FY 2019 budget request reflects a reduction of approximately \$4 million, primarily as a result of the decrease of 20 FTE in the Mission Support and Supervisors Product Line resulting from the standardization and centralization projects.

Another area of standardization and centralization involves the creation and leveraging of agency Centers of Expertise (COE) for specific technical skills and functions. The NRC has implemented the following COEs: the Allegations COE was established in July 2016, the External Hazards COE in October 2016, the Technical Specifications COE in December 2016,

and the Rulemaking COE in October 2017. The NRC has evaluated the intended benefits of a COE, which include the enhanced ability to shift resources or work assignments to meet the demands of a changing environment, increased organizational capacity without increases in resources, and more effective knowledge management and maintenance of critical skill sets. In addition, COEs can provide cross-office standardization and foster employee knowledge sharing and experience.