U.S. DEPARTMENT OF ENERGY

National Nuclear Security Administration

National Nuclear Security Administration Comments on the Final Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise

Report to Congress
May 2015

National Nuclear Security Administration
United States Department of Energy
Washington, DC 20585

Administrator's Letter of Transmittal

This report provides the National Nuclear Security Administration's (NNSA) response to the Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise, as required by Section 3134 of the National Defense Authorization Act for Fiscal Year 2015. My comments, as Under Secretary for Nuclear Security and Administrator, NNSA, have been coordinated with the Secretary of Energy.

NNSA continues to make improvements in the leadership and management of its unique roles and responsibilities within the larger nuclear security enterprise; consequently we are pleased that much of the work that we have already undertaken and the changes that we are making are supported by the findings of this report. We know that we have additional work to do, and we are committed to making the NNSA a highly effective and continuously improving organization. This report highlights actions NNSA and the Department of Energy (DOE) have implemented or are currently underway, and addresses those recommendations of the Congressional Advisory Panel that we plan to pursue.

Pursuant to statutory requirements, this report is being provided to the following Members of Congress:

- **The Honorable John McCain**
  Chairman, Senate Committee on Armed Services

- **The Honorable Jack Reed**
  Ranking Member, Senate Committee on Armed Services

- **The Honorable Mac Thornberry**
  Chairman, House Committee on Armed Services

- **The Honorable Adam Smith**
  Ranking Member, House Committee on Armed Services

- **The Honorable Thad Cochran**
  Chairman, Senate Committee on Appropriations

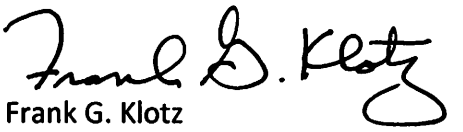
- **The Honorable Barbara A. Mikulski**
  Ranking Member, Senate Committee on Appropriations

- **The Honorable Harold Rogers**
  Chairman, House Committee on Appropriations

- **The Honorable Nita M. Lowey**
  Ranking Member, House Committee on Appropriation

If you have any questions or need additional information, please contact me or Mr. Clarence Bishop, Associate Administrator for External Affairs, at (202) 586-7332.

Sincerely,



Frank G. Klotz
Under Secretary for Nuclear Security
Administrator, NNSA

Message from the Secretary

The programmatic success of the Department of Energy (DOE) and its National Nuclear Security Administration (NNSA) in sustaining the nuclear deterrent for over two decades without testing, in reducing the nuclear danger by securing or eliminating a very large amount of weapons-usable nuclear materials, in providing nuclear propulsion for a Navy with global reach, and in carrying out critical nuclear analysis and counterintelligence for the Administration at large must be preserved and extended. To do so requires addressing governance issues that could compromise continued success in the coming decades or elevate costs in doing so. The task of evaluating these issues, which have been present since the establishment of NNSA fifteen years ago, and of recommending solutions was given to the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise, commonly referred to as the Augustine-Mies panel. The Augustine-Mies report to Congress provides a welcome perspective on the state of nuclear security governance and the key steps needed from the Administration and the Congress for improvement of governance for the long term.

The quality and collective experience of the Augustine-Mies panel members are to be applauded. They and their staff did a very thorough job of fact finding and objective analysis. In that vein, their conclusions and recommendations deserve the full attention and appropriate response from both the Administration/DOE/NNSA and from the Congress. This message represents the initial response from the Secretary of Energy and the NNSA Administrator/Under Secretary for Nuclear Security.

To help frame the response, I charged the Secretary of Energy Advisory Board (SEAB) to present their observations on the panel report. The SEAB letter report (at Attachment), led by the Honorable Brent Scowcroft as chair of the SEAB Nuclear Security Subcommittee, strongly endorses the key Augustine-Mies findings and recommendations, thereby lending even further support to the Augustine-Mies conclusions from distinguished contributors to our nation's security over a long time.

The overarching conclusions of the Augustine-Mies panel are the need to "strengthen national leadership focus, direction and follow-through" with respect to the nuclear mission and "to solidify Cabinet Secretary ownership of the mission." Let me state clearly that as Secretary, I place the highest priority on "ownership" of the nuclear security mission, and spend a significant portion of my time and energies advancing its key goals. Further, in building the DOE/NNSA leadership team that includes Deputy Secretary Sherwood-Randall, Administrator Klotz, and Principal Deputy Administrator Creedon, the President has clearly appointed a group well versed and deeply engaged in nuclear security science, technology, management and policy. In my time as Secretary, I have seen how mission ownership has materially impacted NNSA directions and resources in support of key mission responsibilities. The appointment of Secretary Carter at the Department of Defense has further strengthened the Administration's nuclear security team.

A major conclusion of the panel was that, after evaluating several governance models, "the solution is not to seek a higher degree of autonomy for NNSA, because that approach would only further isolate the enterprise from needed Cabinet Secretary leadership. Instead it is recommended that Congress place the responsibility and accountability for the mission squarely on the shoulders of a qualified Secretary, supported by a strong enterprise Director with unquestioned authority to execute nuclear enterprise missions consistent with the Secretary's policy direction." We emphatically concur and would add to this that rebuilding national leadership focus on nuclear security will also require strengthening regular communications between the Secretary and the relevant Congressional leaders on the various policy elements that make up the nuclear security mission. As part of this, we propose to carry out the SEAB recommendation for a regular semi-annual report and briefing to Congress on progress in carrying out Augustine-Mies recommendations and updates on both progress and challenges in executing the mission continuously over short, intermediate and long time frames. The Deputy Secretary and the NNSA Administrator will lead the group that monitors our progress. The group will seek input enterprise wide and also from those outside DOE, such as the members of the Augustine-Mies and SEAB panels.

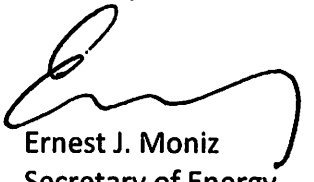
The panel goes on to offer important findings and recommendations about management practices. The panel states that "A major overhaul will be needed to transform the organization into one with a mission-driven management culture," with "strong program managers focused on mission deliverables" and "clear accountability." The panel observes that "an arm's length, customer-to-contractor and, occasionally, adversarial relationship" has become too common and that a rebuilding of the trust that is a critical element of an FFRDC relationship is needed. I believe the panel is correct in these findings. When I became Secretary, I committed to restoring a more strategic relationship with the laboratory directors (not just NNSA) and I believe that we have made progress in this direction. This has been helped with some new institutional structures but even more, in my opinion, by more open communications about how the Department should pursue its multiple missions. This has benefitted both the Department and the laboratories, which of course is the objective of the FFRDC relationship.

I believe that various specific approaches to management processes are beginning to pay dividends, some of which are indicated in the Administrator's accompanying report. However, notwithstanding some progress, there is a long path to follow to reach the management goals laid out by the panel. The report included an apt Peter Drucker quote at the beginning of Chapter 3: "Culture eats strategy for breakfast." Culture change is not easy, and we do need such a change to restore primary focus on collaborative mission accomplishment throughout the system, with mission support in its very important role of helping that accomplishment take place safely, securely and efficiently. This applies both to labs and to other nuclear sites. Culture change requires strong trusted relationships advancing sound risk management understood by all levels of the organization. This will take some time, and certainly any progress that we make over the next couple of years needs to have roots deep enough to cross different management styles and managers. Our DOE enterprise-wide team will continue to work hard to set the right directions.

The final major set of recommendations involved strengthening "customer collaboration ... and a shared view of mission success." This refers principally to the DoD-DOE relationship with regard to the deterrent. Here again there are examples of progress, such as a better functioning Nuclear Weapons Council, but there are also specifics on which we clearly need to improve, such as streamlining how work is done for other national security agencies (DoD, Intelligence, DHS), even though the report does note considerable satisfaction as to how many capabilities and services are provided by the DOE laboratories and sites. However, there is an important point here on which I disagree with the panel. The report consistently refers to a "customer" relationship between DoD and DOE. This framing of the relationship is actually at the root of some tension. The two agencies have synergistic responsibilities for supporting our country's nuclear defense posture and the President and Congress ultimately have responsibility for allocating resources for maintaining our national security. Furthermore the nuclear security mission is broader than deterrence, including the nonproliferation, naval propulsion, intelligence and environmental cleanup missions that reside with DOE. None of this excuses either DoD or DOE from carrying out its responsibilities in the most cost effective fashion, but the framework for discussion should be optimization of our national security needs among several agencies with complementary capabilities. DoD is not our customer, and we are not a vendor; together we bear the serious responsibility to deliver a safe, secure and effective deterrent for the American people.

The accompanying report from Administrator Klotz provides more detailed responses to the Augustine-Mies recommendations. I repeat that we are very appreciative of the panel's work and of its thoughtful findings and recommendations. The panel lays out a challenging agenda, and we welcome it as an important contribution to assuring our country's nuclear security for the long term. We look forward to working with the Congress and with other stakeholders on implementation.

Sincerely,



Ernest J. Moniz
Secretary of Energy

Executive Summary

This report provides the Department of Energy (DOE)/National Nuclear Security Administration's (NNSA) comments with respect to the November 2014 Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise, *A New Foundation for the Nuclear Enterprise*, as required by Section 3134 of the National Defense Authorization Act for Fiscal Year 2015.

The Department of Energy (DOE) and the NNSA express their deep appreciation to the members and staff of the Congressional Advisory Panel for their service and for their exceptional contribution to our national security in rendering their comprehensive and insightful report.

DOE and NNSA have carefully reviewed the report's findings, conclusions and recommendations. We are pleased that the report recognizes many of the successes that the DOE and the NNSA have achieved as we carry out our important and enduring nuclear security missions, including conducting a science-based Stockpile Stewardship Program to annually certify the safety, security and effectiveness of American nuclear arsenal without nuclear explosive testing for over 20 years.

We also believe that the report correctly identifies and accurately describes the leadership, management, and cultural challenges that confront the nuclear security enterprise. To address these issues, the report makes 19 primary recommendations and 63 sub-recommendations to improve performance, efficiency and accountability--both now and in the future. Most of these can be implemented under the existing authorities of the Secretary of Energy and the NNSA Administrator. As described in detail in the pages that follow, DOE and NNSA have in fact already taken a number of actions that fully align with the panel's recommendations. Additional steps can and will be undertaken, informed by the work of the Congressional Advisory Panel, as well as other ongoing reviews. .

NNSA is committed to working with the Administration, Congress, our partners and other stakeholders to address the challenges and recommendations identified by the Congressional Advisory Panel in a comprehensive, forthright and transparent manner. Our highly talented NNSA team, comprised of our federal workforce and our Management and Operating (M&O) and other contractor partners, is committed to continuous improvement and achieving excellence in all that we do. Above all, NNSA remains dedicated to carrying out our nuclear and other national security missions, while being mindful of our obligation to continuously improve our business practices, to develop our people, and to be responsible stewards of the resources Congress and the American people have entrusted to us.

National Nuclear Security Administration

National Nuclear Security Administration Comments on the Final Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise

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I. Legislative Requirement

SEC. 3134. COMMENTS OF ADMINISTRATOR FOR NUCLEAR SECURITY AND CHAIRMAN OF NUCLEAR WEAPONS COUNCIL ON FINAL REPORT OF CONGRESSIONAL ADVISORY PANEL ON THE GOVERNANCE OF THE NUCLEAR SECURITY ENTERPRISE.

