

REORGANIZATION PLAN TO MERGE THE OFFICE OF NEW REACTORS AND THE OFFICE OF NUCLEAR REACTOR REGULATION

SUMMARY

The business case for the merger of the Office of New Reactors (NRO) and the Office of Nuclear Reactor Regulation (NRR) provided in Enclosure 1 supports an eventual consolidation of the two offices of the U.S. Nuclear Regulatory Commission (NRC). If the Commission approves the staff's recommendation, the NRC staff will conduct more detailed assessments, engage in discussions with appropriate internal and external stakeholders using established change-management processes, and implement the merger at an appropriate time. The parallels in organizational structure for NRO and NRR reflect the similarities in technical and regulatory functions. These similarities aid in the development of a reorganization plan, but adjustments will likely be needed as the staff completes additional assessments. This reorganization plan provides an initial arrangement of functions, branches, and divisions to demonstrate that the consolidation can proceed logically and to support a general assessment of possible benefits and challenges to the consolidation.

As noted in Enclosure 1, Commission approval of an eventual merger of the offices will provide a basis for planning and implementing various reactor program activities. Many activities are underway to harmonize processes, tools, and practices across NRR and NRO. The staff would expand upon these activities in accordance with Commission direction to improve consistency between the offices in advance of a formal merger, with the active engagement of staff and management throughout the process. Preparations for the merger during the next few years and the actual merger-related reorganization will be coordinated with and be complementary to other improvement efforts identified by Project Aim, including re-baselining and ongoing office-level initiatives to improve performance and address changes in workload. The merger itself would provide additional efficiencies (particularly in the reduction of duplicate support functions) that would supplement the effectiveness and efficiency gained through harmonization. The official merger-related reorganization of NRO and NRR will be scheduled and implemented at an appropriate time as part of the agency's overall implementation of Project Aim and in response to its changing environment.

The appropriate timing of the merger-related reorganization will be based on an integrated assessment of various considerations such as the ability to maintain the safety and security mission, projected workloads, resolution of policy issues, and projected staffing levels. Evaluating the conditions that support initiation of merger activities will be reviewed in conjunction with activities such as budget development and routine management meetings. The offices will at the same time be assessing the results from Project Aim and office-level initiatives being pursued to improve the effectiveness and efficiencies within the operating reactor and new reactor business lines. Specifically, these activities provide opportunities to review the projected workload and progress in achieving program goals and resolving challenging issues, all of which affects the ability of a consolidated organization to carry out the reactor program mission safely and effectively. The staff will notify the Commission when projected conditions support beginning the merger-related reorganization of NRO and NRR. The proposed schedule for the merger allows for a reorganization period, which would begin upon the staff informing the Commission that the plans for consolidating

the offices are about to be implemented. This proposed timeline will be used to support the staff developing and implementing more detailed plans related to the consolidation of NRO and NRR.

1. PURPOSE

This enclosure presents a reorganization plan to accompany the business case described in Enclosure 1. The plan provides a framework by which a merger of NRO and NRR can be accomplished to meet the desired efficiency and effectiveness gains while avoiding a detrimental impact on the ongoing and projected work of each organization. This reorganization plan will be updated as needed to reflect interactions with stakeholders, further assessments, Commission and senior management decisions regarding other Project Aim initiatives, and external factors affecting workloads and the NRC budget.

2. BACKGROUND

Enclosure 1 provides a business case for the agency going forward with a merger of NRO and NRR, at the appropriate time. This reorganization plan is being provided for the Commission's review and approval as directed in the staff requirements memorandum (SRM) dated June 8, 2015, related to SECY-15-0015, "Project Aim 2020 Report and Recommendations," dated January 30, 2015. The merger of the two offices was included in the Project Aim report as one of many changes that the NRC should pursue to improve in areas such as effectiveness, efficiency, agility, and flexibility.

The NRC staff has prepared this reorganization plan recognizing the dynamic environment facing the agency. The plan supports merging the two NRC offices while the agency retains adequate flexibility (i.e., a scalable organization) to adjust to changes in specific areas (e.g., addition or withdrawal of applications), other tasks under Project Aim (e.g., potential centers of expertise (COEs)), project schedules, and other factors.¹ This initial plan will be used to support interactions with staff and other stakeholders and will be updated as needed before the merger-related reorganization. The staff will use available guidance regarding change management and organizational effectiveness initiatives during the development and implementation of the consolidation.²

The Project Aim recommendation included developing a transitional plan for a merger of NRO and NRR, along with any associated organizational changes in Region II. As discussed in Enclosure 1, Region II will develop a detailed plan, informed by the Watts Bar Unit 2 experiences, which will identify the skills required during this period and the resources needed to execute the inspections at the Vogtle and V.C. Summer construction sites. The Region II

¹ While recognizing the relationships between programs and business lines, the evaluation and recommendations related to this plan focus on the primary program offices for the nuclear reactor safety program, which are NRO and NRR. Other follow-up activities from Project Aim are being pursued (e.g., formation of COEs) and will be considered within the implementation plans for the consolidation of NRO and NRR. In addition, the development and implementation plans for the merger will result in adjustments to other business lines, product lines, and specific products (e.g., research and international cooperation).

