

A Report by a Study Team of the

**NATIONAL ACADEMY OF
PUBLIC ADMINISTRATION**

For the U.S. Nuclear Regulatory Commission

March 2015

***Feedback Report on the Nuclear Regulatory
Commission's Project Aim 2020 Report***



Enclosure 1

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The views expressed in this report are those of the Academy Study Team. They do not necessarily reflect the views of the Academy as an institution.

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Foreword

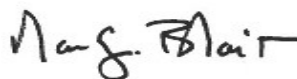
The United States Nuclear Regulatory Commission (NRC) plays a critical role in evaluating applications for new nuclear plants, ensuring safety and security of existing nuclear power plants, providing oversight of nuclear material safety and security, and regulating civilian high-level and low-level radioactive waste management. The NRC is led by up to five Commissioners, each appointed by the President and confirmed by the Senate for five-year terms. One is designated by the President to be Chairman and official spokesperson.

Like many other federal agencies, the NRC is facing challenging times and an uncertain future given workload shifts and resource constraints. In June 2014, the Executive Director for Operations and Chief Financial Officer established Project Aim 2020 to improve its current and projected performance and to provide projections of the workload for the agency five years in the future under a range of different scenarios. The Commission approved the charter for the project in July. Project Aim 2020 is an important initiative to enhance strategic planning and establish a foundation to improve NRC's operational excellence, agility, and culture, and also be a basis on which the agency can build on its strategic planning through 2020 and beyond. The Academy commends the NRC for undertaking this critical initiative and dedicating senior-level personnel to determine how the agency needs to be transformed.

In September 2014, the NRC Commissioners requested the National Academy of Public Administration (the Academy) to conduct an independent review of Project Aim 2020. The NRC requested that the Academy's work be divided into two reports. The first report, submitted in January 2015, examines the Project Aim 2020 process and makes recommendations on how to improve upon future NRC long-range planning projects. This report, which is the second the Academy is submitting, is an independent evaluation of the Project Aim 2020 final report, which was made public last month.

As a congressionally chartered non-partisan and non-profit organization with over 800 distinguished Fellows, the Academy brings seasoned experts together to help public organizations address future challenges. We are pleased to have had the opportunity to assist the NRC by conducting this study, and we appreciate the active engagement of NRC personnel who provided important insight and context needed to inform this report. I give special acknowledgment to the fine work of the Academy's professional Study Team, as well as having the opportunity to offer insights as a member of the Focus Group of five Academy Fellows and one non-Fellow.

The Academy Study Team's report should not only contribute to the NRC and its future long-term strategic planning efforts, but also broaden awareness of effective practices in long-term futures planning that can be utilized by departments and agencies across the federal government.



Dan G. Blair
President and CEO

Executive Summary

In June 2014, the leadership of the United States Nuclear Regulatory Commission (NRC) embarked on an extensive, strategic review of its operating environment, processes, planning and workforce needs. Project Aim 2020 (hereafter referred to as “Project Aim”) was designed and implemented by a select team of NRC employees and led by a senior executive (hereafter referred to as the “Project Aim Team”). The Project Aim Team’s report, entitled “Achieving Exemplary Nuclear Regulation in the 21st Century: Report on Project Aim 2020” (hereafter referred to as the “Aim Report”), has an ambitious goal: *“to provide recommendations for improving the current and projected performance of the Nuclear Regulatory Commission. The Project also seeks to provide more concrete and specific projections of the workload for the agency five years out under a range of scenarios, and to recommend appropriate agency resource levels and workforce staffing that align with the projected workload such that the NRC can excel long into the future.”*¹ In discussions with the Project Aim Team, it is clear that a project of this magnitude and significance is both urgently needed in the near-term, and must be sustained over the long-term.

The Aim Report contains 17 strategy recommendations divided into three categories: people, planning, and process.²

The NRC engaged the National Academy of Public Administration (the Academy) over a four week period to provide an independent evaluation of the Aim Report.³ In addition to our Aim Report evaluation, the Academy was asked to speak to challenges the NRC faces going forward, including an assessment of what salient topics the Aim Report may have benefited from by inclusion or through a sharper focus.

The Academy Study Team views the Aim Report as having the potential to serve as a significant milestone in the next several years of the NRC’s operational history. It can and should be used as a critical roadmap to guide an integrated set of significant agency transformation projects critical to the NRC’s long-term future.

This report contains an assessment of strengths and individual recommendations to guide further NRC actions. It is divided into the following key elements:

- The overall concept of “One NRC” that can be employed to symbolize a consistent, unifying theme of the project’s recommendations;
- The communication and implementation plan;
- Setting strategy and metrics; and
- Areas that the leadership can address to minimize significant challenges, risks, and uncertainties in the NRC’s future operating environment.

¹ Quoted from Aim Report, Appendix B – Project Aim Charter.

² The Aim Report can be found at <http://pbadupws.nrc.gov/docs/ML1502/ML15023A558.html>.

³ This is the second of two deliverables requested by the NRC. The first Academy deliverable was an evaluation of the Project Aim 2020 process. That work was completed in December and the report was included as an appendix to the Aim Report submitted to the Commission (it is Appendix J in the Aim Report).

We provide a list of all of the evaluative comments by the Academy in the form of the Aim Report’s strengths as well as our recommendations at the end of the Executive Summary.

We strongly endorse the NRC’s leadership’s decision to embark upon this project. By setting aside key resources of the agency and setting out on this strategic course, the leadership has made a clear statement that the status quo must be changed and that systematic steps are needed to develop a long-term future vision that can be used to guide an agency transformation to meet its mission imperatives going forward.

We see the Aim Report, as a whole, quite positively. Our message is a positive one: this is a strong start to the NRC’s sustained work to monitor and actively address its internal processes, and be flexible to address challenges in their external operating environment.

More specifically, we believe that the “One NRC” concept has merit to be used as a unifying symbol to inspire the cultural changes that are fully consistent with the 17 individual strategies that are presented. Furthermore, the communication and implementation plans are deemed to be well crafted to provide quality guidance to the agency as it takes steps to implement these critical aspects of implementing a successful agency transformation. In each of these areas, however, we provide recommendations that can further enhance the plans articulated in the Aim Report.

Finally, we bear in mind that the Aim Report’s recommendations still await final voting by Commissioners before strategies are approved and the first implementation steps can begin. Thus, our evaluation is of a plan, and not of action. We conclude with a quotation of Harold Geneen, former Chairman of the ITT Corporation: “It is an immutable law in business that words are words, explanations are explanations, promises are promises but only performance is reality.”

The following is a list of strengths and recommendations of the Academy Study Team from this report:

Section 1: “One NRC”

Strength
1. The concept of “One NRC” presents an excellent opportunity for the agency to brand all of its work into one consistent whole that can provide a cultural symbol for the amalgam of recommended strategies.
Recommendations
1. Expand the scope of “One NRC” to package and brand Project Aim’s strategies as a cohesive and integrated approach.
2. Clearly define “One NRC” so that is clearly understood, adopted, and encouraged by the entire agency, from front-line employees to the Commission.
3. Continuously and clearly communicate the concept of “One NRC” and integrate it into NRC’s communication plan.
4. Incentivize individual employees to demonstrate “One NRC” values (e.g., personal responsibility and accountability, creative thinking, innovation, and informed and

controlled risk-taking) through recognition and/or awards.

Section 2: Communication Plan

Strengths
1. The NRC views its communication plan as a “living document” and thus recognizes that the plan will need to be reviewed and updated as the agency adapts to future needs.
2. The plan provides the agency with clear lines of authority with respect to the flow of communication.
Recommendations
1. Institutionalize the newly created “Communication and Coordination” Team (CCT).
2. Clarify, leverage, and integrate “One NRC” into the communication plan.
3. Clearly articulate the communication responsibilities of the line organizations.