Not later than 90 days after the date of the enactment of this Act, the Administrator for Nuclear Security and the Chairman of the Nuclear Weapons Council (established by section 179 of title 10, United States Code) shall each submit to the congressional defense committees the comments of the Administrator or the Chairman, as the case may be, with respect to the findings, conclusions, and recommendations included in the final report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise under section 3166(d)(2) of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112-239; 126 Stat. 2209), as amended by section 3142 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113-66; 127 Stat. 1069).

II. Introduction

The DOE and the NNSA thank the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise for its in-depth analysis of the nuclear security enterprise, with particular emphasis on the weapons program. We are pleased that the panel recognized some of the considerable successes that the DOE/NNSA have achieved as we carry out our important and enduring nuclear security and deterrence mission. The final report makes 19 primary recommendations for consideration by the Administration, the DOE, the NNSA and the Congress. We believe that these recommendations fall into three general categories: (1) recommendations that could be implemented within the existing authorities of the Secretary of Energy and the NNSA Administrator and would not require legislative action; (2) recommendations that apply to the Congress or are otherwise not in the control of the Department of Energy; and (3) recommendations that would require legislation to implement. My comments will focus primarily on the first category. As will be explained below, many of these recommendations have already been implemented, or are in the process of being implemented, by DOE/NNSA.

In May of 2013, immediately after being sworn in, Secretary of Energy Ernest Moniz provided the leadership, guidance and support the Department and the NNSA needed to address and resolve many of the systemic problems that the panel recognized in its final report. Since that time, we have begun to implement many of the panel's key recommendations, particularly those associated with organizational and management structures; cost estimation; and program, project and construction management. Many of these actions have already demonstrated tangible results, while others will take more time to implement fully.

The panel's report identifies a number of leadership and cultural challenges confronting the Department and the NNSA, many of which are well known and long-standing, but have proven difficult to resolve. These include identifying the correct incentive structure for the management and operating contractors (M&Os), as well as establishing the right level and focus of oversight to meet legal requirements and the expectations of our many stakeholders, including the American people. Other issues, such as inadequate funding for aging infrastructure, have lingered for over 20 years and will require the cooperation and attention of both Congress and the Executive branch to resolve.

We have closely reviewed the 19 primary recommendations, as well as the 63 sub-recommendations, and look forward to working within the Department of Energy and with the Congress, the executive branch, and our stakeholders as we work to improve NNSA's capabilities to meet its full national security mission set for years to come. The challenges before us are significant; but working with the extraordinary people of the NNSA, including the federal workforce and our M&O partners, we commit to address them in a comprehensive, forthright, and open manner.

Background

Although only in existence since 1977, the DOE/NNSA traces its lineage to the Manhattan Project effort to develop the atomic bomb during World War II and to the many energy-related programs that previously had been dispersed throughout various Federal agencies. When the Department was formed, it brought together organizations from the Departments of Agriculture, Commerce, Interior, Housing and Urban Development, and Transportation, and absorbed the Federal Energy Administration and the Energy Research and Development Administration -- organizations with different cultures, and with different missions.

The end of the Cold War saw a paradigm shift in the weapons research, development and production mission of the DOE, a new awareness of the environmental contamination and waste generated during the Cold War, and a growing and evolving imperative to prevent, counter, and respond to nuclear proliferation at all levels. These changes have resulted in what the panel describes as competing priorities in the role of the nuclear enterprise.

The priority for nuclear weapons during the Cold War was, as the panel described, the cycle of "design, test, and build." Since the United States voluntarily adopted a moratorium on nuclear explosive testing in 1992, the focus has shifted to science-based stockpile stewardship to support surveillance, sustainment, life extensions, and weapons dismantlement. No new weapons have been built or tested.

Threats have also changed in those 20-plus years as radiological and weapons-usable material, technology, and expertise became more pervasive. As a result, the need to focus on controlling special nuclear material, and preventing, countering and responding to a range of nuclear and radiological threats has increased.

These mission sets, along with the need to ensure the next generation of nuclear reactors to support the Navy's surface ships and submarines, are the core missions of the NNSA. We recognize that while there are various views and opinions as to what should take priority among these mission sets, our goal at NNSA is to execute all three in order to meet well-established national security goals and policies.

The broad yet interdependent missions, and the capabilities that underpin them, were the driving factors that led to the creation of the NNSA in the National Defense Authorization Act for Fiscal Year 2000. Preserving and enhancing these capabilities, and the importance of maintaining the stockpile and the Naval reactors, while addressing the range of global nuclear security challenges, was made clear in NNSA's statutorily mandated missions. The NNSA was designed to develop a focus on these missions, free from what were perceived at the time as the competing demands for attention and resources in the larger DOE. As the panel's report highlights, these missions are "fundamentally interrelated." Over the coming years, the NNSA will continue to evolve to meet the ever changing threat and will continue to take actions that

reflect the more complex and challenging international security environment. As the panel noted, we cannot turn back the clock.

Preserving the Science

The success of the U.S. nuclear security enterprise, dating back to the Manhattan Project and the early days of the Cold War, has always been firmly grounded in science, technology, and engineering. Today, the DOE national laboratory system delivers the innovative and transformative scientific and technical solutions to national security, energy security, and economic and environmental challenges facing the United States in the 21st century. This system—comprised of 17 laboratories across the country—is the core asset for bringing science and technology to bear on a wide range of issues. They are, as Secretary Moniz describes them, our nation's "Science and Technology Powerhouse." The labs solve problems, steward capabilities, operate unique assets, and deliver innovations for future prosperity. NNSA operates three of these laboratories, but uses the capabilities and expertise of most of them. Similarly, the other elements of DOE draw upon the capabilities and expertise of the NNSA laboratories to solve their many scientific and other challenges.

A common thread of the five chapters of the Congressional Advisory Panel's report is NNSA's relationship with the laboratories and sites, not only within the nuclear security enterprise, but more broadly with all of the DOE laboratories. Today we are working with the DOE and NNSA laboratory directors in a more strategic way, while also working with our interagency partners to ensure that our laboratories are able to deal with and anticipate the hard problems of today, and remain on the cutting edge of science and technology for tomorrow.

Meeting the Mission

At the core of the NNSA's success is the science-based stockpile stewardship program. The remarkable achievements of our laboratories and facilities have enabled us to ensure a safe, secure and effective nuclear deterrent without nuclear explosive testing. That our laboratories and sites met this challenge through a new paradigm and set of capabilities is a feat that was much in doubt for many years. There were many skeptics, both in scientific and policy circles; but today, after significant investments in new experimental and diagnostic facilities, coupled with high performance computing capabilities to model and simulate test data and validate our experiments, we now know more about how nuclear weapons work than we did in the days of nuclear explosive testing.

This achievement supports our fundamental mission of certifying the safety, security and reliability of the stockpile each year to the President, and provides the scientific and engineering basis to meet our broader nuclear and national security challenges. With the knowledge and capabilities of the stewardship program, we can understand and respond to the nuclear proliferation threats of the future, and anticipate the development and advances of nuclear weapons and proliferant states. These capabilities have also allowed our complex to

address a broad range of national security threats from improvised explosive devices (IEDs) to novel and emerging conventional capabilities.

Leadership, Management and Performance

The leadership team within the DOE/NNSA, from Secretary Moniz on down, is committed to moving toward a more integrated management construct. This new approach will enable DOE/NNSA to address the leadership and cultural challenges discussed in the panel's report and develop a more forward-looking and enterprise-wide approach. To achieve the full potential of this integration, DOE/NNSA will work to avoid duplicating work and eliminate many of the redundancies identified in the report.

In some areas more responsibility can be delegated to NNSA, and in other areas NNSA may be able to defer activities to DOE. This is particularly true in some administrative and support functions. Secretary Moniz has stated that his vision is to manage the DOE through the three Under Secretaries, including the Under Secretary for Nuclear Security, all of whom are acting pursuant to the DOE policies in an integrated fashion. There are many areas where the DOE is developing uniform approaches, including program and project management, establishing priorities across the Department for the disposition of excess facilities, and cyber and physical security. NNSA is a full and equal participant in all of these endeavors. All of these improvements have been put in place without the need for legislation. The leadership team at the DOE/NNSA is fully committed to making NNSA's national security mission a success, and where appropriate, shifting responsibilities to eliminate redundancies.

Leadership actions to bring about a cultural shift started with reorganizing the Department to institutionalize management and performance as a core element of the broader DOE mission. In July 2013, Secretary Moniz implemented a fundamental structural change organizing the Department around three Under Secretaries. Each was assigned clear responsibility for the three major mission areas of the DOE: energy and science, nuclear security, and management and performance.

Flowing from this reorganization, and the emphasis on management and performance, is a change to the Department's approach to construction project management—a problem that has long plagued the DOE and one that the entire Department is committed to fix. At the end of 2014, the DOE released its "Improving Project Management" report, which reviewed project ownership, independent oversight, funding, and front-end planning. With the lessons learned from this report, DOE implemented a three-fold process to improve construction project management at DOE by: 1) re-establishing the Energy Systems Acquisition Advisory Board to be an institutionalized body; 2) creating a Project Management Risk Committee to ensure a corporate style of risk evaluation and risk management; and 3) improving the lines of responsibility and the peer review process under each of the three Under Secretaries.

NNSA is applying this new approach to management and performance across the board,

including for the uranium manufacturing capabilities at the Y-12 National Security Complex in Oak Ridge, Tennessee. For years, we had been planning a new multi-billion dollar construction project to replace the Cold War-era uranium manufacturing facilities. As we started to see cost overruns, schedule delays, and the inability of the design to meet the requirements, we stopped the project. Using the new approach, NNSA is developing a new concept that leverages existing facilities and adopts a multi-building approach to the construction of new facilities based on safety and security requirements specifically targeted to the work to be performed in each building. NNSA has appointed federal program and project managers and is now clarifying those requirements, completing the design, and ensuring that the costs are sound. Under this approach we have set a goal to remove the highest hazard operations from Building 9212 by 2019. The uranium construction projects, like all first-of-a-kind, complex nuclear construction projects will be held to the standard of achieving 90-percent design complete before a cost baseline is established.

In many instances of cost growth, particularly for large complex construction projects, requirements, costs, and risks were not well understood, and designs were immature when initial cost estimates were announced. Under the new approach NNSA will not establish a cost and schedule baseline for our technically complex and nuclear projects until the design is 90 percent complete.

On the other hand, we have been successful with construction projects under $750 million, with these projects coming in on or under budget. In recognition of this effort NNSA is off the GAO high risk list for projects under $750 million for the 4th year in a row!

Incentives

Finally, as we continue to partner with our M&Os and other contractors, we will seek to find the correct incentive structure for each contract. DOE/NNSA is unique in the extensive use of government-owned contractor-operated (GOCO) facilities. This unique arrangement is further complicated as our laboratories, which are also operated by M&O contractors, are also Federally Funded Research and Development Centers (FFRDC). FFRDCs have their own special status in performing specialized, long-term R&D work for the Government.

NNSA's recently revamped performance assessment structure uses six primary criteria for determining the incentive portion of the fees earned by our M&Os, and uses the contractor assurance reports as input to that process. Our goal is to be open and transparent in our assessment determinations. We must also find the right incentive structure to ensure that all our contractors provide outstanding performance as we execute our national security missions. Our M&O contractors manage and operate disparate activities, ranging from research and development to industrial production. Accordingly, when it comes to contracting approaches, one size does not fit all. As a result, we will work to develop the right incentives for each circumstance and for each of our contracts. We do this while we also continue to look to our

contractors to provide the management, support, and guidance that will enable excellence in the workforce at our facilities.