² Examples of available insights and guidance include reports from the Government Accountability Office (GAO) such as GAO-03-669, "Results-Oriented Cultures – Implementation Steps to Assist Mergers and Organizational Transformations."

transition plan is relatively independent of the headquarters-focused assessments. The development of the reorganization plan to support the merger-related reorganization of NRO and NRR will include provisions to ensure continued support for the construction program in Region II. Therefore, the reorganization plan being developed for the eventual consolidation of NRO and NRR does not specifically address organizational changes in Region II.

3. APPROACH TO MERGER

It is important to view the eventual consolidation of NRO and NRR within the context of broader changes at the NRC and the nuclear industry. There will likely be numerous changes within NRO and NRR as part of ongoing initiatives and related organizational changes before the decision to consolidate the offices. As discussed in Enclosure 1, the decision to move ahead with the consolidation will be based on ongoing evaluations of workloads, budgets, and other factors discussed in the business plan and will allow for a transition period to implement the reorganization plan and the related change management activities described below. The timeline for the merger-related reorganization begins with a senior management decision to merge based on the factors outlined in Enclosure 1 followed by the staff informing the Commission of the plan to reorganize the offices.

The timing of various parts of the transition and completion of the merger are dependent on both internal and external factors affecting the organizations and workloads within the new and operating reactor business lines. The staff has developed a general approach that supports an orderly consolidation of NRO and NRR.

This approach includes four specific segments:

- (1) continued plan development
- (2) ongoing initiatives and organizational changes
- (3) reorganization
- (4) postmerger assessment

This approach enables the organization to achieve effectiveness and efficiency gains well ahead of a formal merger. Recognizing the eventual merger of the offices supports coordination with other Project Aim and office-level initiatives, including activities to harmonize processes, tools, and practices across NRR and NRO. These activities, combined with other agency initiatives such as rebaselining and strategic workforce planning (SWP), will enable simpler shifting of resources to provide timely and responsive reviews, greater fungibility of individual staff, and strategic reductions and smaller reorganizations (e.g., COEs) that will facilitate an eventual merger. The merger itself would provide additional efficiencies (particularly in the reduction of duplicate support and management functions) that would supplement the effectiveness and efficiency gained through the ongoing initiatives and intermediate organizational changes. Furthermore, an extended transition period allows for the completion of projects and resolution of policy issues before the consolidation of the offices, supporting a more manageable combined organization, as envisioned in the factors outlined in Enclosure 1.

As part of the first segment, the staff will continue plan development, including preparing a communication plan, after the Commission decision and direction on this approach to consolidate NRO and NRR. A team will be assigned to help develop the merger plan,

coordinate the merger and other initiatives, develop and implement the transition activities, and identify postmerger activities needed to meet NRC goals and objectives.

Projected conditions will be reviewed in conjunction with budget development and senior leadership meetings to identify an appropriate time for the merger. Specifically, these activities provide opportunities to review projected workload and progress in achieving program goals and resolving challenging issues, all of which affect the ability of a consolidated organization to carry out the reactor program mission safely and effectively. When projected conditions lead the senior management team to decide to move ahead with the merger-related reorganization, a paper will be provided to the Commission.

During the period leading up to the consolidation of NRO and NRR, the staff will continue to revise guidance documents (e.g., align or combine office instructions), increase cross-training, and address infrastructure issues such as completing the adoption of common information technology (IT) systems and relocating staff. Management and staff in both offices will continue their close collaboration throughout this period. In addition, where circumstances support consolidating branches or divisions within each office before the reorganization period, intermediate changes that support the eventual merger of NRO and NRR will be implemented at the appropriate time. Limited organizational changes to consolidate staff with similar duties in NRO and NRR that support the eventual merger can be pursued within the process for creating COEs.

NRC management will monitor the status of the ongoing activities and possibly accelerate or postpone completing the merger or the consolidation of specific divisions, branches, or teams. Changes within the new and operating reactor business lines are likely to continue after the completion of the merger; key activities during the postmerger period include evaluating the success of the consolidation and other initiatives, identifying issues and challenges, and undertaking further enhancements to improve the effectiveness and efficiency of the organization.

4. MERGER-RELATED REORGANIZATION PLAN

The primary elements of the third segment, formal reorganization associated with the merger of NRO and NRR, include the following:

- organizational structure
- reorganization process
- challenges and mitigation measures

Each element is discussed below in terms of possible approaches, foreseeable issues, and preliminary plans. Organizational changes are being made within the offices ahead of the actual merger-related reorganization to reflect changing workloads and staffing levels in both NRO and NRR. These types of changes will continue along with other changes related to Project Aim activities such as the re-baselining initiative.

4.1 Organizational Structure

The consolidation of NRO and NRR will involve bringing together similar technical organizations, project management organizations, and some specialized organizations unique to either NRO or NRR. This initial plan provides a starting point for further interactions with internal and external stakeholders and refinement of the configuration that will exist during the intermediate or transition phases and at the completion of the merger-related reorganization.

NRR is currently organized into eight divisions and a program management, policy development, and analysis (PMDA) organization. The following divisions include 43 branches:

- Division of License Renewal (DLR)
- Japan Lessons Learned Division (JLD)
- Division of Policy and Rulemaking
- Division of Operating Reactor Licensing
- Division of Inspection and Regional Support (DIRS)
- Division of Engineering (DE)
- Division of Safety Systems (DSS)
- Division of Risk Assessment

NRR is budgeted for 547 full-time equivalent staff (FTE) in fiscal year (FY) 2016, which includes 19 Senior Executive Service (SES), and this value is expected to decrease from now to 2020. Changing conditions within the operating reactor business line are already leading to organizational changes and resource reductions. Currently, management is evaluating near-term organizational changes given a declining workload in JLD and DLR and the formation of a rulemaking COE in NMSS.