Section 3: Implementation Plan

Strengths
1. The plan provides the agency with clear lines of authority with respect to implementation.
2. The plan is intended to be synchronized with existing strategic efforts and account for any federal strategic planning requirements.
3. A team will be put in place to focus on the future operating environment and will monitor any changes that may be needed moving forward.
Recommendations
1. Integrate the CCT into ongoing agency activities.
2. Recognize the criticality of transferring implementation strategies to line organizations. The NRC should clearly articulate how line organizations will implement strategies related to Project Aim.
3. Engage an external change management consultant.
4. Ensure that the importance of refining organizational values is emphasized and demonstrate how such a refinement will be implemented.
5. Bolster incentive mechanisms to foster commitment of managers and staff throughout the agency to the NRC’s transformation efforts.

Section 4: Strategies and Metrics

Strategies

Strengths
1. The Project Aim Team had extensive contact with NRC leadership and employees before determining what strategies would be most effective in addressing the people, planning, and process issues discussed in the Aim Report.
2. In order to determine the feasibility of strategies, and a manageable timeline for implementation, the Project Aim Team coordinated with the lead office that would be responsible for implementing each strategy. Including the lead offices in planning the execution of these strategies was an important step in this process.
Recommendations
1. Establish goals and objectives for each strategy that are specific, clear, and resonate with all employees, not just senior leadership.

- | |
|---|
| 2. Identify “change agents” within each office responsible for implementing these new strategies in order to ensure successful and enduring commitment to the desired outcomes. |
|---|

Metrics

Strengths
1. Following best practices, the NRC has planned to develop metrics once the implementation process begins for the 17 strategies.
Recommendations
1. Engage employees responsible for the work to be measured in the development of metrics.
2. Develop a conceptual framework to guide organizational management and performance measurement that supports NRC objectives and is widely understood by all organizational levels.
3. Designate appropriate individuals to be accountable for each performance measure.
4. Continually assess whether current measures are sufficient or excessive, are proving to be useful in managing the business, and are driving the organization to the right result.
5. Assess process (e.g., level of planning, type of leadership, availability of resources, accessibility of information) as well as progress.

Section 5: Addressing Challenges Beyond Project Aim 2020

Strengths
1. NRC uses risk assessment to inform nuclear regulation.
2. NRC has regular senior level discussions to consider appropriate Enterprise Risk Management (ERM) methodologies.
3. NRC recommends a regular review of long-term strategic challenges in its operating environment.
4. NRC uses scenarios when considering its long-term future outlook.
Recommendations
1. Continue to develop and enhance ERM methodologies.
2. Continue to periodically consider the merits of establishing an agency Chief Risk Officer position to provide central risk oversight.
3. Identify those drivers that most impact the NRC operating environment and that are critical uncertainties; monitor trends to serve as a potential early warning to future operating challenges that are difficult to foresee.

Introduction: Report Background

As it prepares for the future, the Nuclear Regulatory Commission (NRC) released its project report, entitled “Achieving Exemplary Nuclear Regulation in the 21st Century: Report on Project Aim 2020” (hereafter referred to as the “Aim Report”) and conducted a public meeting convened to discuss the findings on February 18, 2015.⁴ Project Aim 2020’s goal (hereafter referred to as “Project Aim”) is: *“to provide recommendations for improving the current and projected performance of the Nuclear Regulatory Commission. The Project also seeks to provide more concrete and specific projections of the workload for the agency five years out under a range of scenarios, and to recommend appropriate agency resource levels and workforce staffing that align with the projected workload such that the NRC can excel long into the future.”*⁵

The Aim Report is the result of seven months of work by a select NRC project team (Project Aim Team) led by the Deputy Executive Director for Operations for Materials, Waste, Research, State, Tribal, and Compliance Programs, Michael Weber. The Aim Report was jointly overseen by the NRC’s Executive Director for Operations and Chief Financial Officer. Several experienced agency executives served on the Project’s Guiding Coalition, whose purpose was to provide further experience and agency-wide input into the project’s work.

We begin this report with a strong endorsement of the NRC’s leadership for embarking upon Project Aim. By setting aside key resources of the agency and setting out on this course, the leadership makes a clear statement that the status quo is not sustainable and systematic steps must be taken to develop a long-term future view that can be used to guide an agency transformation in order to meet its mission imperatives. The leadership recognizes that future years are fraught with profound change and uncertainty in all aspects of its operating environment: including political, technological, climatic, security, and funding. The agency’s approach to this work reflects an outward looking focus, and is complemented by fostering a quality dialog with NRC employees consistent with best practices of visioning, planning, and enterprise transformation. The Aim Report focuses on key areas critical to any successful organizational transformation, including quality work the NRC has done in preparing its communication and implementation plans. In short, the NRC has done a number of difficult things very well and on a short timetable.

We see the Aim Report as a significant milestone in the NRC’s future operational narrative. It has the potential to serve as a critical roadmap for a significant agency transformation project critical to its long-term future and that is deemed urgent by senior leadership. The fact that the agency’s leadership embarked on this journey and dedicated senior resources to it, as well as the extent of outreach to employees and external stakeholders, underscores this point. We approach our analysis of the Aim Report with agency transformation as a theme, and with no less a view of its importance for the agency.

⁴ The Aim Report can be accessed at <http://pbadupws.nrc.gov/docs/ML1502/ML15023A558.html>.

⁵ Quoted from Aim Report, Appendix B – Project Aim Charter.

Ironically, any organization takes a risk by embarking on such an agency transformation project. In the course of these seven months, employee and external stakeholder expectations for change have been raised: The NRC needs to change; change is coming. In fact, the Aim Report proposes 17 strategies to be implemented during the coming months in three areas: people, planning, and process. Even though the Commission continues to deliberate over the merits of implementing these strategies,⁶ it should be anticipated that employees will expect future actions to be somehow shaped by the Aim Report.

As with any private or public sector organization, the question many employees and external stakeholders may ask is: Will the organization's leadership be able to successfully navigate the significant challenges inherent to affect enterprise-wide transformation? Some might suggest that it is often better not to have tried, than to have tried and failed. In this case, the NRC has made a clear statement that it sees an urgent need to implement organizational transformation, and this report is intended to complement the Aim Report in contributing to these critical efforts.

Academy Report Focus

The NRC engaged the National Academy of Public Administration (the Academy) to provide an independent evaluation of the Aim Report.⁷ The Academy Report was prepared by a five-member professional Study Team whose work was greatly enhanced by a six-member Focus Group comprised of five Academy Fellows and one non-Fellow (background information on members of the Academy Study Team and Focus Group is provided in Appendices A and B).

Research in both private and public sectors concludes that an overwhelming majority of significant organizational transformation projects fail.⁸ In approaching our report's focus, we have been asking several questions, such as the following:

1. Is there a vision created that can guide the agency to achieve its future outlook?
2. Is there a quality communications plan for both employees and external stakeholders?

⁶ The Aim Report's recommendations are still currently under review by the NRC's Commissioners. Each of the four current Commissioners will vote on each individual Aim Report recommendation. A Commissioner may also add recommendations not proposed in the Aim Report. There is no formal timeframe when Commissioners must cast a vote. Once all Commissioners cast a vote, a Staff Requirements Memoranda (or SRM) is issued with the Commission's approved actions. This is why the SRM date serves as starting date for implementation timelines in the Aim Report.

⁷ This is the second of two deliverables requested by the NRC. The first Academy deliverable was an evaluation of the Project Aim 2020 process. The final version of that work was completed in January 2015 and the report was included as an appendix to the Aim Report submitted to the Commission (it is Appendix J in the Aim Report). We include that report with this Report on the NAPA website: www.napawash.org.

⁸ "Nearly 40 years of research by leadership and change guru Dr. John Kotter has shown that more than 70% of all major transformation efforts fail. Why? Because organizations do not take a consistent, holistic approach to changing themselves, nor do they engage their workforces effectively."
<http://www.kotterinternational.com/the-8-step-process-for-leading-change/>.