III. NNSA Response to the Final Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise

1. Strengthen National Leadership Focus, Direction, and Follow-Through

Panel Recommendations

1. *The President should provide guidance and oversight sufficient to direct and align nuclear security policies, plans, programs, and budgets across Departments.*

2. *Congress should establish new mechanisms to strengthen and unify its leadership and oversight of the nuclear enterprise and its missions.*

Overview

The recommendations in Chapter 2 of the report are addressed to the President and the Congress and focused on the panel's recommendations to achieve focused consistent leadership and direction from the executive and legislative branches. These actions are needed to correct the "lack of strong, focused political leadership".

While clearly neither nuclear weapons nor the nuclear weapons complex play as prominent a role in American politics, culture or national awareness as they did in the Cold War, an assured reliable deterrent is still an important part of the National Security Strategy. Beginning in 2009 in Prague, and continuing through the 2010 Nuclear Posture Review, the 2013 Nuclear Weapons Employment Strategy of the United States, the 2014 Quadrennial Defense Review, and the 2015 National Security Strategy, the President has articulated a comprehensive nuclear security vision. This leadership from the President has resulted in a clear set of requirements and baseline strategy that the NNSA and Department of Defense (DoD) developed within the Nuclear Weapons Council to reduce our reliance on nuclear weapons while ensuring the viability of a smaller nuclear stockpile for decades to come.

On the other hand, in recent years DOE and DoD have both struggled to meet these requirements within the funding provided. Since the attacks of September 11, the focus, attention and priorities of the country have simply not been the nuclear weapons complex.

Recent reviews and awareness however, have regained the attention of the National Security Council (NSC) and the Office of Management and Budget (OMB). NSC, OMB, DOE and DoD collectively approach the needs of the nuclear enterprise and address them holistically.

This renewed awareness of the needs of the nuclear weapons complex is reflected in the NNSA's budget request for fiscal year 2016 and in the direction and guidance provided to both departments to align NNSA and DoD requirements, plans and resources.

Whether NNSA will be successful in implementing the programs that are outlined in the budget request for fiscal year 2016 is heavily dependent on receiving the requested funding in the requested manner. If the funding caps contained in the Budget Control Act are kept in place, NNSA will not meet it missions.

All of the NNSA missions are important since each mission addresses a vital aspect of nuclear security. Advocates often contend that one mission should have more prominence over the others. It is DOE's task, however, to ensure that all of its missions are met through a balanced approach. Putting priority on one over the other overlooks the interdependency of the missions, and the importance of the scientific and engineering capabilities that must be sustained to execute them.

2. Solidify Cabinet Secretary Ownership of the Mission

Panel Recommendations

3. *Congress should amend the NNSA Act and related legislation to clarify Departmental leadership roles. The Secretary "owns" the nuclear enterprise missions, sets Departmental policy for the nuclear enterprise, and is accountable to the President and Congress for the enterprise. The Director, Office of Nuclear Security (ONS), has full authority to execute the nuclear enterprise missions consistent with the Secretary's policy. Departmental missions-support staffs advise and assist the Director in executing enterprise missions.*

4. *The Secretary should implement Departmental management processes that specify the Director's authorities for executing nuclear enterprise missions. These authorities include: Line management authority for the safe, secure, and environmentally responsible execution of nuclear security missions; Management authority for missions-support staffs assigned to the Office of Nuclear Security; Concurrence authority for Departmental rulemaking on ONS matters.*

5. *The Secretary and Director should reform DOE regulation to strengthen risk management.*

Overview

NNSA is aware of the 50-plus reviews, studies, and audits of various aspects of the NNSA management and of the nuclear security missions. Many other studies predate the NNSA, including the January 1999 report of the President's Foreign Intelligence Advisory Board (PFIAB), which recommended creating NNSA as a semi-autonomous agency. In the majority of these studies, having a committed Secretary of Energy is highlighted as an essential ingredient of success. Similarly there have been concerns over the years, including in the PFIAB report, about whether the work of what is now the NNSA would compete successfully among the many priorities of the DOE bureaucracy in the absence of such leadership. While there are many organizational options available to ensure that there is sufficient priority, focus and attention paid to the national security missions, there is no substitute for strong cabinet ownership.

NNSA has the benefit of DOE senior leadership--Secretary Moniz and Deputy Secretary Elizabeth Sherwood-Randall—with a strong interest in the success of NNSA and the national security mission. Ensuring that this attention remains in the future will take vigilance and commitment from both future Congresses and future Administrations. Even if the Congress were to enact legislative changes in the near term, having committed leadership, including a Secretary who as the panel stated "owns the nuclear enterprise missions," is not guaranteed. As far back as 1985, the Blue Ribbon Task Group on Nuclear Weapons Program Management recommended "that one of the two top positions in DOE should continue to be manned by an individual knowledgeable in national security matters and included in the National Security Council Process."

DOE oversight, provided by an experienced Secretary and Deputy Secretary, serves the needs of the Department and NNSA. The statutes governing the NNSA clearly provide the authority the Administrator needs to execute the missions of the NNSA. However, NNSA recognizes that over time duplicative DOE and NNSA actions have been put in place that have caused delay and frustration amongst the federal work force and our M&O contractors. Secretary Moniz has directed NNSA to work within DOE to eliminate much of the duplication. The right balance is being reestablished because in the end, as the panel recognizes, the Secretary is accountable for the nuclear enterprise and the effective execution of its missions.

Specific Comments

A. Clarified Management Authorities. Secretary Moniz has made significant strides to demonstrate leadership and ownership of the nuclear security mission. For example, in July 2013, Secretary Moniz changed the DOE structure and clarified the roles of the Department's leadership. The three Under Secretaries were assigned clear responsibility for the three DOE mission areas: 1) nuclear security; 2) energy and science; and 3) management and performance. For nuclear security, the NNSA Administrator has clear authority to execute the nuclear security missions under the NNSA Act, consistent with the Secretary's policies. These decision-making practices are now included in the DOE policy documents.

Recently, DOE completed a review and revision of all DOE safety directives. NNSA was deeply involved in the process and as a result, duplicative DOE/NNSA requirements were eliminated. Most of the revised directives have now been implemented in M&O contracts.

DOE/NNSA has also ensured that roles and responsibilities for different functions, particularly for critical line functions such as nuclear safety, have been included in the revised orders. The most recent revision of the *NNSA Functions, Responsibilities and Authorities (FRA) Document for Safety Management* defines, identifies, and clarifies the NNSA safety management functions, responsibilities, risk acceptance authorities, and associated delegations within NNSA Headquarter (HQ), Field Offices, line, program, and functional management organizations, to ensure that work is performed safely.

Another example of an effective and collaborative approach to decision making and policy development is the recently established DOE Chief Security Officer Council. This Council makes sure that the Department's nuclear security missions are executed consistently across the Department and comply with Secretary's policies. The Council meets monthly to discuss security concerns, make policy recommendations, and address common special interest topics to ensure that the special nuclear material, the facilities and the people are adequately protected. The security polices recognize that there are purposeful differences in security requirements across the Department (e.g., to address differences in special nuclear material across sites) and ensure the Administrator has the ability to address those differences. They provide the Administrator authority to approve supplemental directives and authorize exceptions and equivalencies to implement security at NNSA sites. Because security is a line management responsibility, NNSA implements security and DOE oversees that implementation on behalf of the Secretary.

B. Strengthened Risk Management. NNSA has strengthened its analytical expertise and processes for assessing risks, especially for nuclear and other high hazard functions by implementing a Safety Basis Professional Program. This program provides training for the development of new safety professionals, as well as a venue for continuous training for those already filling these assignments.

In November 2014, DOE issued a revision to its guidance for preparing Documented Safety Analyses. The revision incorporated changes to allow probabilistic assessment to be used as part of the safety analyses for nuclear facilities. Future efforts will include publishing a new Accident Analysis Handbook that will include risk analysis consistent with national and international standards.

NNSA also works within DOE to develop coordinated responses to Defense Nuclear Facility Safety Board (DNFSB) recommendations and inquiries. The NNSA Administrator holds routine discussions with the DNFSB members to exchange information and maintain mutual awareness of ongoing issues. In addition, senior NNSA and DNFSB staff members meet routinely to

exchange more detailed technical information, discuss a wide range of issues to maintain open lines of communications and to manage risk and expectations related to ongoing inquiries, findings and recommendations.

NNSA tries to innovate where possible. One example is the Kansas City Plant (KCP), where NNSA relies on industry best practices. Lessons learned from the KCP continue to be exported and adopted at the other sites for activities that do not involve high hazard operations, nuclear material or explosives. In fact, NNSA has been applying, where appropriate, site-specific substitution of commercial standards in place of DOE/NNSA standards, and as allowed by these standards, since 2006. NNSA will continue to expand the use of commercial standards where and as appropriate. During FY 2015, M&O partners will evaluate additional opportunities to replace non-nuclear DOE/NNSA requirements with commercial standards. NNSA will continue to balance new approaches to business and other practices with the necessary rigor needed in operational safety and security for nuclear and high hazard activities to ensure worker and public safety. As the panel said "the consequences of failure are enormous, potentially placing large numbers of lives at risk and even changing the course of history."

These examples demonstrated that we have "Cabinet Secretary ownership" of the nuclear security mission and that we have clarified leadership roles, ensuring NNSA has full authority to execute its missions and reform regulations to strengthen risk management. NNSA will continue to work within the DOE on these efforts.

C. Management Authority for Mission- Support Staffs. Secretary Moniz has already taken a number of steps to improve management authority for mission-support staff, and has clarified roles and responsibilities to reduce duplication of work within the DOE. We recognize, however, that more work remains. For example, NNSA's Office of Management and Budget participates in all Department-wide financial and accounting issues in support of requirements of the DOE Chief Financial Officer (CFO) including a clean audit opinion. NNSA has been an integral part of the Secretary's Project Management Working Group and has implemented the recommendations contained in it to ensure all NNSA work follows DOE Orders and Department best practices. In addition, NNSA has moved to consolidate several NNSA offices to clarify responsibilities and authority within NNSA. For example, on January 5, 2015, NNSA stood up the new Office of Safety, Infrastructure & Operations (NA-50) to consolidate safety, infrastructure and enterprise-wide service functions, which had previously been performed by three different offices. In addition to consolidating these three functions, the new NA-50 ensures that safety and infrastructure issues are considered in a holistic, integrated manner that is complementary to programmatic needs, while ensuring that safety remains NNSA's first priority.

3. Adopt Proven Management Practices to Build a Culture of Performance, Accountability, and Credibility

Panel Recommendations

6. *To begin reforming the DOE&NS culture, the Secretary and Director should develop within six months a plan for continuous management learning and improvement, including an implementation plan for the panel's recommendation with milestone target dates.*

7. *The Secretary and Director should implement industry best practices for shaping and building the enterprise workforce.*

8. *The Secretary should establish trusted Cost Analysis and Resource Management staffs, tools, and data; the Director should be responsible for this process for ONS.*

9. *The Director should establish a simple, clear line-management operating structure that both synchronizes activities across programs, mission-support functions, and operating sites and provides leadership focus for key programs.*

10. *The Director should establish program managers who are provided necessary authorities and resources, and who are held accountable for major mission deliverables.*

11. *The Congress, Secretary, and Director should adopt a simplified budget and accounting structure (by reducing budget controls lines) that aligns resources to achieve efficient mission execution while providing sufficient visibility to enable effective management oversight.*

12. *The Director should develop a strategy and plan to reshape the weapons complex to meet future needs.*

13. *The Secretary and Director should continue ongoing efforts to improve construction project management capabilities (at all levels) by introducing disciplined management practices in order to recapitalize infrastructure on time and on budget.*

Overview

The NNSA is a multi-site entity with six large M&O contractors operating these sites, a number of other prime and subcontractors (including many small businesses), and a relatively small cadre of federal employees who establish requirements, provide program guidance and direction, and conduct oversight. NNSA relies heavily on the technical expertise of the M&O contractors to manage the laboratories and facilities, as well as on the technical expertise of the wide variety of other contractors who provide services that include security forces, architectural and construction expertise, and independent technical advice. The federal

employees define the programs, develop and defend the budgets, and ensure the contractors are implementing the tasks safely and securely, in accordance with applicable DOE orders. In addition, NNSA and its contractors must ensure that they adhere to a wide range of external statutory and regulatory regimes, some of which are government-wide. In many instances, additional restrictions and limitations are uniquely imposed on specific NNSA operations in annual congressional appropriations and authorization bills.