NRO has a similar structure with five divisions and a supporting PMDA organization. The NRO divisions, made up of 28 branches, are as follows:

- Division of Site Safety and Environmental Analysis
- Division of New Reactor Licensing
- Division of Construction Inspection and Operational Programs (DCIP)
- Division of Engineering, Infrastructure, and Advanced Reactors (DEIA)
- Division of Safety Systems and Risk Assessment (DSRA)

NRO has decreased its staffing by approximately 30 percent from its peak and is currently budgeted for 333 FTE in FY 2016, which includes 14 SES. In the near term, the staff expects further decreases in the resources needed for the new reactor business line. NRO is also making organizational changes independent of a potential consolidation with NRR to address diminished resources and to reduce the number of managers.

The parallels in organizational structure for NRO and NRR reflect the similarities in technical and regulatory functions and the common history shared by the two offices. These similarities facilitate the development of a reorganization plan, but the staff will need to make adjustments following planned interactions and assessments. A simple comparison of the two offices can identify some likely aspects of a reorganization plan for the merger. Several pairs or groups of

divisions align well between NRR and NRO and could be consolidated relatively easily. These include the following:

- DIRS in NRR and DCIP in NRO³
- DE in NRR and portions of DEIA in NRO
- DRA and DSS in NRR and DSRA in NRO
- PMDA in both NRR and NRO

The formation of the remaining parts of the consolidated organization is dependent on decisions related to the possible creation of additional COEs, additional assessments of future workloads, and other agency initiatives. Organizational arrangements can be defined for those functions that are served by multiple branches but warrant maintaining special alignments between the branches (e.g., two research and test reactor branches, two or three branches supporting license renewal, construction inspection activities, and advanced reactor activities). The staff will consider such traditional arrangements as well as possible changes in future workloads when arranging the organization so that the agency can adjust to changing projects and priorities ensuring scalability of the combined office.

Given the uncertainties and dependencies on other initiatives, this reorganization plan is not, at this time, establishing a specific combination of the remaining work units into divisions. However, the projected staffing associated with the various functions not within the above listed divisions consists of staff, management, and administrative support currently assigned to approximately 21 different branches. The grouping of the branches into divisions would depend on which functions were incorporated into COEs or other divisions and the outcome of arranging branches to reduce overlap and duplication.

This initial reorganization plan provides a possible arrangement of functions, branches, and divisions to ensure that a logical combination can be identified and to support a general assessment of possible efficiency gains, supervisory ratios, and other potential measures of success. The structure also addresses goals to ensure the organization can flexibly address the dynamic environment facing the agency. For example, organizational elements will continue to be dedicated to the new and advanced reactor areas to enable the NRC to respond to possible increased interest in new reactor designs. A potential initial arrangement is described in the table below.

The agency is currently evaluating how best to increase the staff-to supervisor ratio, which will be pursued regardless of a decision on a merger. A reduced number of supervisors, while necessitating careful implementation to consider appropriate processes and span of control, provides flexibility within a budgeted office size to perform additional staff activities. Using the table below as an example, the merger when implemented could result in significant reductions of both SES and non-SES supervisory staff when compared to the existing organizations.

³ Although major functions within the NRO and NRR divisions may be similar, some specific functions and related staff (e.g., financial analysis and international activities in NRR's DIRS) may be considered for consolidation with other projects, policy, and support organizations.

Notional Organizational Structure for Consolidated Office			
Organization	SES	Approximate Branches	Notes
Front Office	4	-	This does not assume a particular front office structure in terms of the director, deputies, associates, or other positions.
PMDA	-	3	
Operating Reactor Licensing	2	6	
Engineering	2	6	
Safety Systems	2	6	
Risk Assessment	2	6	This assumes that evaluation of external hazards is incorporated into this division.
Inspection and Regional Support	2	6	This assumes that financial reviews, international support, operator licensing, and operating experience (current functions within NRR/DIRS) are not incorporated into this division.
License Renewal and research and test reactors (RTRs)	2	5	Grouping could include license renewal, environmental reviews, and RTRs.
Operator Licensing and Regulatory Support	2	6	Grouping could include mitigating strategies implementation, operating experience, generic communications, financial reviews, international support, and operator licensing; rulemaking functions are assumed to be transferred outside the office.
New and Advanced Reactors	2	3	Grouping could include new reactor licensing, advanced-reactor reviews, and related policy development.
Total for Merged Office	20	47	

Table 1: Notional Organizational Structure for Consolidated Office

4.2 Reorganization Process

The process for reorganizing NRO and NRR addresses the three remaining segments outlined above that follow the continued planning for the merger:

- ongoing initiatives and organizational changes
- reorganization
- postmerger assessment

The details of the implementation will depend on the timing and direction provided by the Commission. The merger-related reorganization is part of broader changes and will be pursued, if and when appropriate, given the outcomes from other NRC initiatives and external factors. As previously discussed, the appropriate time to begin the merger will depend on various factors. The duration of the reorganization period will likewise depend on a number of

factors and the readiness of the two offices to be consolidated. Although not defined within this paper, the staff envisions a reorganization period that would be on the order of one or two years. At this stage, however, it is useful to outline how, in general terms, the merger is expected to be implemented.