3. Are there incentives to drive employee behavior to implement the strategies?
4. Are there sufficient governance structures to enhance success of the transformation while also managing the daily agency mission?
5. Are there mechanisms planned to accommodate the daily workload with new work required in this transformation?
6. Is there a mechanism in place to build on this initiative going forward and foster an agency culture that embraces regular future outlook and change?
7. Is there a plan to develop metrics for measuring progress and outcomes?

While there are many reasons why transformation projects in organizations can fail, our evaluation focuses on the following key elements of successful transformation to guide the focus of this report:

- Messaging and communication;
- Implementation and governance;
- Matching organizational goals with plans; and
- Institutionalizing new practices.

We used the Aim Report documentation and additional information received in interviews with Aim Project Aim Team members in our research. In addition to our report evaluation, the Academy was asked to speak to challenges the NRC faces going forward, including an assessment of what salient topics the Aim Report may have benefited from by inclusion or through a sharper focus.

Report Structure

The Academy Report is divided into five sections. Following this Introduction, Section 1 highlights the “One NRC” concept, which we believe can be further developed and used as a maxim for the agency as it takes on the challenge of transforming itself. The Aim Report includes a Communications and Implementation Plan (this is Appendix I in the Aim Report). In our report, we look at each part—communication and implementation—discreetly. We use Section 2 to address the Communication Plan and Section 3 to focus on the Implementation Plan. Section 4 provides an overview on the Aim Report strategies, with recommendations on development of the strategies and future development of metrics. We conclude this report in Section 5 focusing on potential challenges that the NRC may face as an agency with respect to meeting its transformation objectives that are beyond the scope of Project Aim.⁹

⁹ We intersperse discussion of some challenges in other sections as well, pointing them out when we do so.

Section 1: “One NRC”

An important challenge to the level of transformational change Project Aim endeavors to achieve is that it requires a shift in how the agency and NRC employees understand and approach their work. The Project Aim Team developed the concept of “One NRC” as a new way for employees to think about the focus of their work. While not considered optimal by the NRC leadership, the agency currently tends to practice a siloed approach to work processes and outputs, budgeting, and problem solving. “One NRC” represents a desire to move from this insular approach to one where unity of purpose and the agency as a whole become the priority and focus of all employees. In fact, one of the four main themes of Project Aim is “strengthening unity of mission through adopting the concept of “One NRC,” in which agency-level priorities are established and resources are promptly and effectively deployed to accomplish these priorities.”

To achieve the desired outcomes of Project Aim (increased agility, effectiveness, and efficiency), the NRC requires an approach that will not only clearly articulate how employees can help the agency achieve these goals in the course of their duties, but one that will inspire and motivate employees to contribute meaningfully toward these efforts over a sustained period of time. Of the many strategies and themes presented in Project Aim, “One NRC” is already generating positive attention and is viewed by the Project Aim Team as one of the project’s most transformational themes. With this in mind, the Academy Study Team believes that, leveraged correctly, “One NRC” can accomplish both of these objectives, articulating what is needed from employees and inspiring cooperation, while also providing a platform for promoting the goals and strategies of Project Aim. In fact, corporations and government agencies, including the Federal Emergency Management Agency, the Department of Health and Human Services, and the Department of Homeland Security, have adopted this approach to organizational transformation.¹⁰

Recommendations

This section presents recommendations as to how the NRC can effectively develop the concept of “One NRC” into a framework for implementing Project Aim and sustaining transformational change.

Expand the Scope of “One NRC”: The Project Aim Team dedicated an extraordinary amount of time and effort in order to reach this point in its transformation process. “One NRC” is presented in the Aim Report as a common, unified vision for the transformation the agency is working to achieve. In addition to promoting the attributes of a unified NRC, the Academy Study Team recommends that the “One NRC” concept be further developed to package and brand Project Aim’s strategies as a cohesive and integrated approach. Through this refined approach, strategies and their principles can be presented collectively with a

¹⁰ Beckner, Christian, “New DHS Secretary tackles ‘Unity of Effort,’” *DHS News, General Homeland Security*, April 23, 2014.

clearly communicated understanding of why the changes are occurring and why they are critical to the agency's ability to achieve its mission.

Clearly define "One NRC": In order to be successful, "One NRC" must be clearly understood, adopted, and encouraged by the entire agency, from front-line employees to the Commission. As such, the NRC will need to develop a clear narrative on how "One NRC" connects to the day-to-day work of NRC employees so that they are able to conceptualize its purpose. The narrative needs to be persuasive to NRC employees as to its value, at all levels and across all operating units.¹¹ Furthermore, "One NRC" must be reiterated at every level of the agency by every manager to ensure that the principles it represents are consistently communicated and that promising new practices can be institutionalized.

Continuously Communicate: The concept of "One NRC" should be clearly communicated and integrated into NRC's communication plan (See Section 2 for further discussion on this point). In order for "One NRC" to become a "basic assumption," there must be constant and relentless communication of the theme to the workforce over and over again.¹²

Provide Incentives: As a concept, "One NRC" is intended to empower employees by promoting personal responsibility and accountability along with creative thinking, innovation, and informed and controlled risk-taking. Incentivizing individual employees through recognition and/or awards will provide motivation for employees to demonstrate these attributes (see Section 3 for further discussion).

¹¹ "Coming to a New Awareness of Organizational Culture" by Edgar H. Schein.

¹² "How to Create a Unified Culture in a Company With Multiple Offices", by Eric Markowitz.

Section 2: Communication Plan

Communication is an essential factor that contributes significantly to the success of any organization, especially one seeking to implement an enterprise-wide transformation. The Project Aim Team developed a communication plan that the agency intends to utilize as it pursues the goals and objectives described in the Aim Report. This section provides background on NRC's communication plan, evaluates the plan, and provides recommendations where the plan may be enhanced as the NRC moves forward with its transformation. This section also highlights areas of best practice related to effective communication during organizational transformations.

Background on NRC's Communication Plan

The NRC included the communication plan as part of its Aim Report.¹³ The stated objective of the communication plan is to “promote effective, coordinated communication about and implementation of the Project Aim 2020 recommendations, both during and after Commission review and decision.”¹⁴ The plan includes key messages for NRC stakeholders (both internal and external); a description of communication tools; as well as a timeline for implementing Project Aim 2020 recommendations and associated outreach. NRC explains, “This plan is intended to be employed as a consistent foundational element to make progress and chart a course forward toward ensuring that specific recommendations of Project Aim 2020 to change the agency are well planned, successfully implemented, and communicated in a timely manner within the available resources.”¹⁵

The communication plan recognizes that “communications with internal and external stakeholders must be frequent, consistent, and occur through multiple channels that meet stakeholder needs.” To that end, NRC's communication plan identifies several “communication tools” for engaging with external and internal stakeholders.

External stakeholder communication tools include:¹⁶

- Holding a public meeting on Project Aim 2020 and its recommendations;¹⁷
- Issuing a press release announcing the Commission's decision on Project Aim 2020 and next steps;
- Use of social media, including blog posts, Twitter, and Facebook;
- The Project Aim 2020 SharePoint site will provide links to final documents; and

¹³ As mentioned in Section 1 of this report, NRC's Communication and Implementation Plan was included in the Aim Report as Appendix I. The Aim Report included an integrated discussion of both Communication and Implementation. While the Academy Study Team agrees that communication and implementation are inextricably linked, for the purposes of our analysis, we disaggregate communication and implementation and evaluate them separately.

¹⁴ Id, p. 1.

¹⁵ Ibid.

¹⁶ Id, p. 4-5.

¹⁷ A Commission briefing on Project Aim 2020 was held on February 18, 2015.

- Letters to Congressional appropriations committees and oversight committees transmitting the results of Project Aim 2020 and response to 2015 Appropriations Report requests.