After a period of emphasis and investment in the scientific aspects of the complex, including the development of a variety of experimental facilities and computational tools needed to maintain the stockpile without testing, NNSA has now turned its attention to long overdue improvements to the operational facilities. One recent example of this shift in attention is the new National Security Campus facility in Kansas City, MO, which began operations in August, 2014. The new, smaller campus will generate a 25 percent reduction in operating costs in a physical footprint of only 1.5 million square feet, down from 3.2 million square feet in the old facility. This project is a case study for a successful public/private partnership in which DOE/NNSA signed a 20-year GSA occupancy agreement to eliminate $140 million in annual facility costs at the old Bannister facility in exchange for a $60 million annual lease payment for the new campus. This commitment enabled the developer to secure third party financing to build and deliver the new campus below the cost and timeline that could have been delivered under a traditional line item project. Overall, the project will create cumulative annual savings that will exceed all project costs, even including the cost of moving from the old Bannister Complex[1] to the new campus.

NNSA is now focused on upgrading and replacing the old and decaying uranium and plutonium facilities. At Los Alamos, the new plutonium laboratory is now open, upgrades to PF-4 are ongoing, and NNSA is working on a design for plutonium modules to meet the long term requirement to have the capability to manufacture 50 – 80 pits per year. At Y-12, site preparations and design activities are ongoing for the construction of new uranium facilities, new uranium processing and manufacturing technologies are in development and upgrades to some existing buildings are also in design. NNSA must also address the substantial back log of deferred maintenance activities and replace several outdated administrative buildings, notably at the Pantex site in Amarillo, Texas, and in Albuquerque, New Mexico.

While NNSA generally executes projects under $750 million on budget and on schedule, large, first-of-a-kind complex nuclear facilities and programs have proven to be very difficult. Recent high profile problems have been due, in many cases, to immature or inadequate designs, lack of technical understanding, inadequate program or project discipline, and lack of adequate oversight—due in large part to a shortage of technically qualified federal staff, over emphasis on cost cutting, and a shortage of qualified materials and labor.

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[1] DOE/NNSA provided its integrated plan for the disposition of the old Kansas City Plant facility in its report to Congress, *Disposition of the Bannister Federal Complex* (August 2014).

Over the course of the last two years, NNSA looked closely at the lessons learned from the previous problems and has put in place a number of initiatives to address the issues identified in the panel's report and elsewhere. These include continuing to grow the capabilities and expertise of our Office of Acquisition and Program Management, established in 2011, to ensure the rigor required by DOE Order 413; and, standing up the Office of Cost Estimating and Program Evaluation (CEPE) in September, 2014.

NNSA, with the support of Secretary Moniz, is focused on replacing the many outdated facilities and reducing the multi-billion dollar backlog of deferred maintenance.[2] NNSA has thousands of outdated facilities that need attention in addition to the high profile outdated plutonium and uranium facilities at Los Alamos and Y-12. Much of the operating and scientific equipment across the complex is also outdated and must be replaced if NNSA is perform its mission and recruit top scientific, technical and engineering talent. Although NNSA has already increased its funding for updating facilities and equipment, additional funding will be needed to resolve the backlog.

NNSA aspires to be a high-performing organization with clear missions and objectives in support of the national interest. Achieving this goal will take, at a minimum, adequate funding and the right number of people, greater discipline in all aspects of program and project execution, and support for and confidence in the federal and contractor workforce. Outlined in the specific comments below are many of the actions that NNSA has already taken. Improving the NNSA will take the commitment not only of the DOE/NNSA leadership; it will take the support of the Congress and our many stakeholders.

As discussed earlier in this response, DOE/NNSA has received over 50 reports examining governance, science, operations, security, safety, too much or too little oversight, and project and program management. Each of the various reports has offered solutions to the various issues and problems. Similarly, the panel's report discusses both new and old issues and problems and makes recommendations. NNSA takes seriously the various recommendations and will closely track those that it is implementing.

Specific Comments

A. Established Continuous Improvements Mechanisms. The DOE/NNSA have several ongoing efforts to help build a stronger performance culture and institute processes for continuous management learning and improvement as well as metrics to measure the progress. For example, NNSA recently completed safety culture surveys of the M&O and Federal workforce,

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[2] NNSA seeks to accomplish the disposition of excess facilities judiciously, consistent with the availability of funding, as reported in its report to Congress, *Fiscal Year 2014 NNSA Facilities Disposition Report,* dated September 2014.

to understand cultural and workplace challenges and best practices. NNSA and its M&O partners are developing safety culture plans to guide and sustain improvements. Since the survey, NNSA has held two meetings department-wide meetings with both Federal and M&O senior leadership to share lessons learned and best practices from these efforts.

Building on the work done at DOE/NNSA sites, the Department is establishing a Safety Culture Improvement Panel that will help sustain the overall momentum. Among other responsibilities, the Panel will review significant Departmental changes for potential impacts on safety culture. This group will be a forum to share best practices and lessons learned between and among Departmental organizations.

NNSA has also initiated robust and frequent internal communication to ensure the overall success of reform plans and objectives. NNSA holds semi-annual off-site meetings with all NNSA Senior Executive Service members, quarterly meetings with all Laboratory leaders, quarterly meetings with Field Office managers, semi-annual joint meetings with the Laboratory and Production Plant leaders, and frequent all-hands meetings and engagements with the contractor and federal workforce.

NNSA is also in the process of finishing a new strategic vision document that will layout the NNSA vision for the future, core values, and priorities for the entire nuclear security enterprise. NNSA has also been criticized for weak internal communications. As a result we are improving routine internal communication mechanisms, which will be used not only to communicate reform plans and objectives, but also the NNSA mission, vision, and other enterprise-wide information to institute a performance-based culture.

Finally, NNSA will continue to capitalize on lessons learned across the nuclear security enterprise. We will continue to ensure that there are no seams between our field offices and headquarters offices and that we all work together to identify and share lessons learned across the complex. NNSA is committed to the contractor assurance systems as part of efficient federal oversight and we will utilize lessons from the successful oversight improvement pilot program at the Kansas City Plant where appropriate.[3]

B. Implemented Workforce Best Practices. A technically capable and competent workforce that clearly understands its roles, responsibilities, and authorities is paramount to properly executing the NNSA mission. NNSA recognizes the importance of eliminating redundant and conflicting responsibilities and authorities across the NNSA complex (i.e., line-management, mission-support, and field offices), and establishing career and leadership development programs for the federal and contractor workforce. NNSA also must ensure that the federal workforce is large enough to carry out all of its duties. The NNSA workforce today is 10 percent

[3] As reported to Congress, *Extension of Program Principles from the Kansas City Plant Oversight Pilot,* October 2014.

smaller than it was just 5 years ago and has much more work on its plate. NNSA is actively engaged in hiring the right skills needed to support the NNSA for years to come, and to ensure orderly succession planning, but is currently hampered by congressional hiring restrictions.

To date, NNSA has implemented several best practices for shaping and building the enterprise workforce to increase performance, accountability, and credibility. For example, NNSA has increased the use of rotational assignments between Headquarters and Field Offices to share best practices, consolidate and synchronize guidance, and serve as professional development. NNSA has also completed a strategic review of staffing plans to ensure that the vacancies that are filled are most critical to the enterprise; align with core mission, tasks, and functions; and support effective workforce planning and position management. These actions will help meet staffing requirements and develop effective leaders.

C. Enhanced Cost Analysis Capabilities. NNSA agrees that effective cost analysis and resource management are central to effective program and project execution, as they establish both discipline and accountability. The NNSA is improving these capabilities and will use them in our revitalized Planning, Programming, Budgeting, and Evaluation (PPBE) process.

As mandated by the FY 2014 National Defense Authorization Act, the NNSA established the Office of Cost Estimating and Program Evaluation (CEPE) to provide independent, data driven analysis on all aspects of the nuclear security enterprise, leading to better mission planning, budgeting and performance. The office stood up in September and a permanent CEPE director will be announced soon.

CEPE will build capability in several key areas: cost estimation; program evaluation; cost data collection; and systems engineering. It will lead the analyses of alternatives process for major programs and projects, which will serve as the basis for assessing and validating program requirements. CEPE has started early stage cost estimates for the Domestic Uranium Enrichment capability project. As capacity permits, CEPE cost estimators, in coordination with DoD CAPE, will begin baselining other activities, including the B61 LEP and the W88 Alt in advance of their Phase 6.4 milestones in 2016. Additionally, CEPE is providing programming guidance for the FY 2017 budget request and will lead the program review. Although CEPE has started to build its internal cost estimating ability, in the near term NNSA will engage outside experts to conduct independent cost estimates for other capital asset projects, such as the U.S. Army Corps of Engineers and Parsons.

CEPE's cost estimating capability will not replace the necessary ability of the NNSA program offices to estimate costs. The relationship between NNSA program cost offices and CEPE is modeled after the relationship between CAPE and a military Service-level cost center, where CAPE acts as a DoD-wide capability that provides analysis independent of Service interests, while the military Service cost centers provide detailed estimates for use by the Services.

CEPE and the program cost offices will work together to ensure that requirements, policies, processes, and procedures are uniform across all NNSA cost estimates, thus establishing a uniform NNSA federal cost analysis capability. CEPE and the relevant program cost offices will reconcile their estimates to provide the acquisition executive validated insight on risk, cost, and schedule for programs including the life extension programs. By statute, CEPE does not provide cost estimates for capital construction projects.

NNSA's Office of Acquisition and Project Management (APM), which was established in 2012, is focused on the major capital construction projects. This office is working to enhance contract and project management practices and has lead the NNSA's effort to deliver results by supporting rigorous and well-justified alternatives assessments and evaluations, and improving cost and schedule performance. These efforts are bearing positive results. In 2013, GAO recognized DOE's progress in executing projects under $750 million, and now only the three NNSA large nuclear construction projects costing more than $750 million remain on the list.

D. Designated Program Managers. NNSA agrees that capable and well-trained program managers are critical to ensure performance, accountability and credibility. As a result, NNSA is working to ensure managers have the resources, skills and management authorities necessary to execute the mission and are then be held accountable for their performance. NNSA has designated program managers for each LEP and starting in 2014, we implemented a similar approach for NNSA's key nuclear materials or commodities. These program managers have been provided the necessary authorities and resources, albeit within constrained budgets, and are held accountable for their deliverables. They have control over personnel assigned to their programs and over funds uniquely identified for their programs.

Over the past year, the Secretary and the NNSA Administrator have implemented a new vision for "program" managers, as distinct from "project" managers. The program managers are focused on mission need and resource management, whereas project managers are focused on delivering major capital construction projects and supporting infrastructure projects on time and on budget, consistent with the DOE *Implementing Project Management* report. Commodity managers have been established for the major nuclear enterprise commodities, including uranium, plutonium, tritium and domestic uranium enrichment. This ensures there is one senior executive who works closely with the federal project directors while overseeing all programmatic aspects for each of our major nuclear commodities.