The staff will develop and implement communications plans to support consolidating NRO and NRR. The merger has been discussed during NRO and NRR all-hands meetings, special focus groups held to support developing this business case and reorganization plan, and in various other meetings between the staff and management. The preliminary communications and interactions with staff also support future communications and outreach activities associated with planning and implementing the eventual consolidation.

The implementation of the merger will incorporate lessons learned from other agency reorganization initiatives, such as the recent merger of the Office of Nuclear Material Safety and Safeguards (NMSS) and the Office of Federal and State Materials and Environmental Management Programs (FSME) (documented in a report available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML15334A176) and the Transforming Assets into Business Solutions (TABS) initiative (ADAMS Accession No. ML15016A198). The reorganization plan also supports the coordination of the merger with other Project Aim initiatives. Some key insights from the merger of FSME and NMSS and the TABS initiative include the following:

- An extended timeline that incorporates harmonization activities before a formal merger should make implementation less disruptive.
- Enhanced communication of the vision, key messages, process, and progress should help affected staff understand and ideally embrace the change.
- Change management principles, especially building a case for the change, communicating frequently, and incorporating the views of affected staff, should be integrated into the plan.

Ongoing Initiatives and Organizational Changes

Before a formal decision on the merger-related reorganization is made, NRO and NRR will continue to pursue important activities to improve effectiveness and efficiency. These activities will also support the eventual consolidation of NRO and NRR. Some of these activities are joint or agencywide; others are currently office specific and could be expanded to the other office, depending on their scope. Many of these initiatives support a cultural change within the offices to streamline work processes and increase accountability while ensuring the agency maintains needed capabilities to perform its safety mission and effectively manage key policy issues that arise. Many of these activities are underway or would be undertaken as soon as practical to support improvement efforts and the eventual merger-related reorganization of the offices; the effectiveness and efficiency benefits of these activities will thereby be realized separate from and ahead of the formal merger. A sample of these activities is described briefly below.

Joint NRR-NRO Activities

- **Knowledge Management.** The NRC defines knowledge management as a continuous, disciplined, and timely process of identifying, collecting, and using information to better accomplish the job. With the vision of a merged office in mind, the staff will continue to share knowledge among operating and new reactor business lines. This philosophy is already embodied in the joint NRR-NRO office instruction on technical, regulatory, and policy consistency (COM-114 and COM-105, respectively) and will continue to be implemented through cross-office discussions at all levels.
- **Training and Qualifications.** The NRC has a well-established training program, and both NRO and NRR have qualification programs for their staff. Both offices now use the same formal training courses to train project managers and technical reviewers on common topics, and the office instructions for qualification are being updated to align core requirements between the offices. The updated training is also a continuing requirement for all technical reviewers, regardless of qualification status, providing an opportunity for all technical reviewers to enhance their familiarity with core processes and concepts, as well as specialized functions for both operating and new reactors. These training and qualification programs will be used to support any necessary movement of staff between the current organizations and to address the needs of the merged offices.
- **Processes and Procedures.** NRO and NRR have established processes and procedures defined in office instructions, handbooks, and other references. These tools are useful for new or reassigned staff and help maintain consistency and ensure the NRC fulfills its mission and meets legal obligations. With the vision of a future merger in mind, the staff plans to update office instructions with cross-references (e.g., discussion of new reactor licensing processes in NRR procedures), process improvements (e.g., use of additional risk information to focus reviews on safety issues and enhance efficiency), and joint procedures where appropriate. The revisions to the internal guidance documents will capture the best practices of both offices and support improved efficiencies by reducing maintenance of similar documents in the two organizations.
- **Technical and Regulatory Guidance.** NRO and NRR have established technical and regulatory guidance described in standard review plans (SRPs), regulatory guides, and other references. These tools are useful for new or reassigned staff and help maintain consistency and ensure the NRC fulfills its mission. The relevance and application of the guidance can be different for new and operating reactors because of changes in regulations and the different times that various plants were licensed. The reorganization plan includes time for the staffs to review and revise the guidance used by the two offices. The revisions to or clarifications of the use of the regulatory guidance will be incorporated into existing programs (e.g., NRO's role for maintaining SRP for review of nuclear power plants) and will be used to support the planned consolidation and assist the staff assigned to tasks outside of their current areas of review.

NRR-Led Activities (for Potential Expansion to NRO)