Internal stakeholder communication tools include:

- Bi-weekly status updates via email to Commission Offices, senior managers, and the National Treasurer Employees Union (NTEU);¹⁸
- Information posted on the Project Aim 2020 SharePoint site;¹⁹
- The Communication Plan will remain on the Executive Director for Operations' (EDO) SharePoint site for approximately two years;²⁰
- Monthly meetings will be held with NTEU for approximately three months;²¹
- Meetings with NRC staff to inform NRC employees about the report and recommendations;
- Periodic EDO updates, articles, and use of agency-wide communications to keep staff informed of any significant progress being made; and
- Performance on implementing the Project Aim 2020 recommendations approved by the Commission will be discussed as part of Quarterly Performance Reviews (QPR's).

In addition to the aforementioned communication tools, the plan describes who will be responsible for communications and how communication is intended to flow throughout the agency. The plan states, "The Executive Director for Operations (EDO) and the Chief Financial Officer (CFO) will serve as senior executive sponsors to ensure leadership accountability and success of the transformation."²² Communication from senior leadership is intended to be supported by a senior leadership team. The senior leadership team is "cross-functional and comprised of NRC senior executives" who will monitor the communication and implementation of Project Aim 2020 strategies. According to the plan, "Once the revised implementation and communication plan is issued, leadership for communications about specific strategies and initiatives associated with Project Aim 2020 will transfer to the line organizations responsible."²³ At a high level, the channels of communication are as follows: (1) EDO/CFO; (2) Senior Leadership Team; and (3) Line Organizations.

¹⁸ These bi-weekly status updates were discontinued in January 2015, following the transmittal of the SECY (The abbreviation SECY refers to Commission Papers, written issues papers the NRC staff submits to the Commission to inform them about policy, rulemaking, and adjudicatory matters) paper to the Commission. We note the use of bi-weekly updates in order to identify a communication tool that had been previously utilized.

¹⁹ Information on the site includes the project plan, project charter, meeting summaries, and archived status updates. This information will be transferred to NRC's public records system known as ADAMS (Agency-wide Documents Access and Management System) and later discontinued six months after the Commission's Staff Requirements Memoranda (SRM).

²⁰ The Communication Plan will be removed from the EDO's Communication SharePoint two years after the Commission decision in the SRM.

²¹ Monthly meetings with the NTEU on Project Aim 2020 will be discontinued three months after the SRM.

²² Aim Report, Appendix I, p. 2.

²³ Id, p. 4.

Evaluation of the Communication Plan

NRC's communication plan includes elements that should be continued as the agency communicates the transformative strategies emerging from the Aim Report. The Academy Study Team highlights the following points articulated in NRC's communication plan.

The NRC views its communication plan as a "living document" that can be updated to enable the agency to adapt to changes and meet future needs. In formulating its communication plan NRC recognized the importance of providing clear channels of communication and lines of authority while simultaneously acknowledging that those lines should not be too rigid so as to contribute to communication silos and hinder the agency's efforts to transform.

The communication plan provides the agency with clear lines of authority with respect to the flow of communication. NRC recognizes that "top leadership must drive the transformation" and that the agency will need to clarify and refine its vision" as it moves forward.²⁴ Thus, the plan clearly designates the EDO and CFO as senior executive sponsors, with the senior leadership monitoring the communication of Aim Report strategies, and finally transferring communication and implementation responsibilities to line organizations in due course. While clear decision-making authority is essential during transformation efforts,²⁵ and provides structure, NRC also recognizes the importance of allowing for flexibility in its plan. NRC's communication plan states that some strategies in the Aim Report will require the development of specific communications plans, while other strategies can be achieved by leveraging "established channels" of communication.²⁶

The importance of communication cannot be overstated. It is not possible to over-communicate. Communication should be clear, consistent, and constant. As organizational change expert Dr. John Kotter explains, "most companies under-communicate their visions for change by at least a factor of 10."²⁷ According to Dr. Kotter, in order to communicate effectively organizations should: (1) keep their messages simple and jargon-free; (2) use metaphors and analogies to paint a vivid picture for employees; (3) repeat, repeat, repeat; (4) explain seeming inconsistencies; and (5) allow for constant feedback.²⁸

²⁴ Id, p. 1.

²⁵ As indicated in the Harvard Business Review, the most powerful drivers associated with effective strategy execution are "decision rights and information flow." Gary L. Neilson, Karla L. Martin, and Elizabeth Powers, "The Secrets to Successful Strategy Execution" *Harvard Business Review* (June 2008), p. 1.

²⁶ Aim Report, Appendix I, p. 4.

²⁷ Kotter, John. "Think You're Communicating Enough? Think Again". (Accessed Feb. 27 2015) <http://www.forbes.com/sites/johnkotter/2011/06/14/think-youre-communicating-enough-think-again/>.

²⁸ Ibid.

The Academy Study Team believes three areas of the plan could be bolstered as the agency moves forward with the execution of the plan that it has developed. The following subsection includes recommendations that the Academy Study Team believes will enhance NRC's communication plan.

Recommendations

Institutionalize the newly created “Communication and Coordination” Team: The NRC has recently created a “Communication and Coordination” Team (CCT).²⁹ While this is a new development, the Academy Study Team believes that the CCT has the potential to enhance NRC's communication efforts. The CCT is being led by individuals who served as an integral part of the Project Aim Team.³⁰ The CCT is discussed further in Section 3 of this report.

Clarify, leverage, and integrate “One NRC” into the communication plan: The concept of “One NRC” should be clearly communicated, appropriately leveraged, and integrated into NRC's communication plan, as discussed in Section 1 of this report.

Clearly articulate the communication responsibilities of the line organizations: While effective communication is essential at all levels of the agency, the Academy Study Team believes that particular focus should be devoted to the transfer of communication responsibilities to NRC's line organizations. The Academy Study Team believes that this transfer period will be critical to the success of NRC's transformation efforts. While a critical juncture, this transfer period poses potential risks for the agency if expectations and objectives are not clearly communicated to these line organizations. The inherently decentralized nature of line organizations creates the potential for messages to be mixed or misinterpreted. To mitigate this risk, the agency should diligently communicate expectations and goals to line organizations, providing line organizations with clear and consistent messaging. The importance of transferring responsibilities to line organizations is also discussed in Section 3 of this report.

²⁹ The CCT was established after the NRC submitted its Aim Report and as a result, was not included as part of the Aim Report's Communication and Implementation Plan in Appendix I.

³⁰ While the CCT is still being formally developed, preliminary observations indicate that the CCT will include 2-3 full-time members who are dedicated to the responsibilities of the CCT and as such, will not be diverted by taking on responsibilities in other parts of the agency. In addition to these full-time members, the agency envisions that part-time team members may also be added to the CCT as needed.

Section 3: Implementation Plan

Implementing proposed organizational changes is a challenge for any agency. As mentioned in the introduction of this report, the NRC has made a clear statement that it sees an urgent need to implement organizational transformation. To that end, the NRC has developed an implementation plan that the agency intends to utilize as it pursues the goals and objectives described in the Aim Report. This section provides background on the NRC's implementation plan, evaluates the plan, and provides recommendations where the plan may be enhanced as the NRC moves forward with its transformation.

Background on NRC's Implementation Plan

In its implementation plan, the Project Aim Team identified three elements that the agency believes are "necessary to successfully implement the Project Aim recommendations."³¹ The three elements include: (1) transformation and organizational dynamics; (2) coordination and accountability; and (3) on-going evaluations and longer-term planning. Similar to communication, implementation will be driven by top leadership, with the EDO and CFO serving as senior executive sponsors. The implementation plan states, "implementation of the strategies will be led by individual offices, assigned executives, and monitored by the cross-functional NRC senior leadership team...[and] assigned offices and executives will oversee the day-to-day activities associated with the implementation of the strategies."³²

Evaluation of the Implementation Plan

The implementation plan provides the agency with clear lines of authority with respect to the planned implementation of Aim Report strategies. As was the case with the communication plan, NRC recognizes that top leadership must drive transformation and implementation efforts. The plan clearly designates the EDO and CFO as senior executive sponsors, with the senior leadership monitoring the implementation of Aim Report strategies, and finally transferring implementation responsibilities to line organizations in due course. The implementation plan establishes clear lines of authority and provides high-level details as to how implementation authority will be delegated within the agency.