The Uranium Program Manager (UPM), created in July, 2014, was the first commodity manager. The UPM has the responsibility to develop, approve, and oversee the execution of a uranium program strategy, and ensures NNSA maintains its uranium capabilities in support of mission requirements. More specifically, the UPM has created an overarching uranium manufacturing strategy reflected in the mission Program Requirements Document (PRD). NNSA has also accelerated efforts to reduce the material-at-risk within existing Y-12 facilities, identified the suite of projects necessary to support the full uranium manufacturing mission, and is

developing designs and estimates for projects to recapitalize existing facilities and process systems to be relocated from Building 9212, and those facilities that will replace Building 9212.

The domestic uranium enrichment, plutonium, and tritium mission managers have the similar responsibility to develop, approve, and oversee the execution of their respective commodity program strategies.

For management of the LEPs, NNSA has designated federal program managers for the major LEP activities underway, the W76-1, the B61-12 and W70-4, as well as the W88 ALT 370. NNSA recently implemented earned value management principles for LEP activities across all NNSA sites. The NNSA organizations work closely with the labs and plants to detail work scope and schedules for specific activities needed to support the LEPs. These actions will improve NNSA's LEP management, coordination and decision-making rigor.

E. Simplified Budget Structure. NNSA agrees that a simplified budget and accounting structure would improve NNSA's ability to manage the mission and still provide transparency into programmatic activities. NNSA has already taken a number of steps to simplify its budget structure, reduce the number of internal accounting codes, and implement improvements in financial integration across the nuclear security enterprise.

NNSA agrees with the Congressional Advisory Panel that Congress should reduce the number of budget control lines for the major program and mission-support functions, and looks forward to continuing this effort that began in 2014. NNSA has reduced the number of internal Budget and Reporting (B&R) codes by 30 percent since 2011 and is looking at ways to eliminate more B&R codes, particularly those with little to no funding, while also maintaining sufficient visibility into program and project performance.

The President's fiscal year 2016 budget request realigns the budgets managed by the Office of Defense Nuclear Nonproliferation into the following programs: Material Management and Minimization, Global Material Security, Nonproliferation and Arms Control, Nonproliferation Construction, and Defense Nuclear Nonproliferation Research and Development. The request also moves the Nuclear Counterterrorism Incident Response (NCTIR) and Counterterrorism and Counterproliferation Programs (CT/CP) budget lines from the Weapons Activities appropriation to the Defense Nuclear Nonproliferation appropriation. This change aligns all NNSA funding for preventing, countering, and responding to global nuclear dangers in one appropriation, and strengthens existing collaborations among these mission areas.

The Department is also working to improve the quality and consistency of financial information tracked across the enterprise. Improved data will provide cost estimators, program managers, leaders and oversight authorities with insight needed to support analysis and decision-making, and instill confidence in NNSA's stewardship of taxpayer dollars.

F. Sustaining Base Capabilities in the Enterprise. NNSA agrees that addressing the deferred maintenance backlog, providing cost-effective, requirements-driven infrastructure, maintaining a skilled workforce, and investing in innovative research are vital to ensure NNSA can meet future requirements. NNSA has been building its capabilities to provide independent, data-driven analysis on infrastructure and workforce planning that will lead to better budget formulation and mission performance.

Under Secretary Moniz's leadership, DOE/NNSA have prioritized efforts to halt and reduce deferred maintenance. In 2013, DOE/NNSA, through the National Laboratory Operations Board, established an integrated plan to conduct site-wide assessments of general purpose infrastructure across all seventeen DOE/NNSA labs and plants. This was the first time DOE used common standards and an enterprise-wide approach to assess infrastructure. DOE/NNSA use a variation of a Marine Corp rating system that integrates condition with suitability for mission to create ratings of Adequate, Substandard, and Inadequate. The assessment will enable managers to understand where there is excess space, the physical condition of the assets and whether the assets can support the mission. With the results of the assessment, DOE/NNSA will be able to implement infrastructure investment strategies to achieve the Secretary's guidance that deferred maintenance will not grow beyond FY 2015 year end totals.

Other infrastructure initiatives include:

- Implementing DoD's BUILDER Sustainment Management System to track facility condition and modernization requirements.
- Adapting DoD's Mission Dependency Index to provide a quantified, auditable measure of the importance of individual facilities to NNSA missions.
- Improving the way NNSA procures materials and finances buildings. For example, NNSA is increasing its ability to acquire building systems that are common to all sites across the NNSA (e.g., roof, HVAC) via use of strategic procurements. NNSA, working with the GAO, used a public-private partnership for the Kansas City replacement facility and will look at other options, including alternative financing, when the appropriate conditions and business case exists to provide modern facilities for our workforce.

G. Improved Construction Project Management. NNSA agrees that persistent commitment and continuing focus on improving project management is necessary to resolve construction project challenges--an issue that has long plagued the DOE/NNSA, and one which we are addressing in a creative, disciplined and transparent fashion. At the end of 2014, the Secretary released the *Improving Project Management* report, which reviewed project ownership, independent oversight, funding, front-end planning, and culture from experienced project management leaders. Using this report's findings, DOE/NNSA have implemented a three-fold process to better improve construction project management at DOE by: 1) re-establishing the Energy Systems Acquisition Advisory Board (ESAAB) to be an institutionalized body; 2) creating a Project Management Risk Committee to ensure a corporate style of risk evaluation and risk management; and 3) improving the lines of responsibility and the peer review process within

the three Under Secretaries, each of which will have their own project assessment office independent of line management responsibility.

NNSA is applying this new management and performance approach to the uranium manufacturing capabilities at the Y-12 National Security Complex in Oak Ridge, TN. For years, NNSA had been planning a new multi-billion dollar, Uranium Processing Facility (UPF) to replace the Manhattan Project-era uranium manufacturing facilities. As NNSA started to see cost overruns, schedule delays, and the inability of the design to meet the requirements, NNSA reassessed its options with its partners and with an independent "red team" review. Using the results of these reviews, NNSA started development of a revised UPF concept that consists of separate buildings, segregated by security and hazard requirements, in order to minimize the nuclear footprint, build non-nuclear facilities where appropriate, and utilize existing infrastructure at Y-12.

To ensure the program and project are fully integrated, NNSA is using the UPM to create a formalized, overarching uranium manufacturing strategy, and the FPD to execute the construction projects. Using this new model, NNSA will modernize and right-size uranium capabilities at Y-12 and meet mission needs in a disciplined fashion. The highest hazard operations will be shut down at Building 9212, once an Electro-Refining capability comes online, which is scheduled to take place in 2021. All other enriched uranium programmatic operations in Building 9212 will end in 2025. The Uranium construction projects, like all complex nuclear capital construction projects will be held to the standard of achieving 90 percent design before a cost baseline is established. NNSA is now in the process of clarifying requirements, completing the design, and ensuring that the estimates are sound.

DOE has designated management and performance as one of the major functions of the Department to deliver projects on time and on budget. NNSA has been an integral part of the Secretary's Project Management Working Group and has implemented the recommendations provided by it. With two members on the Project Management Risk Committee, NNSA is ensuring that all work follows DOE Orders and, more importantly, the best practices of the Department. To implement these improvements, NNSA has instituted specific policy changes via memorandum and business operations procedures for 90 percent design policy, cost estimating, peer reviews, and beneficial occupancy. NNSA has realigned the peer review reporting requirement to the Principal Deputy Administrator to ensure visibility of this important function at the most senior level. Finally, regarding staffing, every capital asset project managed by DOE Order 413 has a staffing review performed as part of the Critical Decision 2 (Approve Project Baseline) process to ensure appropriate trained staff is available and assigned to the project. If appropriate staff is not available, the project budget is increased to procure the necessary support from the U.S. Army Corps of Engineers and/or support service contractors.

As a result of improvements NNSA has made to project management over the past three years, NNSA evolved from delivering its projects over budget on a portfolio basis to 7.5 percent under

budget on a portfolio basis. Over the past three and a half years, NNSA has delivered its $800 million project portfolio approximately $60 million under its original budget.

These examples represent demonstrated success in adopting proven management practices and industry best practices, increasing cost analysis capabilities, synchronizing program performance and accountability, and improving infrastructure and construction project management practices.

4. Maximize the Contributions of the Management and Operating (M&O) Organizations to the Safe, Secure Execution of the Mission

Panel Recommendations

14. The Director should reform M&O contracts, replacing the award fee structure with fixed fees for longer (multi-year) award terms and linking performance incentives to the contractual period of performance.

15. The Secretary and Director should reinforce the M&O parent organizations' obligations to contribute to enterprise management improvement initiatives.

16. The Secretary and Director should eliminate wasteful and ineffective transactional oversight.

17. The Secretary, Director, and the National Laboratory Directors should adopt management practices that serve to rebuild the strategic Government-FFRDC relationship.

Overview

Since its origins in the Atomic Energy Commission (AEC), the nuclear weapons complex has relied on a close working relationship with, and the technical expertise of, the M&O partners, including the national laboratories. Moving to for-profit M&O contractors, particularly at the laboratories, initially at Sandia National Laboratory and later at Los Alamos and Lawrence Livermore National Laboratories, has challenged this relationship. Similar transitions at the other NNSA facilities occurred earlier, and have been less contentious, although even at Sandia the transition was less disruptive then at the other two labs. In the early AEC and DOE contracts the M&O contractors managed the labs for a small, or in some instances, even a token fee. In exchange, the government held all of the risk for programmatic issues, failure, incident, or accident. Changing views, particularly with respect to transparency and accountability, as well as some specific incidents, caused that risk formula to shift more toward the M&O and other contractors, who in turn required more compensation to assume more risk. Finding the right balance of incentive, competition, and compensation, while maintaining the close relationship of a trusted partner has and will continue to be a challenge.

Achieving increased accountability and visibility for all aspects of performance including programmatic, cost, financial, security, and environmental management has indeed reduced the flexibility in many areas of the complex. On the other hand, returning to the attitudes and tolerance levels that existed in the early days of the AEC are neither practical nor possible. As a result, NNSA and its partners must find a balance that works for each and meets the expectations of our stakeholders.

The Congressional Advisory Panel report found "the transition to award fees to encourage competition has created the belief among Federal personnel that greater oversight and transparency is required to monitor M&O performance." NNSA believes that this conclusion is accurate but that the management and operations structure of today reflect the general changes in expectations for risk and accountability that have occurred over the last 40 years. Reinstating the trust and the cooperation on both sides of the equation, federal and contractor, while meeting stakeholder expectations, will remain a challenge. NNSA and its M&O contactors have started to address many of the issues identified in this chapter of the report, but much work remains. Each recognize that their respective reputations are at risk and that the continuous circle of events and incidents and the lack of accountability and transparency leads to more audits, reviews, and investigations, which in turn leads to more oversight and less flexibility, which leads to less trust and mutual respect, which leads to a risk averse environment, which completes the circle, as this leads back to the perceived lack of accountability and transparency every time there is a surprise.

Increasing workloads, budget constraints, increased expectations for transparency and accountability, an increasingly demanding culture across the board, and an inability to turn the clock back will require that all parties in the NNSA nuclear enterprise work to find ways to make the enterprise meet expectations for mission, efficiency, and accountability.

NNSA fully supports the panel's recommendation to maximize the contributions of the M&O Organizations to the safe, secure execution of the mission. NNSA continues to strive for as much standardization as reasonable, but believes that "one size does not fit all" in the nuclear security enterprise when it comes to issues like incentive structure and parent organization oversight model. NNSA is committed to working with its M&O Partners to identify solutions that will motivate the entire nuclear security enterprise workforce to successfully perform the full set of NNSA national security missions.