- **Efficient and Effective Contracting.** NRR's actions to address the licensing action backlog over the past years included an increased use of contracting funds to reduce active licensing actions under review. During this time, management and staff worked diligently to manage the workload and project future resource needs. These efforts have identified efficiencies and improvements to support present and future all licensing actions. This initiative will better position NRR to complete reviews and assessments supporting prompt and appropriate agency decisions; as well as prevent a future licensing backlog. The initiative's working group will provide recommendations on increasing the efficient and effective use and management of contracts pertaining to licensing actions, however, many of the recommendations are expected to be useful in other NRR work, and could be expanded to NRO.
- **Efficacy of Acceptance Review Process.** The objective of this initiative is to evaluate the NRR acceptance review procedure, to ensure it is performing its intended function of adding efficiency to the review process. Thorough acceptance reviews are key to enhancing regulatory certainty and predictability. If necessary, the working group will update this or other procedures to increase the process's effectiveness. NRO has recently updated its acceptance-review procedure and an integration of these updates will be considered as part of the overall harmonization of guidance.
- **Improved Regulatory Decisionmaking.** This initiative was established to improve the process of making regulatory decisions when an impasse is reached between branches or between staffs within a branch. The staff is seeking to develop a better process for determining when issues need to be elevated to higher levels of management to ensure timeliness of management support. The working group has produced a draft office instruction, LIC-507, "Timely Elevation and Resolution Process (TERP)," which is conceptually modeled after an existing NRO process. The purpose of this new process is to improve resource efficiency by enhancing safety-focused regulatory decisionmaking, while maintaining staff involvement. Under this process, staff and management will elevate challenging issues to the appropriate level of attention for resolution. The process will increase the timeliness and effectiveness of technical and regulatory decisions in NRR.
- **Reinforcement of Licensing Procedures.** A working group of NRR staff is evaluating the existing licensing action review process, with the goal of reinforcing expectations and best practices to emphasize fiscal and program accountability. This initiative includes updating relevant office instructions, as appropriate.

- **Technical and Regulatory Adequacy of Licensing Reviews.** NRR recognized the need to improve the predictability, timeliness, and efficiency of reviews, while ensuring their effectiveness and quality. The staff is planning enhancements in review guidance to focus on essential information and specific acceptance criteria for making regulatory decisions. Where appropriate and practical, risk insights will be considered. Incorporation of current best practices used throughout NRR and NRO will be considered. The working group will develop work product templates that incorporate more specific acceptance criteria as to emphasize their use. NRR is collaborating on this topic with several branches in NRO that are addressing similar issues.
- **NRR Restructuring.** NRR has established a committee to evaluate and recommend options for restructuring the office given known and anticipated budgetary changes through FY 2018. NRR has been proactively addressing current staffing overages through attrition, details to other offices, and lateral reassignments. However, for the long term, NRR must establish a structure that aligns with future work and the anticipated merger with NRO. As such, the committee’s efforts will focus on proposing an organizational structure based on projected budgeted positions vice staff currently on board. Other important expectations and considerations include an NRR office structure that does the following:
 - attempts to equalize the size of divisions led by one director and one deputy director
 - sustains functional concentrations in the areas of licensing, inspection, oversight, regional support, and engineering
 - moves toward a 10:1 staff to supervisor ratio for the office
 - sustains organizational knowledge, facilitates knowledge management, and optimizes workflow
 - begins transition activities for the restructuring of NRR at the beginning of FY 2017, but no later than the beginning of FY 2018
 - considers NRR organizational structures that would best accommodate the eventual merger of NRR and NRO

NRO-Led Activities (for Potential Expansion to NRR)

- **Living the Mission.**⁴ To achieve a predictable schedule and safety-focused review, NRO is piloting a process called “Living the Mission: An Enhanced Approach to New Reactor Reviews” for the APR1400 design certification review. This initiative defines clear expectations for the applicant and staff and provides specific strategies for raising issues, reaching and documenting the staff’s findings, and managing the overall project. Since its implementation, the approach has proven effective in initiating the needed

⁴ See <http://nroweb1.nrc.gov/NRO/message-from-glenn/docs/Living-Our-Mission.pdf>

interactions between the NRC and applicants and has resulted in the staff completing reviews within the estimated times.

- **AP1000 Transition to Operations.** In 2013, a transition working group that included staff from NRO and NRR was established to identify and assess all regulatory functions necessary to support the transition of new reactors from construction to operation. In September 2014, the staff published a report, “Assessment of the Staff’s Readiness to Transition Regulatory Oversight and Licensing as New Reactors Proceed from Construction to Operation” (ADAMS Accession No. ML14031A387) that identifies readiness issues and implementing recommendations. Some of the activities associated with transferring oversight of the AP1000s to NRR may be completed before the merger-related reorganization and would, along with the results of other initiatives, ease the consolidation of the offices. The staff will monitor the progress of this team and leverage initiatives already addressed by this team to minimize duplication of effort.
- **Safety-Focused Reviews.** NRO is leading an effort to integrate risk insights into preapplication activities and application reviews. The staff plans to conduct a pilot of this enhanced review for the upcoming NuScale project to enhance the staff’s effectiveness and efficiency of the review process. A working group has been created to identify necessary guidance to be developed and communicated to the staff in time to support the NuScale application.
- **Technology-Supported Review Processes.** NRO has developed several tools that support licensing reviews, including the electronic request for additional information system that enables simple search and retrieval of previous questions and tracking of response status. In addition, NRO frequently leverages technology solutions to enhance its review processes, such as through electronic audits of applicant documentation that limit the need for travel or offsite meetings. The NRO technical staff is also piloting the use of the Review Management System, which serves as a reviewer guide and documentation framework for the conduct of licensing reviews. Some of these enhancements are already being implemented or evaluated in NRR.
- **Lessons-Learned.** Following the issuance of the first COLs, NRO initiated a lessons learned review to identify potential enhancements to the licensing process under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants,” that would enable more effective and efficient reviews. These recommendations, including the creation of a readiness review process to allow for early interaction with applicants, have since been implemented and are being piloted today. NRO also completed a self-assessment of the NRC licensing and inspection requirements, policies, procedures, and practices in use during the first year of post-combined license implementation. The majority of these recommendations, including improved processes for the vendor inspection program and inspection change notices have been implemented, while the remaining issue regarding the Tier 2* process continues to be worked.