The implementation plan states, "The EDO and CFO will work closely with the Commission and others contributing to the strategic planning process to ensure consistency between long-term strategic plans and annual performance and implementation plans. The futures team will periodically update the Commission and senior staff leadership regarding major trends and key issues that could significantly impact previously adopted visions, strategic plans, goals, and strategies."³³ In other terms, NRC intends to synchronize and update its annual and long-term strategic plans while adapting to future changes as needed.

³¹ Aim Report, Appendix I, p. 1.

³² Id, p. 2.

³³ Id, p. 3.

The Academy Study Team recognizes that the NRC is still in the planning phase of its organizational transformation and the agency awaits the approval of the Commission regarding the specifics of these plans. Thus, strategies are yet to be implemented at this point. The following recommendations are meant to assess the implementation plan and offer areas deserving continued focus as the NRC moves from planning to implementing and executing its organizational transformation.

Recommendations

Integrate the CCT into ongoing agency activities: The newly created CCT could enhance the NRC's implementation efforts. The efforts of the CCT should be layered into the regular activities of the agency. The CCT has the potential to ensure continuity among managers and staff as proposed organizational changes are implemented.³⁴ The CCT has the potential to provide additional support to the EDO and CFO as the agency begins to implement the transformation while each of them addresses ongoing mission-related daily activities.

Recognize the criticality of transfer of implementation strategies to line organizations: The NRC should clearly articulate how line organizations will implement strategies related to Project Aim. The Academy Study Team believes that the transfer of implementation authority to line organizations is a critical point that could significantly impact NRC's transformation moving forward. As such, the EDO, CFO, and the senior leadership team should ensure that line organizations know how changes are to be implemented and expectations should be clearly indicated.

Engage an external change management consultant:³⁵ The NRC should consider involving an external change management consultant as it continues to plan and move toward executing its organizational transformation. While the support of top leadership and the use of agency-led teams are necessary and important to this effort, the Academy Study Team believes that NRC's implementation efforts would benefit from the perspective of an external change management consultant. The use of an external change management consultant would help the agency guard against inadvertent insularity.³⁶ That said, the external change consultant should work *with* the agency rather than working *for* the agency.

Adjust the organizational culture and "refine" values: In its report, the Project Aim Team explains that the agency has developed organizational values that have "stood the

³⁴ As the NRC develops a formal charter for the CCT, the charter should articulate clear lines of authority.

³⁵ The recommended use of an external change management consultant was proposed by the Focus Group and supported by the Academy Study Team.

³⁶ NRC recognizes the importance of managing transformation in its Aim Report, stating, "The transformation must be guided by a powerful dedicated team to manage the transformation process and to be held accountable for achieving desired outcomes." The Academy Study Team does not dispute the importance of a dedicated change management team. The purpose of this recommendation is to suggest that an external perspective may add significant value to NRC's change management efforts.

test of time and are ingrained in our culture.”³⁷ The NRC states that the agency has been guided by its “Principles of Good Regulation – Independence, Openness, Efficiency, Clarity, and Reliability.”³⁸ Although the agency and its workforce³⁹ are generally satisfied with the prevailing organizational culture and recognizes that a cultural overhaul is not needed, “it might be an opportune time to consider the need for increased agility and perhaps refine those [organizational] values.”⁴⁰ In its effort to refine organizational values, the agency should ensure that it conveys the importance of such a refinement and demonstrate how the refinement will be implemented.

Bolster incentive mechanisms: A challenge that the agency will face moving forward is providing employees with effective incentives, ensuring that staff and managers throughout the agency are engaged and on-board with the transformation. The implementation plan states that “progress will be monitored and reviewed” through Quarterly Performance Reviews.⁴¹ The challenge for the NRC will be to determine the most effective balance of incentives and disincentives as the agency moves forward with its transformation.

³⁷ Aim Report, p. 21.

³⁸ Ibid.

³⁹ According to the Partnership for Public Services’ “Best Places to Work in the Federal Government,” the NRC receives consistently high employee satisfaction responses and was ranked 7th best place to work in 2014. The rankings are based on responses to questions used in the Federal Employee Viewpoint Survey (FEVS).

⁴⁰ Aim Report, p. 21.

⁴¹ Aim Report, Appendix I, p. 2.

Section 4: Strategies and Metrics

The Academy Study Team carefully reviewed the 17 strategies presented in the Aim Report with a focus on their consistency with the desired outcomes for Project Aim and their potential for implementation. The Focus Group and the Academy Study Team agree that these strategies reflect the objectives of Project Aim and provide a reasonable approach to the transformation process. For this reason, the focus of this section is not on the content of individual recommendations, but on considerations that the NRC should have in mind as it moves forward with the implementation process.

Overview of Project Aim Strategies

The 17 strategies put forth by the Project Aim Team for consideration by the Commission were developed to address concerns and challenges identified in interviews, focus groups, and the survey conducted throughout Project Aim. The strategies encompass four major themes that represent the overarching objectives of this transformational effort:

- Strengthening unity of mission through adopting the concept of “One NRC,” in which agency-level priorities are established and resources are promptly and effectively deployed to accomplish these priorities.
- Enhancing the culture of the NRC to increase efficiency, effectiveness, agility, and flexibility.
- Sharpening NRC focus on achieving desired outcomes.
- Improving talent management to ensure the NRC has the right number of people with the right skills at the right time.

The strategies featured in the Project Aim report address issues in three main areas: people, planning and process. We provide a summary of the strategies below to provide the scope of issues these strategies are intended to address.

People: The “people” strategies are intended to “improve the efficiency, effectiveness, and agility of the workforce by managing talent as “One NRC” and are focused on the following three areas:

- Ensure the NRC has the right number of people with the right skills at the right time through the development of an agency strategic workforce plan that identifies and defines the functional work and occupations of the future workforce (2020 and beyond) and the planned transformation.
- Enhance employee agility by reducing the time required to shift employees or their work assignments to meet the demands of a changing environment by: documenting the competency models needed to execute the job task; performing a gap analysis of existing qualification programs against needed knowledge and skills; and providing recommendations to revise the qualification/training curriculum to make training and development programs more efficient and effective.
- Increase organizational agility and efficiency through focus on “One NRC” and on outcomes. The agency plans to move towards adopting the concept of “One NRC” by understanding, supporting, and refining the agency values and leadership model.

Planning: The “planning” strategies are meant to “transform the planning and budgets of the agency by modernizing the budget formulation process and re-baselining the work of the agency” with a focus on the following two areas:

- Improving the planning and budget formulation process by clearly defining and justifying overhead, clarifying agency priorities, utilizing foresight methods, and enhancing stakeholder engagement.
- Re-baselining the work of the agency by conducting a review of the work performed across the agency and confirming the basis for the work (the requirement that the work is intended to fulfill, whether it is required by law, or Commission direction). Shedding work that is not required will be considered in an effort to make the agency more lean and reduce future budgets.

Process: “Process” strategies are based on “improving the agility, flexibility, effectiveness, and efficiency by focusing on outcomes and streamlining processes.” The focus of these strategies is on the following three areas:

- Improving the transparency of how the NRC calculates and accounts for fees including improving the timeliness of communicating fee changes and providing a more simple and predictable billing process.
- Improving licensing by conducting a process improvement review of the operating reactor licensing process and making associated improvements to other regulatory processes to enhance the predictability, timeliness, and efficiency of the reviews, while ensuring and measuring the effectiveness and quality of the reviews.
- Improving processes by streamlining, standardizing, and clarifying roles and responsibilities.

Strategy Development

The Project Aim Team met with Senior Leaders, the Guiding Coalition and subject matter experts among the NRC staff before determining what strategies would be most effective in addressing the people, planning, and process issues discussed in the Aim Report. In order to determine the feasibility of strategies and a manageable timeline for implementation, the Project Aim Team coordinated with the lead office that would be responsible for implementing each strategy. Including the lead offices in planning the execution of these strategies was an important step because it established line agreement in advance of the implementation process. Approaching this effort with a flexible mindset, the Project Aim Team acknowledged that these strategies and their implementation deadlines may require adjustments throughout the implementation process.