Specific Comments

A. Improving Performance Incentives. The key to improving contract performance and partnership with the M&O's and other contractors will be a tailored approach to incentives that is appropriate for the unique missions and risks associated with the operation of each NNSA site. NNSA must balance the incentives for the individual M&O Partner against the need to optimize the incentives for enterprise success. We have aimed to institutionalize this through

the M&O's Strategic Performance Evaluation Plan, including specific performance objectives and the tailored fee structure for each site. All arrangements must ensure tangible benefits and accountability to the taxpayer. In addition, NNSA will seek standardization in contract structure to the greatest extent practicable, while recognizing that one size does not fit all in the NNSA enterprise.

At the same time, however, we must also ensure that our incentive and contractual structures foster continuing excellence in performing the no-fail mission of the NNSA nuclear enterprise. We can never lose sight of the fact that our people remain our most important asset, and so while we incentivize their performance we must position our M&O partners to recruit and retain the specialized workforce that they need to execute that mission successfully. NNSA will also work to identify those management practices that would help to restore a more strategic FFRDC-like approach.

NNSA fully agrees with the panel's recommendations that the incentive structures need to be modified, particularly for our national security laboratories. We know that one size does not fit all, as even our three national security laborites are different from one another. As we work to identify the incentives that will result in excellence, we will look at the contract structures and the appropriate mix of incentives, including fixed and incentive fees.

NNSA has recently re-established a policy office reporting directly to the Administrator. As one of its first tasks, the policy office will look at the incentive and management structures for all of the M&O contractors at the production facilities, the laboratories, and the Nevada National Security Site. It is important that the incentives in each contract be tailored to the contractor and to the work that the contractor performs.

Change of this magnitude will take time, and the results of such change are not going to be immediately measurable. NNSA will remain dedicated to assessing, discussing, implementing, and fine-tuning incentives tailored for each M&O contract.

B. Strengthening M&O Parent Oversight. NNSA concurs that M&O organizations and their parent corporations make invaluable contributions to the nuclear security enterprise. NNSA believes that a strong M&O parent organization oversight model can ensure that best practices and management expertise contribute both to M&Os management improvements as well as enterprise-wide initiatives. The development of effective and transparent M&O Contractor Assurance Systems is the cornerstone to reducing transactional oversight and ensuring effective M&O performance. NNSA requires the parent organization to both evaluate and contribute to the improved effectiveness of the M&O organizations. The results of these evaluations are used to evaluate the contractor's performance and support continuous improvement.

NNSA leadership routinely talks with the various corporate boards and parent organization executives to better understand their commitment to support the nuclear security enterprise and to reinforce the essential role these companies play in managing and improving that

enterprise. M&Os must work in partnership with the DOE/NNSA complex to develop, integrate, and implement enterprise solutions that maximize program outputs at best value to the government.

For example, NNSA initiated an effort to receive annual inputs from M&O organizations describing efficiencies achieved during the prior year and the plan to achieve further efficiencies. As part of this effort, NNSA also asks for input on specific changes NNSA can make that would enhance productivity at each site within our enterprise. NNSA is committed to continuing this effort to make the nuclear security enterprise more efficient and to help our contractors to achieve this goal.

C. Eliminating Ineffective Oversight. NNSA agrees that improving and consolidating the audit process would enhance operations throughout the enterprise. Secretary Moniz recently established the Enterprise Assessment Office to consolidate and manage all Departmental independent safety and security assessments in an effort to streamline the number of assessments. Other assessments required by DOE Directives are managed through the Site Integrated Assessment Planning (SIAP) process. Through the planning for the SIAP, NNSA works to de-conflict and eliminate duplicative assessments.

NNSA Field Offices rely on frequent and unfettered communication with M&O partner staff and a strong and transparent Contractor Assurance System (CAS) to form the foundation the oversight relationship with the M&O. The CAS allows for:

- Performance measures which present a dashboard view of operational factors
- An extensive and rigorous program of self-assessments and continuous improvements
- A formal method for tracking and reporting contract requirements and deliverables
- A lessons learned program to capture and institutionalize best practices
- Risk identification and management protocols
- A performance feedback and improvement system
- A lean six sigma quality improvement program
- An internal audit function for both financial and programmatic audits

C. Rebuilding the Partnership between NNSA and M&O Partners. The single most powerful tool to improve morale, culture, and performance in the nuclear security enterprise is to rebuild the trust and strategic partnership between NNSA and the M&O Partners. This will take commitment and compromise, trust and teamwork on everyone's part. Secretary Moniz has implemented several reforms to improve the strategic partnership, and is leading the way in the strategic planning and the performance evaluation processes to ensure a more strategic, M&O-influenced, and integrated process.

Recent reforms at NNSA have aided in reinvigorating the strategic dialogue including:

- A demonstrated commitment from the NNSA Administrator and Principal Deputy Administrator to travel to the sites frequently to engage with Laboratory, Plant, and Federal Field leadership and staff.

- Creation of the NNSA Council where the NNSA Administrator and other senior NNSA Federal Leadership meet quarterly with the laboratory directors and plant managers to discuss strategic direction and resolve issues.
- Establishment of the NNSA Operations Board where NNSA senior Program Managers, Field Office Deputy Directors, and M&O Chief Operating Officers meet quarterly to improve coordination and collaboration across the nuclear security enterprise.
- Increased frequency and improved timeliness in providing quarterly performance feedback to M&O leadership by the NNSA Principal Deputy Administrator.
- Direct reporting from the NNSA. In 2014, the NNSA Administrator expanded his weekly NNSA leadership meeting to include all Field Office Managers.
- Frequent meetings between NNSA Field Office Managers and M&O leadership at their respective sites.

These examples highlight the actions that NNSA/DOE have taken to maximize M&O contribution by taking a graded, tailored approach to contract performance incentives; engaging M&O parent organizations; reducing unnecessary transactional assessments; and rebuilding trust.

5. Strengthen Customer Collaboration to Build Trust and a Shared View of Mission Success

Panel Recommendations

18. The Secretary should collaborate with the Secretary of Defense to better align the planning, resourcing, and execution of sustainment and modernization programs for nuclear weapons and their supporting infrastructure with DOD's delivery platforms.

19. The Secretary and Director should align and streamline processes for collaboration with Interagency customers.

Overview

Over the last few years, the pace of the life extension programs has expanded, the challenges of aging manufacturing facilities became more significant and urgent and the considerable challenges of maintaining the stockpile without explosive nuclear testing became clear. During this time, the relationship between DoD and NNSA became strained. The tension was exacerbated by significant budget pressures and misunderstandings about the roles and responsibilities of each agency. With the development of the fiscal year 2016 budget request, these tensions abated and the relationship is on a good path. The current relationship is more open, with extensive, detailed and transparent discussions, and a better understanding of what each agency needs to meet the requirements of the nuclear weapons mission.

One of the sources of the problem was the very term –"customer"—that the panel uses in the title of chapter 5. This view that DoD is a customer actually led to misunderstandings. Both agencies have moved to a more complete understanding of the relationship, their respective missions and the role of the Nuclear Weapons Council (NWC). DoD establishes the military requirements of the nuclear weapons. NNSA has its own separate mission to ensure that the technology and scientific base is fully capable of maintaining a safe, secure, reliable and effective stockpile. This responsibility includes the independent ability to certify annually the reliability of the weapons. NNSA continues the tradition of the Atomic Energy Commission (AEC) to ensure that weapons surety is a primary consideration in all LEPs.

The NWC-approved acquisition process, also known as the 6.x process, develops the scope and costs associated with the LEPs. NNSA and the DoD are committed to ensuring that this tried and true process retains its rigor and that corners are not cut. NNSA, through its CEPE organization and associated program cost organizations, is committed to ensuring that the costs for the LEPs are more accurate as it builds a historical cost database. The 6.x process will inform and enable the panels' recommendations to "coordinate budget development for the relevant portions of the warhead and strategic systems budgets."

Chapter 5 of the report also discusses the relationships that DOE/NNSA has with its interagency partners, the Departments of Defense, State, Homeland Security and the Intelligence Community, outside of the nuclear weapons work. The scientific, engineering and manufacturing skills that the NNSA laboratories and facilities bring to the Nation have improved conventional warfighting and other capabilities of the DoD and the Military Services. In addition, these capabilities have also improved the wide range of activities that support the national goal of preventing, countering and responding to nuclear proliferation and terrorism. Support to the Intelligence Community has enabled unique in-depth analysis of various foreign activities, developments, and trends. This work, accomplished mostly through the Strategic Partnership Program (formerly Work For Others), allows the interagency to benefit from the special skills resident in the NNSA complex, while allowing the NNSA complex to grow and refine its own mission skills. This work also allows a measure of creativity, not otherwise found outside of the NNSA LDRD program, and helps in the effort to recruit and retain the best engineers and scientific and technical talent for the complex.

The DOE/NNSA labs and facilities bring unique capabilities to solve the problems of the interagency, but the challenge of the strategic partnership program, as the panel identified, lies in the generally piecemeal nature of the work. The Mission Executive Council (MEC) was established to bring a more strategic understanding of the capabilities needed for the labs and facilities to serve the agencies' missions. Unfortunately, budget pressures on individual agencies have led to the inability of the MEC to deliver this strategic approach, but in time, if budgets allow, the goals of the MEC could be realized. While DOE/NNSA is committed to the future success of the MEC, further development of this strategic concept is required, as well as the involvement and commitment of the agencies for which the NNSA facilities perform their good work.

Specific Comments

A. Strengthened Program Alignment with DoD. NNSA's goal is to provide confidence to the White House, Congress, DoD and the Nation that requirements and priorities communicated through the NWC mechanism will be accomplished effectively and within established program parameters, taking into account budgetary challenges. As an example, in the fall of 2014, NNSA's national security laboratories were charged to investigate and determine the need to refresh W88 conventional high explosives (CHE). NNSA worked closely with DoD, through the NWC, to define the scope and costs needed to resolve the issue, which is reflected in the fiscal year 2016 budget request.

Mechanisms are currently in place to foster daily communications, information sharing, and transparency between the DoD and NNSA on NWC-related activities. NWC executive action officers meet and interact regularly, acting on behalf of their respective members, on all NWC-related business. Additionally, respective weapon-system project officer groups (POG), meet regularly to deliberate on technical weapons and related delivery platform issues that affect the health and welfare of the nuclear stockpile.

The NWC develops an annual joint memorandum to the President, signed by the Secretaries of Defense and Energy, certifying that the stockpile is safe secure and reliable and whether explosive nuclear testing is needed. Each of the laboratories and the US Strategic Command (STRATCOM) submit their independent assessments with the memorandum.

In an effort to improve the process, during the upcoming annual assessment cycle, NNSA will arrange a briefing by the three laboratory directors and the STRATCOM Commander for the NWC on their respective assessment letters and offer a briefing by the laboratory directors to the Secretary of Defense.

NNSA has taken tangible steps to promote a cooperative relationship with our DoD partners. Specific examples include invitations to program workshops on Tritium Demand/Production, continued collaborations with the Navy on W88 CHE refresh, collaboration with the Air Force on LRSO, open invitations to NWC members and support staff on 90-day conceptual studies, and quarterly program reviews for LEPs. We work closely together to develop and deliver key annual reports to Congress and the President, including the Section 1043 Report, the Stockpile Stewardship and Management Plan, the NWC Chairman's Annual Report to Congress, the Joint Surety Report, the Nuclear Weapons Stockpile Plan, and the aforementioned Report on Stockpile Assessments. Additionally, NNSA continues to work collaboratively with DOD and OMB each year to make sure the President's Budget requests are properly aligned with the President's nuclear weapons policy and priorities.

These collaborative efforts are essential to ensuring that DOE/NNSA is doing everything possible to meet the Nation's nuclear deterrent objectives.