Project Aim Initiatives

- **Strategic Workforce Planning.** The SWP initiative is part of Project Aim, designed to ensure the NRC has the right number of people with the right skills at the right time. The current plan includes actions that will need to be taken over the next several years to assess future workforce needs and associated critical skills gaps and overages and evaluates potential mitigation measures that could be in place now and in the future to address them. As the agency implements SWP, this initiative is expected to enhance coordination across NRO and NRR and implement a strategic approach to staffing reductions, both of which will support the eventual merger of the offices.

For example, to address the agency's concern for overages, the staff highlights the following measures that could be effective:

- encouraging hiring officials to first look within the agency (e.g., between NRR and NRO), especially for positions where there are overages
- redeploying staff through voluntary and directed reassignments

For critical skills gaps, the staff highlights the following measures:

- cross-training staff through formal training, knowledge management seminars, and temporary or permanent assignments for areas that lack bench strength in certain skills
- continuing to use the NRR-NRO "Grow Your Own" program that develops staff in the area of risk assessment
- supplementing the permanent workforce with contractors, temporary appointments, and reemployed annuitants and allowing knowledge transfer with junior staff

- **Re-baselining⁵ and Longer-Term Efficiencies.⁶** A key component of Project Aim was the Commission's direction to prioritize and re-baseline the agency's work in an integrated manner consistent with the agency's mission, values, and the principles of good regulation. The staff recommended activities that could be shed, deprioritized, or performed with fewer resources which the Commission approved with minor changes. The merger business case used the results of this assessment and the associated longer-term efficiencies suggested when developing the workload projection of both offices from now through 2020.
- **Centers of Expertise.⁷** Another key aspect of Project Aim was an evaluation of existing COEs to determine whether expansion of this organizational model will lead to greater effectiveness and efficiency in accomplishing the agency's mission. In its

⁵ See [SECY-16-0009](#)

⁶ See [SECY-16-0035](#)

⁷ See [SECY-15-0143](#)

evaluation, the staff recommended more extensive use of COEs as a way to yield improvements in workload distribution, knowledge transfer, and enhanced agility and collaboration across the agency. The Commission approved the staff's recommendation to create COEs in four specific areas: rulemaking, allegations, external hazards evaluations, and technical specifications. When developing the workload projection for the merger, the working group considered the creation of these COEs from now through FY 2017. The staff will monitor the implementation of these COEs and capture lessons learned from these efforts to consider in the merger-related reorganization.

It is important to view the eventual merger within the context of broader changes within the NRC and the nuclear industry. Establishing the eventual merger as the expected configuration of the offices at some point in the future allows for better planning and integration of the above activities. Project Aim and ongoing office-level initiatives are intended to improve performance and address changes in workload and the expected reductions in NRC staffing and budgets. Performance measures, self-assessments, and external audits will be used to determine if these initiatives are improving the effectiveness and efficiency of activities within NRO and NRR. The success of these initiatives will be important during and after the reorganization of the offices.

4.3 CHALLENGES AND MITIGATION MEASURES

In many ways, the ongoing activities to improve the effectiveness and efficiency of NRO and NRR are as important and challenging than is the eventual merger of the offices. Some of the changes, such as reductions in management and other overhead positions, could be helped by the organizational changes associated with the merger-related reorganization. Other initiatives within the offices are intended to revise behaviors more rooted in traditions and organizational cultures. The success of these initiatives in improving flexibility, innovation, and efficiency will help during the reorganization and ensure the longer-term success of the consolidated office.

Several specific challenges, associated with the merger, are identified below, along with initial measures that will likely be taken to address them. These issues were informed by focus groups conducted with the staff in NRO and NRR in 2016, as well as lessons learned from the NMSS-FSME merger in 2014. Full details of the information gathered from the focus groups have been compiled and will be made available to the implementation team. New issues and related mitigation measures will be considered in the reorganization plan as they are identified.

Change Management

Communications with the Commission, management, staff, and other stakeholders are key to the success of the development and implementation of the reorganization plan. A 2012 survey by the Government Business Council highlighted how communications issues and resistance to change complicated past efforts in various Federal agencies. The survey found that failure to consider these issues resulted in lower morale, distraction from agency missions and ongoing operations, and increased turnover.

With this potential challenge in mind, the NRC has invested in staff and processes to improve change management within the agency. The ongoing initiatives within NRO and NRR are

taking advantage of these activities. The staff involved in developing and implementing the merger of NRO and NRR will continue to consult with and use available guidance and recent change-management experience to help develop the transitions and communications plans supporting the merger. Good change management practices will include the following:

- building the case for change
- aligning and sharing the vision and values
- adequately resourcing, planning, and managing projects
- setting and communicating appropriate expectations
- effectively managing implementation

The staff may also consider contractor assistance with expertise in change management or organizational development to assist in planning and implementing the merger, as recommended in the lessons-learned report for the NMSS-FSME merger.

Organizational Culture

Because of significant hiring around the time that NRO was formed, a large fraction of the NRO and NRR staffs have only worked at an NRC that had two distinct offices performing new reactor and operating-reactor regulatory activities. Many of the staff and managers who have worked in both offices have been in their current office for several years. Unsurprisingly, therefore, NRO and NRR have developed their own office cultures and approaches to meeting the agency's goals and principles of good regulation.