Recommendations for Project Aim Strategies

Strategies provide a framework which guides those choices that determine the nature and direction of an organization.⁴² The Project Aim Team successfully presented high level descriptions of the proposed strategies and clearly outlined tasks that will initiate the implementation process. The following recommendations will assist the NRC in galvanizing support among employees whose day-to-day responsibilities are impacted by the new strategies in addition to generating a sense of ownership in the desired outcomes.

Clarify strategies: In addition to modifying the strategies as needed, the NRC must clearly articulate their purpose at all levels. It is critical that the goals and objectives for each strategy are specific, clear and resonate with all employees, not just senior leadership. The NRC should also take care not to “bureaucratize” this process by framing the strategies as requirements, but rather a means to transformational change.

Identify change agents: NRC should identify “change agents” within each office responsible for implementing these new strategies in order to ensure successful and enduring commitment to the desired outcomes. One approach would be to survey staff from the lead office as to which non-managers are reliable, go-to people when things need to get done.

In addition to selecting change agents, an oversight entity, whether an individual or a team, should be established to manage them and provide accountability. The oversight entity would be responsible for developing networking and mentoring opportunities that will allow change agents to grow in their function.

Metrics Development

Metrics are critical to transformation efforts such as Project Aim because they enable organizations to determine if their strategic efforts are producing the desired outcomes. Metrics also encourage performance improvement, effectiveness and efficiency which are the driving forces behind Project Aim.⁴³ The Project Aim Team reported that the metrics presented in the Aim Report are not the final metrics that will be applied to evaluate strategy implementation. NRC will be using a logic model to determine intermediate outcomes and develop metrics for measuring success after implementation of the strategies is initiated. The logic model is intended to serve as an agency-wide tool to help office’s focus on outcomes and identify what activities and intermediate outputs they need to achieve those outcomes. The Project Aim Team determined that they will use the logic model to determine desired outcomes and further develop the metrics.

⁴² Ben Tregoe and John Zimmerman, *Top Management Strategy: What it is and how to make it work*, (1983).

⁴³ U.S. Department of Energy (DOE), “How to Measure Performance: A Handbook of Techniques and Tools,” (1995).

Recommendations for Metrics Development

Metrics are tools for supporting actions that allow programs to evolve toward successful outcomes, promote continuous improvement, and enable strategic decision making.⁴⁴ For several years the NRC has had a team dedicated to performance management. That team has launched a logic model to enhance performance metrics that align with the Government Performance Results Modernization Act.⁴⁵ The agency plans to incorporate metrics devised for Project Aim into the agency's existing performance management system.

There are several best practices that the NRC should bear in mind throughout the development of formal performance metrics. In raising the following points, we also acknowledge that the NRC already operates with these best practices in mind. We focus on these considerations to underscore their continued importance.

Engage employees in development of metrics: An important consideration in developing performance metrics is to involve the people who are responsible for the work to be measured because they are the most knowledgeable about the work.⁴⁶

Develop a conceptual framework for metrics: A conceptual framework is needed for the performance measurement and management system. Every organization needs a clear and cohesive performance measurement framework that is understood by all levels of the organization and that supports objectives and the collection of results.⁴⁷

Assign owner identification of individual performance metrics: Most managers from best-in-class organizations hold an appropriate individual accountable for each performance measure. Most organizations therefore identify a measurement owner. This is an assigned individual who is accountable and responsible for a particular measure.⁴⁸

Regularly assess performance metrics: Good metrics should promote strategic analysis and an important aspect of performance measurement is its iterative quality. Organizations should continually assess whether their current measures are sufficient or excessive, are proving to be useful in managing the business, and are driving the organization to the right

⁴⁴ Committee on Metrics for Global Change Research, Climate Research Committee, National Research Council, *Thinking Strategically: The Appropriate Use of Metrics for the Climate Change Science Program* (2005), p. 47.

⁴⁵ The GPRA Modernization Act of 2010 (GPRAMA) "provides enhanced performance planning, management, and reporting tools...intended to improve information sharing and coordination among federal agencies." http://www.gao.gov/key_issues/managing_for_results_in_government/issue_summary.

⁴⁶ U.S. Department of Energy (DOE), "How to Measure Performance: A Handbook of Techniques and Tools," (1995).

⁴⁷ National Partnership for Reinventing Government, "Serving the American Public: Best Practices in Performance Measurement," <http://www.orau.gov/pbm/links/npr2.html>.

⁴⁸ Id.

result.⁴⁹ Table 5.1 provides a sampling of questions that might be considered in assessing the quality of performance metrics.

Continuous and regular review of metrics as they relate to the corresponding goals and the organization's strategic plan are key to success in performance measurement. It not only helps in deciding the right things to measure, but provides needed information to assess progress toward reaching goals of all levels within the organization. Performance measurement has no purpose if data are not used to improve organizational performance.⁵⁰ The frequency of assessments should reflect the needs and goals of the program. Very infrequent assessments are not likely to be useful for managing programs, and overly frequent assessments have the potential to promote micromanagement or to become burdensome.⁵¹

Assess process as well as progress: The success of any program depends on many factors, including process (e.g., level of planning, type of leadership, availability of resources, and accessibility of information) and progress. The assessment of process as well as progress is important for every program, but its value is particularly high for large, complex programs.⁵²

TABLE 5.1

Determining the Quality of Metrics ⁵³
<p>The following questions serve as a checklist to determine the quality of the performance metrics that have been defined:</p> <ol style="list-style-type: none">1. Is the metric objectively measurable?2. Does the metric include a clear statement of the end results expected?3. Does the metric support customer requirements, including compliance issues where appropriate?4. Does the metric focus on effectiveness and/or efficiency of the system being measured?5. Does the metric allow for meaningful trend or statistical analysis?6. Have appropriate industry or other external standards been applied?7. Does the metric include milestones and/or indicators to express qualitative criteria?8. Are the metrics challenging but at the same time attainable?9. Are assumptions and definitions specified for what constitutes satisfactory performance?10. Have those who are responsible for the performance being measured been fully involved in the development of this metric?11. Has the metric been mutually agreed upon by you and your customers?

⁴⁹ Id.

⁵⁰ Id.

⁵¹ Committee on Metrics for Global Change Research, Climate Research Committee, National Research Council, *Thinking Strategically: The Appropriate Use of Metrics for the Climate Change Science Program* (2005), pp. 48-49.

⁵² Id. at 51.

⁵³ U.S. Department of Energy (DOE), "How to Measure Performance: A Handbook of Techniques and Tools," (1995).

Section 5: Addressing Challenges Beyond Project Aim 2020

During the NRC's public meeting convened in February 2015 to discuss the Aim Report, NRC Chairman Stephen Burns stressed that "we won't take any steps that compromise our mission and our ability to achieve our strategic objectives of protecting the public health and safety and defense and security."⁵⁴ It is clear during our research that the NRC has an acute focus on challenges and risks, potential and real dangers, both internally and externally sourced, that might place its important work of ensuring safety and security at risk.

As part of this report, the Commission requested for the Academy: "to provide specific recommendations or comments regarding NAPA's view of the NRC's future challenges in operations." While we addressed other challenges related more directly to the Aim Report in earlier sections of this report, we use this section to focus on several broader strategic challenges that merit steady monitoring.

In this section, we opt to construe the term "challenge" to have a meaning that also includes "risk." As such, we speak about both challenges and risks.

It is clear that an enterprise like the NRC operates in a very challenging environment. Challenges arise internally and externally, and can be related to financial and operational issues, man-made and natural hazards, political, economic, and strategic events. We will focus on just a few important areas in this section at a high level which we believe can contribute to a more effective enterprise-wide anticipation of important operating challenges that the NRC could face going forward.