B. The Mission Executive Council. The Mission Executive Council (MEC) is an Under Secretary-level body that focuses its efforts on improving interagency strategic planning for the science, technology, and engineering (ST&E) capabilities resident in DOE's laboratories and sites that are of cross-cutting strategic national security interest. NNSA's Office of Strategic Partnership Programs is responsible for reviewing the execution of interagency work including identifying opportunities to improve the overall strategic process. The MEC is improving planning and coordination of key national security areas based on a process of identifying technical issues, assessing existing capabilities, then developing a strategic plan to address gaps. In addition, initiatives such as the DOE's Strategic Approach to Work for Others Study, comprised of the national laboratories, DOE's Office of Science and Energy, and NNSA, created a Community of Practice for discussing collaborative mechanisms and additional improvements. Current members of the Community of Practice routinely engage with the MEC, taking advantage of opportunities to leverage existing efforts and include MEC input.

The MEC has not been as successful as originally anticipated for a variety of reasons, but primarily as a result of budgetary pressures. While DOE/NNSA is committed to the future success of the MEC, further development of this strategic concept is required, as well as the involvement and commitment of the agencies for which the NNSA facilities perform their good work.

IV. Conclusion

NNSA appreciates the Panel's in-depth analysis of the nuclear security enterprise, and recognizes the challenges that lie ahead. NNSA is committed to working with the Administration, Congress, our partners, and other stakeholders to address these challenges, as well as the Panel's recommendations, in a comprehensive and transparent manner. The actions DOE and NNSA have already completed are key to governance reform and consistent with the Panel's recommendations, but there is much more to be done. Ensuring world-class science and technology, in partnership with our laboratories, and collectively improving our management performance through creative solutions, will enable the nuclear security enterprise to cost-effectively achieve our vital national security mission, but it will take time and the partnership of our stakeholders and partners.

Appendix: Full Set of Recommendations from the Congressional Panel on the Governance of the Nuclear Security Enterprise[4]

Strengthen National Leadership Focus, Direction, and Follow-Through

The President should provide guidance and oversight sufficient to direct and align nuclear security policies, plans, programs, and budgets across Departments.

1.1. The President should reaffirm the importance of the mission and align DOE&NS and DOD priorities through an expanded President's annual stockpile guidance.
1.2. The President should require annual OMB joint budget reviews to shape and align DOE&NS and DOD programs and budgets.
1.3. The President should require annual NSC joint program reviews to shape and align DOE&NS and DOD programs and policies.

Congress should establish new mechanisms to strengthen and unify its leadership and oversight of the nuclear enterprise and its missions.

2.1. Congress should add Senate Armed Services Committee approval to the confirmation and reporting requirements for the Secretary and Deputy Secretary of DOE&NS (and continue to have the Director, ONS be approved by the Senate Armed Services Committee).
2.2. Congress should require the Secretary to testify annually on the health of the enterprise, and on progress in reforming its governance, to the Senate Energy and Natural Resources and Senate Armed Services Committees and to the House Energy and Commerce and House Armed Services Committees.
2.3. Congress should implement information sharing and collaboration mechanisms to unify and strengthen its mission-focused oversight across cognizant committees and to better harmonize direction and oversight across the enterprise's mission areas.

[4] Table of Recommendations, *A New Foundations for the Nuclear Enterprise*, Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise, November 2014, pages xix-xxiv.

Solidify Cabinet Secretary Ownership of the Mission

Congress should amend the NNSA Act and related legislation to clarify Departmental leadership roles. The Secretary "owns" the nuclear enterprise missions, sets Departmental policy for the nuclear enterprise, and is accountable to the President and Congress for the enterprise. The Director, Office of Nuclear Security (ONS) has full authority to execute the nuclear enterprise missions consistent with the Secretary's policy. Departmental missions-support staffs advise and assist the Director in executing enterprise missions.

3.1. The amended legislation should specify the Secretary's leadership responsibilities and define duties that underscore the Secretary's accountability for the nuclear enterprise and its missions.
3.2. The amended legislation should create the Office of Nuclear Security (ONS) within the Department to perform the missions currently assigned to NNSA.
3.3. The amended legislation should designate a Director, Office of Nuclear Security with full authority to execute nuclear enterprise missions under the policy direction of the Secretary. The Director should have tenure of at least six years, be compensated at the rate of executive Schedule Level II, and hold the Departmental rank of a Deputy Secretary or Under Secretary.
3.4. The amended legislation should assign risk acceptance authority and accountability to the Director for ONS mission execution.
3.5. The amended legislation should grant the Director authority to appoint senior officials in ONS, including the conversion of three of the Senate-confirmed direct-report positions (Principal Deputy, Assistant Secretary for Defense Programs, and Assistant Secretary for Non-Proliferation Programs) to Senior Executive Service or Excepted Service positions.
3.6. The amended legislation should emphasize the importance of the nuclear enterprise missions, by changing the name of the Department to the "Department of Energy and Nuclear Security.

The Secretary should implement Departmental management processes that specify the Director's authorities for executing nuclear enterprise missions. These authorities include: Line management authority for the safe, secure, and environmentally responsible execution of nuclear security missions; Management authority for missions-support staffs assigned to the Office of Nuclear Security; Concurrence authority for Departmental rulemaking on ONS matters.

4.1. The Secretary should establish decision-making practices among the senior headquarters staffs that codify the Director's authority to execute the nuclear security missions consistent with the Secretary's policies.
4.2. The Secretary should establish a matrix management structure that: Aligns and codifies roles, responsibilities, authority, and accountability; Specifies the

Director's leadership authority over line-management and mission-support ("functional") staffs assigned to ONS; Eliminates overlapping headquarters staff.

4.3. The Secretary should adopt processes defining the Director's role in ensuring applicable DOE&NS policies, rules, and orders are compatible with the operating circumstances of the nuclear security enterprise.

4.4. The Secretary should designate those senior headquarter positions that have line-management decision authorities and those that are responsible for mission-support functions.

The Secretary and Director should reform DOE regulation to strengthen risk management.

5.1. The Secretary should strengthen the Department's analytical expertise and processes for assessing risks, especially for nuclear and other high-hazard functions.

5.2. The Secretary should direct a comprehensive review and reform of the Department's ES&H and Security Orders and Directives to reflect best industry practices.

5.3. The Secretary (with Congressional concurrence) should establish a mechanism to improve the Department's ability to respond to inquiries, findings, and recommendations of the Defense Nuclear Facility Safety Board.

Adopt Proven Management Practices to Build a Culture of Performance, Accountability, and Credibility

6. To begin reforming the DOE&NS culture, the Secretary and Director should develop within six months a plan for continuous management learning and improvement, including an implementation plan for the panel's recommendation with milestone target dates.

6.1. The Secretary and Director should urgently develop a more robust, integrated DOE&NS/ONS-wide process to provide accountability and follow-up on findings and recommendations from studies and reviews, both internal and external.

6.2. The Secretary and Director should establish management metrics for assessing and improving enterprise management.

6.3. The Secretary and Director should routinely survey personnel to gauge morale, assess cultural changes, and identify the results of efforts to change management practices.

6.4. The Secretary and Director should aggressively communicate reform plans and objectives.

7. The Secretary and Director should implement industry best practices for shaping and building the enterprise workforce.

7.1. The Secretary and Director should establish strong career and leadership development programs, require rotational assignments, and place greater emphasis on continuing education and professional certifications.
7.2. The Secretary and Director should reshape staffs as needed to implement governance reforms.
7.3. The Secretary and Director should conduct a zero-based personnel review to right-size government staffs consistent with recommended reforms and changing workload since the end of the Cold War; this review should include the consolidation of headquarters activities across DOE&NS's Forrestal headquarters, the Germantown campus, and the Albuquerque complex.

8. The Secretary should establish trusted Cost Analysis and Resource Management staffs, tools, and data; the Director should be responsible for this process for ONS.

    8.1. The Secretary and Director should strengthen the Department's efforts to develop independent cost and resource analysis capabilities.
    8.2. The Secretary and Director should employ a rigorous Analyses of Alternatives process during program formulation as the basis for assessing and validating program requirements.
    8.3. The Secretary and Director should take advantage of established DOD resource analysis capabilities in establishing DOE's cost analysis and resource management capabilities.

9. The Director should establish a simple, clear line-management operating structure that both synchronizes activities across programs, mission-support functions, and operating sites and provides leadership focus for key programs.

    9.1. The Director should create operational mechanisms to perform the key synchronization functions that used to be performed by the Albuquerque Operations Office.
    9.2. Deputy Directors should be designated to lead in the integrated planning and execution of programs in their mission areas of responsibility.
    9.3. The Deputy Director responsible for Life Extension Programs, working with DOD, should create a long-term operating plan to support the nation's warhead modernization strategy; this plan should be designed to create a relatively stable, long-term workload.

10. The Director should establish program managers who are provided necessary authorities and resources, and who are held accountable for major mission deliverables.

    10.1. The Director, in coordination with the responsible Deputy Director, should designate program managers for each Life Extension Program and major construction project.

10.2. Program managers should be held accountable to employ effective management practices.
10.3. The Director should delegate to the program managers control of any funds identified as uniquely required to execute their programs.
10.4. The Director should delegate control over personnel assigned to their programs to the program managers.

11. The Congress, Secretary, and Director should adopt a simplified budget and accounting structure (by reducing budget control lines) that aligns resources to achieve efficient mission execution while providing sufficient visibility to enable effective management oversight.

    11.1. Congress should reduce the number of Congressional budget control lines to the number of major programs plus major mission-support functions.
    11.2. The Director should reduce ONS's internal budget control points to the minimum number needed to assign funding for major programs and mission-support activities across the sites.
    11.3. Infrastructure funding that is uniquely required for the execution of Life Extension Programs should be integrated into the portfolio of the Deputy Director for Defense Programs.

12. The Director should develop a strategy and plan to reshape the weapons complex to meet future needs.

    12.1. The Director should ensure that the strategy and plan identify and addresses the deferred maintenance backlog.
    12.2. The Director should ensure that the strategy and plan match (and, in many cases, reduce) the infrastructure needed to meet requirements.
    12.3. The Director should ensure that the strategy and plan identify investments in the needed skills in the workforce.
    12.4. The Director should ensure that the strategy and plan specify investments in capabilities, including the sites' use of internally directed research and development. The panel recommends Laboratory Directed Research and Development (LDRD) funding of no less than 6 percent, which is needed to sustain leadership in nuclear science, engineering, and manufacturing.

13. The Secretary and Director should continue ongoing efforts to improve construction project management capabilities (at all levels) by introducing disciplined management practices in order to recapitalize infrastructure on time and on budget.

    13.1. The Director should strengthen infrastructure project management skills, tools, and the collection and analysis of data.

13.2. The Director should build on recent efforts to adopt best practices for managing infrastructure projects, especially the use of external peer review.
13.3. The Secretary and Director should hold managers accountable for adopting the effective practices detailed in the Department's directive on project management (Order 413), consistent with the principles provided in OMB Circular A-11 in infrastructure projects.

Maximize the Contributions of the Management and Operating (M&O) Organizations to the Safe, Secure Execution of the Mission

14. The Director should reform M&O contracts, replacing the award fee structure with fixed fees for longer (multi-year) award terms and linking performance incentives to the contractual period of performance.

    14.1. The Director should adopt market-based fixed fees for new M&O contracts commensurate with M&O-borne risks, M&O investments in the enterprise, and the scale of the undertaking.
    14.2. Where practicable, the Director should convert existing contracts to similar fixed fee arrangements.
    14.3. The Director should base decisions to extend an M&O contract's period of performance primarily on contributions to mission performance; unsatisfactory performance should lead to early termination.
    14.4. The Director should seek greater standardization of contract provisions across similar entities.