The merger should preserve the best aspects of both to the extent possible. Harmonization activities, such as staff and management rotational opportunities between the offices, scheduling informal discussions with management from both offices, continuing the technical counterparts meetings to achieve technical consistency, and continuing communications between the two office management teams could minimize the differences and highlight the commonalities. The various approaches will be evaluated as part of implementing the change management and reorganization plan.

Differences in Regulatory Requirements, Processes, and Focus

There are some differences in the regulatory requirements for new and operating reactors, which will continue to exist regardless of a merger of the offices. These differences include both technical requirements resulting from changes in regulations and guidance documents and process requirements resulting from differences between 10 CFR Parts 50, "Domestic Licensing of Production and Utilization Facilities," and 10 CFR Part 52. In addition, the activities in NRO have a larger focus on design and siting issues, whereas NRR deals with many more operational issues.

Although neither harmonization nor a merger will change the different regulatory processes for operating and new reactors, the vision of a merged office provides a motivation to both cross-train staff on regulatory processes and update procedures where appropriate, laying the foundation for enhanced agility and flexibility in future staffing decisions. The staff will coordinate activities to identify and combine best practices, develop or revise procedures, and train staff before the consolidation. Working groups with representatives from each office will

continue to identify differences and best practices to incorporate into consolidated office-level procedures and guidance. Additionally, the staff will continue to expand the collaborative work that exists today between the two offices to position them for effective and efficient transition into a unified organization.

Information Technology for Licensing and Inspection

NRR and NRO use two different suites of IT tools to support their mission-critical licensing and inspection activities. In NRR, there are two main tools:

- (1) The Reactor Program System (RPS) consists of more than a dozen modules that facilitate inspection planning, inspection reporting, work tracking, and other functions. Both NRR and the regions benefit from this tool—primarily inspection-focused staff, although the TRIM module, in particular, affects a wider group of staff through charge code management.
- (2) Firefly is a licensing project management tool for initial project definitions (Blue Sheets), project planning and assignment (Green Sheets), and project tracking and reporting. NRR project managers and technical reviewers are the primary users of this tool. NRR managers can also access reports derived from Firefly data.

NRR is developing a Replacement RPS (R-RPS) that will enhance functionality and remove the need for these two separate tools.

In NRO, there are three main tools that are all built on the Enterprise Project Management (EPM) platform that, in its broadest definition, incorporates Microsoft Project Server, SharePoint, and other related applications.

- (1) EPM, as the term is commonly used by the staff, is primarily a project management tool for project planning, assignment, tracking, and reporting. Most of the projects modeled in EPM are licensing projects, although some infrastructure, branch-specific, or inspection activities are modeled as well. NRO project managers and technical reviewers are the primary users of this tool. NRO managers can also access EPM reports.
- (2) The Construction Inspection Program Information Management System (CIPIMS) is used to plan, schedule, manage, record, and report on inspections related to new reactor construction. Inspection-focused staff in NRO and Region II benefit from this tool. A key aspect of this system is its ability to track inspection findings related to inspections, tests, and analyses that must be performed and acceptance criteria that must be met (i.e., ITAAC) before a licensee is authorized to load fuel.
- (3) A related system, the Verification of ITAAC Closure, Evaluation, and Status (VOICES) system is used to verify, evaluate, and track licensees' ITAAC closure requests. This focused system supports the eventual finding that each of the hundreds of ITAAC has been met for a given licensee before fuel can be loaded.

The consolidation of NRO and NRR supports the acceleration of ongoing efforts to integrate different IT systems in the two offices. As with other aspects of the merger, the possibility of

long term cost savings and efficiency gains from eliminating duplication will require a significant investment during the harmonization period. Although some of the NRO systems unique to construction (VOICES, CIPIMS) are expected to be maintained, NRO will be adopting R-RPS to manage its licensing activities. While this would have great benefits for the merge, it is being driven by the needs of existing COEs and the desire to gain efficiencies; provided that implementation issues are resolved in the near future, alignment will be achieved well before the merge.

Work Prioritization

The prioritizing and scheduling of work activities between different elements of the nuclear reactor safety program (e.g., balancing short- and long-term activities) have been a long-standing challenge, predating the creation of NRO in 2006. The reorganization plan will benefit from additional discussions with stakeholders and from other Project Aim initiatives in trying to address balancing assignments and schedules for short and long term projects. A possible approach to address both the balancing of projects and the increased branch sizes resulting from consolidation and re-baselining is the use of teams, working groups, and other staff-level assignments to support various short- and long-term activities within the new and operating reactor business lines.

In addition, during the harmonization period, the office directors will meet periodically to review priorities and to support the staff developing a common prioritization scheme in preparation for the merger. Currently, NRO uses five levels to prioritize activities and accomplish its goals. Likewise, NRR has five priority levels. Developing one list that is inclusive of the focus areas for both new and operating reactors could aid in effectively assigning staff to the appropriate activities, separate from and in advance of a merger. Developing the consolidated list may also highlight span-of-control issues or other problems that need to be addressed as part of the merger or other initiatives. These issues will also be assessed periodically to ensure that the agency is doing the right work on the right schedules.