We raise three points with respect to challenges and risks in this section. It is important to stress that, by doing so, we do not wish to imply that the NRC is inadequately addressing these particular challenges. Rather, we cast light on these three to endorse what we understand to be an existing focus by the agency's leadership. To that end, we confirm the salutary need for continued agency attention.

In general, key steps in addressing enterprise challenges include: comprehensive risk identification; an understanding of which variables impact specific challenges; steady monitoring of those conditions; and remaining vigilant to observe impactful changes in the operating environment. An organization can best address uncertain challenges by building a comprehensive, enterprise-wide, risk management system(s).

Risk-Informed Activities at NRC

Risk management is considered an essential part of the DNA of any regulatory culture. At the NRC, risk management falls into the purview and is under the leadership of the Executive Director for Operations. The NRC's regulatory approach is founded upon using

⁵⁴ Quote taken from an internal NRC newsletter (February 19, 2015).

nuclear safety and radiological health and safety risk assessments. Current risk management activities are organized along the agency's major operating areas: reactor safety, materials safety, waste management, and cross-cutting activities. It is also worth noting that, in early 2011, a Task Force for Assessment of Options for More Holistic Risk-Informed Performance-Based Regulatory Approach was commissioned, and its findings have further guided agency efforts.⁵⁵

Over the past several years, the Office of Management and Budget (OMB) has been taking steps to foster an enterprise risk protocol across all federal agencies. OMB Circular A-11 speaks to the merits for federal agencies to adopt an Enterprise Risk Management (ERM)⁵⁶ framework to manage risks and seize opportunities relating to protecting agency missions.⁵⁷

With respect to ERM, it is important to highlight that there are many different methods for evaluating and managing enterprise risk. As one would expect, ERM models vary to accommodate various operating environments and the particular risks and challenges represented in them.

Through discussions with the Project Aim Team, we learned that NRC's executive management meetings have discussed ERM in order to maintain effective controls and programs in a strong risk environment. In fact, we know that several changes in how the agency might aptly apply ERM have been discussed.

We commend the NRC's focus on internal controls and overall ERM. The Aim Report calls for a review of process management in the agency. This might lead to a broad refresh of ERM in the agency to focus both on mission and operational risks. Furthermore, the strategy includes: "to utilize foresight methods (Strategy II-1-c) and stakeholder engagement to get a more informed estimate of the future to the agency is prepared." This strategy is intended to, in part, prepare the NRC to better prepare to respond to "unforeseen changes in the workload and external environment."

There are many risk experts at the NRC, notably in nuclear safety and radiation safety context. However, the NRC does not have a Chief Risk Officer (CRO), nor are we led to

⁵⁵ Findings were published in NUREG-2150.

⁵⁶ The US 'Committee Of Sponsoring Organizations Of Treadway Commission' (COSO) defines ERM as: "a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risks to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives." COSO divides ERM process into eight components: (1) internal environment, (2) objective setting, (3) event identification, (4) risk assessment, (5) risk response, (6) control activities, (7) information and communication, and (8) monitoring.

<http://www.businessdictionary.com/definition/enterprise-risk-management-ERM.html>.

⁵⁷ Quoted from A-11: "**Enterprise Risk Management** (270.24-270.29): Agencies should assess and manage risk as a part of strategic and data-driven reviews in support of the broader organizational risk management framework, as appropriate for their missions, and in accordance with agency-specific programs."

http://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/s270.pdf.

believe that there is active consideration being given to appointing one in the context of its ERM. The absence of a CRO is common among federal agencies. In a recent survey (October 2014) of federal agencies, 71 percent of all federal respondents said that their agency does not have a CRO.⁵⁸

We do not go so far as to recommend that the NRC create a CRO position. Rather, we propose that the merits of having a CRO be periodically reviewed by top NRC leadership. The position may have merit for creation in the future.

In keeping with the preceding discussion, we offer the following list of Principles for Designing a Best-Practice Risk Management Organization cited from a 2010 study completed by McKinsey.⁵⁹ We believe that these principles might contribute to agency leadership's thinking and applied, as deemed appropriate, into the NRC regulatory setting.

Principles for Designing a Best-Practice Risk Management Organization
1. Strong and visible commitment from all members of the top team
2. Central oversight of risk management across the enterprise (including subsidiaries and corporation functions)
3. Separation of duties between policy setting, monitoring, and control on the one hand; and risk origination and risk management execution on the other
4. Clearly defined accountability
5. Risk appetite and strategy clearly defined by top management (and the board)
6. Full ownership of risk and risk management at business-unit level
7. Business units formally involved and view risk function as a thought partner
8. Robust risk management processes reinforce organizational design (e.g., incentive systems incorporate risk-return considerations)

Monitoring Critical Uncertainties

This sub-section draws upon important points contained in the Academy's first report, evaluating the Project Aim process. We believe repeating a discussion of "critical uncertainties" is germane to a section focusing on challenges that bear monitoring going forward by the agency.

Scenarios, such as were used to prepare the Aim Report, are most effective when they are constructed using variables, often called "drivers," that impact an organization's future operating environment. By so doing, analysts can gain valuable insights into how operating in an uncertain future environment can be impacted by various trends in the operating environment, and also better understand how interconnected various drivers might be.

Since drivers are critical elements shaping an organization's future, each can be divided into one of two categories based on whether there is a trend for that driver moving in a

⁵⁸ Reference from a study completed by the Association of Government Accountants found at: <http://www.agacgfm.org/AGA/Research/CFOSurvey2014.pdf>.

⁵⁹ "A Board Perspective on Enterprise Risk Management," McKinsey and Company, February 2010.

constant direction or not. If one expects a driver's forecasted trend line to be single-directional, that driver is deemed a "predetermined scenario element." If the forecasted trend for a driver is thought to be uncertain in the future, that driver is called a "critical uncertainty."

After categorizing them, both types of drivers should be monitored on a periodic basis going forward. By definition, those drivers deemed critical uncertainties merit even closer monitoring in the future as to how they might impact the current organizational vision and strategic plan. Monitoring these potential impacts on the future operating environment will enhance leadership's ability to observe and anticipate major environment changes, thus providing an early warning to deliberate whether to amend an on-going vision and strategic plan. Categorizing drivers in this way, and periodically monitoring them going forward, can contribute to a more agile organizational culture where leaders actively identify material changes that impact the operating environment, affording them time to react to them appropriately to avoid negative impacts. For these reasons, breaking down drivers into these two categories yields a fuller understanding of how the organization is impacted by various elements likely to be part of its future operating environment.

Looking back at the Project Aim work, many of the 16 drivers used to construct the Aim Project's four scenarios were merely work operational outcomes (examples include: number of operating reactors; percentage of operating plants seeking subsequent renewal; number of new operating fuel facilities; number of uranium recovery facilities; and number of material licensees/Agreement states).

In our first report, we recommended the NRC incorporate more causal factors that might be included in future scenario building. Here are some examples of possible causal drivers that might be included: developments in nuclear technology; climate change research findings; public and government perception of nuclear operating risks; U.S. economic growth; development and adoption of alternative fuels; cybersecurity concerns as they impact nuclear operations; government legislation or regulations that might restrict or advance nuclear power plant operations, or impact NRC workloads; government financial support for nuclear power plant construction; private capital market support to finance new nuclear plants; and ability of the public sector to recruit and retain competent employees with adequate nuclear expertise.

We recommend that the NRC identify a comprehensive list of critical uncertainties that its risk management team will steadily monitor going forward. By doing so, many potentially unanticipated challenges can be identified and monitored. The ultimate goal is to provide NRC leadership with an "early warning system" whereby the agency identifies challenges early so that the agency can take timely actions to shift workforce resources, using the flexibilities that are intended by the Aim Report strategies.

Our review of the Aim Report concludes with a reminder of the Aim Project 2020's key objective: to transform the agency to be prepared for 2020, and beyond. We also bear in mind that the Aim Report's recommendations still await final voting by Commissioners before strategies are approved and the first implementation steps can begin. Thus, our evaluation is of a plan, and not of action. With that said, on balance, we believe that the agency has a strong plan.