15. The Secretary and Director should reinforce the M&O parent organizations' obligations to contribute to enterprise management improvement initiatives.

    15.1. The Director should create collaborative mechanisms to strengthen the joint contributions of the M&O organizations in improving the effectiveness and efficiency of enterprise operations.
    15.2. The Director should task M&O organizations to identify and assess management improvement opportunities, both for mission execution and for mission-support functions.

16. The Secretary and Director should eliminate wasteful and ineffective transactional oversight.

    16.1. The Secretary and Director should direct a reduction in the number of audits, inspections, and formal data calls, and better synchronize those that remain.
    16.2. The Secretary and Director should eliminate transactional oversight in areas where there are better mechanisms for certifying contractor performance, to include reform of the field office's staffing levels and performance criteria.

17. The Secretary, Director, and the National Laboratory Directors should adopt management practices that serve to rebuild the strategic Government-FFRDC relationship.

    17.1. The Secretary and Director should continue to reinvigorate the strategic dialog with the Laboratory Directors.
    17.2. Leaders in both the government and M&Os should prescribe and enforce behaviors that rebuild credibility and trust.
    17.3. The appropriate government officials (e.g., Deputy Directors, project managers) should meet at least monthly with the M&O leadership, and preferably have daily informal interactions.

Strengthen Customer Collaboration to Build Trust and a Shared View of Mission Success

18. The Secretary should collaborate with the Secretary of Defense to better align the planning, resourcing, and execution of sustainment and modernization programs for nuclear weapons and their supporting infrastructure with DOD's delivery platforms.

    18.1. The Department Secretaries should direct activities that foster collaboration and communications among the principals and staffs supporting the Nuclear Weapons Council (NWC).
    18.2. The Department Secretaries, supported by the chairman and members of the NWC, should reinvigorate its working-level elements.
    18.3. The Department Secretaries should establish transparent information sharing mechanisms and increase direct staff collaboration on a daily basis to address persistent communications and trust issues.
    18.4. The Department Secretaries should confer on each Department's proposed co-chair to the Standing and Safety Committee (SSC), which reports to the NWC.
    18.5. The Department Secretaries should involve the NWC in drafting and reviewing the annual assessment to the NSC of progress on meeting Presidential guidance.
    18.6. The Director should strengthen the roles, responsibilities and accountability of the senior military officer assigned to ONS in order to improve DOE&NS-DOD collaboration.

19. The Secretary and Director should align and streamline processes for collaboration with Interagency customers.

    19.1. The Secretary, working through the Mission Executive Council, should improve coordination for planning and executing of Interagency Work.
    19.2. The Mission Executive Council should annually conduct a review of the execution of Interagency Work across the nuclear security enterprise to identify improvement opportunities in working relationships, collaborative mechanisms, and management practices.

SECRETARY OF ENERGY ADVISORY BOARD

MEMORANDUM FOR:	SECRETARY OF ENERGY
FROM:	John Deutch Chair, Secretary of Energy Advisory Board (SEAB)
CC:	Deputy Secretary of Energy and SEAB Members
DATE:	February 17, 2015
SUBJECT:	SEAB comments on the Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise

You requested that your Secretary of Energy Advisory Board review the recent *Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise* (Augustine-Mies Panel) and give you its opinion about how the department should respond to the advisory panel's recommendations.[1] This letter report, prepared by six members and approved by the board, transmits our views.[2]

Congress established the Augustine-Mies Panel and charged it to address the many concerns that have existed for some time about impediments to the NNSA performing its vital national security mission of maintaining the nuclear weapons stockpile, advancing U.S. nonproliferation policies and programs, and supporting the nuclear navy. The concerns are wide-ranging and include cost and performance of the weapons program, maintaining the morale and quality of the technical staff, avoiding cost overruns of major projects, and reducing program management and direction from NNSA that encourages risk avoidance, excessive control, and inadequate attention to program outcomes.

The Augustine-Mies Panel was directed to examine alternative models that would enable

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[1] *A New Foundation for the Nuclear Enterprise*, Report of the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise, co-chaired by the Honorable Norman Augustine and Admiral Richard Mies, USN (Ret.), November, 2014.

[2] The six SEAB members are: Brent Scowcroft, Chair SEAB Nuclear Security Subcommittee, Al Carnesale, John Deutch, Steven Koonin, Richard Meserve, and Ellen Tauscher.

transformation and dramatic improvement in the DOE/NNSA enterprise. The Panel considered four different models: (a) maintaining the current somewhat ambiguous quasi-independent status of the NNSA within DOE, (b) recreating the NNSA as an independent agency, (c) transferring responsibility for the NNSA to the Department of Defense, and (d) moving from a separately organized NNSA within DOE to a new Office of Nuclear Security, ONS, integrated into a DOE that is led by a cabinet secretary who is committed to and knowledgeable about nuclear security issues. The Director of ONS would be given substantial authority and responsibility for implementing the department's nuclear security program.

The Augustine-Mies Panel recommends the last option: integrating a new ONS into DOE with an obligation that DOE leadership, the secretary and deputy secretary, have knowledge and commitment to the nuclear security responsibilities of the department.

The members of SEAB, many of whom have deep experience with DOD and DOE, unanimously and strongly agree with the Augustine-Mies Panel that a new ONS should be integrated into DOE and that the leadership of DOE should have knowledge of, and commitment to, the nuclear security responsibilities of the department. SEAB stresses that the consequence of taking no action risks continuing deterioration of DOE's ability to fulfill its national security mission and the morale throughout the complex. We urge you to encourage the administration and Congress, vigorously and vocally, both publicly and within the DOE/NNSA community, to endorse the Panel's constructive approach and implement the needed legislative change to the DOE Organization Act.

SEAB believes you demonstrate that there are individuals who can provide the kind of secretarial leadership that is needed to make *A New Foundation for the Nuclear Enterprise* a success, and your example was not insignificant in bringing the Panel to its organizational recommendations.

The Panel helpfully proposes in Appendix C of their report changes to the language in the 2000 statutory amendment establishing the NNSA in the 1977 DOE Authorization Act.

SEAB believes that these changes are directionally correct; however balance with the energy mission should not be forgotten. Several of the Panel's suggestions are intended to underscore the importance of national security, especially the nuclear weapons program, in the department missions. Suggestions such as changing the name of the department, requiring both the Armed Services and Energy and Natural Resources Committees to confirm the Secretary and Deputy Secretary, establishing qualifications of the president's nominees for these positions, and extending the term of the Director of ONS are sure to provoke considerable debate. We did not discuss the pros and cons of these suggestions but are prepared to do so if you believe it would be useful to have SEAB's opinion.

The Augustine-Mies Panel does a thorough job of identifying changes that are needed to bring their vision of a *New Nuclear Enterprise* into a reality. The Panel presents a daunting list of 65 recommendations organized into five broad categories. Those with senior government management experience (and many members of the Panel have such experience) will recognize that the phrases in these recommendations such as "The Secretary should..." or " the Director of ONS should..." do not indicate an immediate way forward to implementation. It will take more than a few years to achieve the result the Augustine-Mies Panel seeks. The Panel lists 15 useful indicators of progress in the desired realignment and suggests a follow-on evaluation in two years; SEAB suggests you might consider establishing a process to report semi-annually to Congress on the progress made in implementing the recommendations.

SEAB wishes to offer remarks on five issues that the board believes deserve your special attention.

- The DOD is the main customer for DOE's weapons technology and products. The Nuclear Weapons Council is the principal mechanism for harmonizing requirements and resources that define an executable five-year plan. The Panel identifies current weakness in this mechanism, but stops short of recommending a high-level, DOD executive who has experience and expertise in the weapons complex to support the Council and to manage the DOD's role in the day-to-day matters between the two

agencies. If the principal customer and the supplier of defense programs are not in agreement about requirements and resources, it is inevitable that differences will be resolved by less qualified individuals and result in adoption of a less sound program with unsatisfactory cost and performance outcomes.

- The Panel gives a thorough and telling account of the breakdown in the working relationship between the NNSA and its M&O contractors. It is basically a story of a change from a mission and outcome driven FFRDC orientation to an excessive transactional, cost minimization, and risk avoidance orientation. But in our view the Panel falls short in suggesting convincing, concrete steps that will reestablish the credibility and trust between the government and the M&O contractors.

  The Panel recommends a shift from reliance on award fees to fair fixed fees with contract renewal and extension as the main mechanism to reward or penalize contractor performance. SEAB agrees that too much reliance has been placed on the award fee as a performance incentive tool but doubts the change recommended by the Panel is sufficient to reestablish an FFRDC relationship.

  The SEAB National Laboratory Task Force believes that in addition, more attention needs to be placed on restoring clarity and non-overlapping responsibility and accountability for programmatic, functional, and financial activities among the various stakeholders: NNSA headquarters, field sites, M&O contractors, and laboratory management. In short, there is no sure formula for reestablishing an effective and collaborative working relationship, but as the Panel's report makes clear, doing so remains a key objective.

- The Panel makes many important suggestions about improving operations at the laboratories and planning for necessary infrastructure modernization and renewal. While the Panel acknowledges the importance of human capital in one of its recommendations, SEAB believes that substantially more attention should be paid to improving the morale and creative atmosphere at the weapons laboratories and the

production facilities.[3] The tension that has existed between the NNSA and M&O contractors is corrosive to maintaining the technical excellence that is the essential underpinning of the laboratory capability. Finding and keeping the most talented employees is the responsibility of every part of the management chain, especially the laboratory leadership. The Panel recognizes the importance of the Laboratory Directed Research & Development (LDRD) program for this purpose and endorses a funding level no less than 6%; SEAB agrees.

- SEAB believes there is significant opportunity for greater programmatic connections between the NNSA and the other DOE science/energy national laboratories that would further the integration objective advanced by the Augustine-Mies panel. Areas where increased collaboration has promise are high performance computing, nuclear physics, fusion, and materials science.

- The unique skills of the nuclear security laboratories are important to other agencies: including the Department of Defense, the Department of State, the Department of Homeland Security, and the Intelligence Community. This work for others, WFO, is growing at the labs and presents management challenges: the non-DOE agencies pay for a portion of the project cost, but not as a general matter the investment necessary to maintain the intellectual and physical infrastructure of the laboratories; a need to assure that the work does not interfere with the fulfillment of the labs weapons mission; and confirmation that the work is consistent with the laboratory's mission. Non-DOE customers object to the cost, the complex and long approval process, and delays in completion of the work.

  Congress clearly intends that the laboratories contribute to a broad range of national security missions and provide assistance to the non-DOE agencies. The Mission Executive Council (MEC) was launched by agreement among the principals of the affected agencies to facilitate coordination among the group so that the laboratories

[3] The Panel Recommendation 12.3 is: "**The Director should ensure that the strategy and plan identify investments in the needed skills in the workforce.** There needs to be an analysis of the level and skill mix of the workforce necessary to meet future requirements, and an assessment of the steps required to recruit and retain them."

could serve this broader mission. The Panel notes that the MEC has not been fully effective to date and makes recommendations to improve its functioning. While DOE shoulders the central responsibility for assuring the health of the laboratories, their management and funding, we agree that the Secretary of Energy and the Director of the ONS should revitalize the MEC as a means for improving coordination among the agencies. The aim should be to assure that the agencies are aware of the special capabilities of the labs and that the laboratories are aware of the emerging challenges confronting the agencies. We understand that the National Academies have prepared a report for NNSA that explores these issues more fully.

SEAB strongly supports the Augustine-Mies report and we stand ready to receive further tasking from you to assist the department in this important realignment process.