Strategic Staffing

In addition to the process- and work-focused challenges described above, there will be additional challenges involved in integrating the staff of two offices. Some aspects of this challenge are the following:

- matching the skills of the collective staff to the meaningful work of the new and operating reactor business lines, leveraging activities such as agencywide SWP and branch-level knowledge management activities
- managing the hiring process such that the agency maintains critical skills in an environment of declining project workload
- managing attrition and reassignments of staff to address overages of staff in areas of declining project workload
- optimizing the size of organizational units to balance agency supervisory-ratio goals with the accessibility of management and a reasonable span of control

The solutions that will be developed to address these challenges will be some of the most important to the staff and will be carefully evaluated as part of the reorganization plan. The

development of the reorganization plan includes outreach activities that should help develop additional means of mitigating these challenges. Additional mitigation strategies include aligning training and qualification requirements before the merge (including cross-training of staff), carefully considering the roles and responsibilities of each branch and the staffing required to meet them before creating the organization chart, and using teams to maintain a reasonable span of control. The agency has additional avenues to achieve its expected supervisory ratio. These strategies include succession planning, targeted solicitation, consolidating branches/divisions (increasing span of control), and eliminating deputy director positions⁸ as workload permits.

Physical Consolidation

An effective merger needs to include not only the reassignment of staff and functions but also the consolidation of organizational units (branches, divisions, office) within the headquarters complex to ensure the merged office works as a cohesive unit. To the degree possible, the reorganization plan for individual units will include the physical movement of personnel to consolidate the staff in the merged organizations near other staff and management in the affected units. Because there is limited space available within NRC buildings to accomplish this task without affecting other organizations, the staff is already working with the Office of Administration to coordinate, as much as possible, the merger activities with ongoing changes to the headquarters complex. The staff will also consider how the merger might benefit from or support other alternatives currently being explored by the agency to enhance workstation efficiencies,⁹ such as the use of collaborative work areas, desk sharing, and telework.

Interfacing with External Stakeholders

The activities within the new and operating reactor business lines include interactions with a variety of internal and external parties. Responsibilities and processes to effectively deal with licensees, industry groups, nongovernment organizations, individuals, other Federal agencies, State and local governments, elected officials, international organizations, and other stakeholders are included in formalized procedures, handbooks, and routine operations. In addition, NRO has a leadership role in multiple international activities related to the design and construction of new and advanced reactors, for which clear points of contact would need to be maintained. The consolidation and clarity of points of contact for specific construction and operating reactor sites should also be considered as part of the reorganization plan. The development and implementation of the reorganization plan will seek to ensure that communications and relationships with external parties are not adversely affected by the merger of NRO and NRR.

External Factors

Various external factors listed below could introduce challenges for the consolidation of NRO and NRR. These factors could influence the organizational structures for the consolidated office and also the timing of the movement of specific units and completion of the merger.

⁸ See the discussion in [SECY-16-0009](#) and [SECY-16-0035](#).

⁹ See the discussion in [SECY-16-0009](#) and [SECY-16-0035](#).

- agency budget changes
- energy policy and price changes
- technological innovation
- industry events and operational experience
- new reactor construction experience
- development and deployment of Generation IV (nonlight- water) reactors

Significant changes in some external factors could result in plant closures before the expiration of licenses, delays, or cancellation of new projects, and reallocation of resources to address new safety or policy issues. Other changes in external factors could result in additional resources being needed to address new reactor applications, advanced reactor designs, or safety issues associated with operating plants. The staff will keep informed of external factors and revise or develop plans and contingencies when conditions have a potential to directly affect activities within the new and operating reactor business lines, including the timing of the merger.

The staff will consider the above challenges in the development of the merger plans, in the transition and timing of changes, and in developing follow-on activities for the consolidated office after the merger is completed. The staff will also address the equally important steps to consider other challenges and problems identified during interactions with the staff, management, and other stakeholders during the development and implementation of merger plans.

5. POSTMERGER MONITORING

Changes within the new and operating reactor business lines and related organizational changes will likely continue after the completion of the merger. Many of these changes relate to the longer-term shifts discussed here as part of the rationale for the merger (e.g., external factors influencing workloads). As such, the team will have to closely monitor the performance of the organization before, during, and after the merger.

The staff will ensure that the consolidation is not adversely affecting the agency and that it will support the longer-term goals related to improving effectiveness, efficiency, agility, and flexibility. The reorganization period will assist in completing the merger with minimal disruption to ongoing projects. The following high-level performance goals will be considered for assessing the agency's implementation of the merger:

- Maintain the safety of the operating reactors and execution focus for long-term licensing projects and new reactor licensing and construction. This will be monitored using existing performance metrics in NRO and NRR. A successful transition will maintain an acceptable performance, compared to the existing metrics, at a minimum, and will ideally demonstrate gains in effectiveness and efficiency (primarily through harmonization that results in better workload balancing, enhanced knowledge sharing, and improved procedures).
- Support broader agency goals related to such issues as staffing levels, staff-to-management ratios, and reduction in overhead. The reorganization of NRO and NRR will support the other Project Aim initiatives, and will contribute to expected

efficiency gains. The effects on staffing and workload should be easily measurable using current systems.

- Develop and maintain effective change management plans, develop communication channels, identify and address communication risks, develop timelines, interact with stakeholders, evaluate feedback, and adjust change management and communication plans. The staff intends to measure progress in this area using existing survey tools such as the Federal Employee Viewpoints Survey and the Safety Culture and Climate Survey, as well as ongoing requests for feedback such as focus groups.

The staff will propose specific metrics as part of the performance planning process in advance of beginning the merger and will update the Commission on the status of the consolidation and the related performance monitoring as part of routine communications.