We conclude with a quotation of Harold Geneen, former Chairman of the ITT Corporation: "It is an immutable law in business that words are words, explanations are explanations, promises are promises but only performance is reality."

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Appendix A: Academy Study Team Members

Joseph P. Mitchell, III, Director of Project Development and Senior Project Advisor, National Academy of Public Administration. Dr. Mitchell leads and manages the Academy's studies program and serves as a senior advisor to the Academy's President and CEO. He has served as Project Director for past Academy studies for the Government Printing Office, the U.S. Senate Sergeant at Arms, USAID/Management Systems International, the National Park Service's Natural Resource Stewardship and Science Directorate, and the USDA Natural Resources Conservation Service. During his 15 years at the Academy, Dr. Mitchell has worked with a wide range of federal cabinet departments and agencies to identify changes to improve public policy and program management, as well as to develop practical tools that strengthen organizational performance and assessment capabilities. He holds a PhD from the Virginia Polytechnic Institute and State University, a Master of International Public Policy from the Johns Hopkins University School of Advanced International Studies, a Master of Public Administration from the University of North Carolina at Charlotte, and a BA in History from the University of North Carolina at Wilmington. He is a member of Phi Kappa Phi, the national academic honor society, and Pi Alpha Alpha, the national honor society for public affairs and administration.

Roger Kodat, Project Director, National Academy of Public Administration. Mr. Kodat has led eight projects as a consultant to the Academy, several focusing on long-term strategic visioning and planning. He brings 20 years of commercial and investment banking experience with JPMorganChase, and six years of senior level federal government experience at the Department of the Treasury. He was appointed by President George W. Bush in 2001 to serve as Deputy Assistant Secretary of Treasury, responsible for Federal Financial Policy. Some of his tasks at Treasury included: policy formulation for the 2006 Postal Accountability and Enhancement Act; rule-making and oversight of Federal loan and loan guarantee programs; and managing the Federal Financing Bank (a \$32 billion bank at that time). Mr. Kodat holds a BS in Education from Northwestern University and both an MBA in Finance and MA in Political Science from Indiana University.

Allison Brigati, Senior Project Advisor, National Academy of Public Administration. Allison Brigati is the General Counsel for the National Academy of Public Administration. An attorney since 1990, Allison has experience in legal analysis, investigative functions, and organization and management issues. She started with the National Academy as a Senior Advisor in 2008, and served in that role for studies relating to the Office of National Drug Control Policy, Federal Emergency Management Agency, General Accountability Office, and the Department of Commerce's Office of Inspector General. She became the National Academy's Legal Counsel in late 2008, and manages all legal issues relating to the Academy and its daily operations, as well as serving as an advisor to the President, Directors and CFO. Prior to joining the Academy, Allison served in a variety of legal, investigative and management roles, including various posts at the World Bank, as Senior Advisor to the Director, Senior Quality Assurance Officer, and Senior Institutional Integrity Officer for the Department of Institutional Integrity, as well as Senior Counselor for U.S. Affairs in the Department of External Affairs. Prior to the World Bank, Allison served as Deputy Counsel

for the Republican National Committee, and as Acting Chief Legal Counsel for the Committee on Arrangements for the 1996 Republican National Convention. Allison began her legal career as an associate at Baker and Hostetler, specializing in corporate law. Allison received her BA from the University of Notre Dame (1987), and a JD from Boston University School of Law (1990).

Nicole Camarillo, Project Advisor, National Academy of Public Administration. Nicole Camarillo is the Associate General Counsel and Project Development Advisor for the Academy. She has a legal background in regulatory compliance and employment law issues. She has extensive experience working for nonprofits on a variety of advocacy issues and has federal campaign experience. At the Academy, Nicole assists the General Counsel on all employment law and policy matters affecting the organization. Nicole also serves as a legal advisor on Academy studies, particularly those involving legislative and regulatory matters. She assists the Director of Project Development with the development of Academy proposals and studies. Nicole received her BA from Stanford University and her JD from the University of California, Berkeley School of Law.

Eric Christensen, Research Associate, National Academy of Public Administration. Eric graduated from State University of New York at Albany with a BA in Political Science. During this time period he served as a Campaign Manager in a Mayoral Election; interned for US Senator Charles Schumer and volunteered on voter outreach for City Councilman Vincent Gentile in Brooklyn. Eric received his MPA from Cornell University, Cornell Institute for Public Affairs. He is a member of Pi Alpha Alpha national honor society for public affairs and administration. Eric served as a consultant on Rural Regeneration in Haiti while at Cornell University. Eric also interned for Public Policy Solutions, Inc., in San Luis Obispo, CA and was a consultant for Tompkins County Government while at Cornell University. He co-authored and co-edited a report on budgetary priority setting, performance measurement, shared services and charter revision for Tompkins County.

Appendix B: Academy Focus Group Members

Dan Blair,* President and CEO, National Academy of Public Administration. Former positions with the U.S. Postal Regulatory Commission: Chairman, Commissioner; former positions with the U.S. Office of Personnel Management: Deputy Director, Acting Director; Senior Counsel to Senator Fred Thompson, U.S. Senate Committee on Governmental Affairs; Staff Director for Representative John McHugh, House of Representatives, Subcommittee on the Postal Service; Minority General Counsel, House of Representatives, Committee on Post Office and Civil Service.

Jonathan Breul,* Adjunct Professor, Georgetown University. Former Executive Director, IBM Center for The Business of Government, and Partner, IBM Global Business Services; Former positions with U.S. Office of Management and Budget: Senior Advisor to the Deputy Director for Management; Chief, Evaluation and Planning Branch, General Management Division; Senior Management Analyst. Former Senior Grants Policy Specialist, Office of the Assistant Secretary for Management and Budget, U.S. Department of Health and Human Services.

Chris Mihm,* Managing Director, Strategic Issues, U.S. Government Accountability Office. Former positions with U.S. General Accounting Office: Director, Strategic Issues; Assistant Director, Federal Management Issues; Evaluator.

Rusty Mikel, Expertise in applying scenario thinking and strategic planning to global issues; programmer and systems analyst before joining NSA as a cryptanalyst; Booz Allen & Hamilton supporting NSA; IIT Research Institute; TASC supporting intelligence agencies and the Director of National Intelligence on alternative analysis and strategic thinking.

Nancy Potok,* Deputy Director, Census Bureau, U.S. Department of Commerce. Former Associate Director, Demographic Programs, U.S. Census Bureau, U.S. Department of Commerce; Deputy Undersecretary for Economic Affairs, Economics and Statistics Administration, U.S. Department of Commerce; Chief Operating Officer, McManis & Monsalve Associates. Former Senior Vice President and Director, Economics, Labor and Population Department, National Opinion Research Center (NORC); Former positions with the U.S. Census Bureau: Principal Associate Director and Chief Financial Officer, Associate Director for Administration/Controller. Former Deputy Assistant Director for Finance and Budget, Administrative Office of the U.S. Courts; Budget Examiner, U.S. Office of Management and Budget; Presidential Management Intern, U.S. Department of Transportation; Staff Intern, Senate Transportation Appropriation Subcommittee, U.S. Senate.

Myra Shiplett,* Distinguished Fellow, Project on National Security Reform and President, RandolphMorgan Consulting, LLC; Senior Consultant, Bluelaw International; Senior Consultant, KnowledgeBank, Inc. Former Project Director and Senior Consultant, National Academy of Public Administration; Director, Center for Human Resources Management, National Academy of Public Administration; Director, Administrative Office of the U.S.

Courts; Director of Administration, Federal Housing Finance Board; Associate Director for Passport Services and Associate Director for Human Resources, Department of State; Assistant Director for National Security and International Affairs, Office of Personnel Management; Director of Personnel; Federal Trade Commission; Staff member, Norfolk Naval Shipyard in Portsmouth, VA, U.S. Department of the Navy.

***Academy Fellow**