

**New Foundations for the Nuclear Security Enterprise**  
**Mr. Norman R. Augustine and Admiral Richard W. Mies (U.S. Navy, ret.)**

**Answers to Questions for the Record**  
**Testimony of February 24, 2016,**  
**Hearing on “DOE for the 21<sup>st</sup> Century: Science, Environment and National Security Missions”**  
**Before the Subcommittee on Oversight and Investigations of the Committee on Energy and**  
**Commerce, U.S. House of Representatives**

**QUESTIONS FROM THE HONORABLE TIM MURPHY, [PENNSYLVANIA–R]**

**Question 1: Your *New Foundation for the Nuclear Enterprise* report<sup>1</sup> recommends amending the relevant statutes to clarify that the Secretary [of Energy] “owns” the nuclear enterprise missions. One essential provision of DOE [Department of Energy] Organization Act<sup>2</sup> maintains that the Administrator of the NNSA [National Nuclear Security Administration] is subject to the Secretary’s “authority, direction, and control.”**

**Q1a. Would you please explain how your recommendations will enhance the Secretary’s “authority, direction and control” over the person (whether the Administrator or a newly created Director of Nuclear Security [DNS]) responsible for executing the nuclear security missions for the Department of Energy?**

Taken in combination, the panel’s recommendations would enhance the Secretary’s authority, direction, and control in three important ways: [1] by solidifying the Secretary’s ownership of the NSE mission; [2] by creating a new Director of the Office of Nuclear Security reporting directly to the Secretary with clear roles and responsibilities for executing the NSE mission; and [3] by creating the conditions for appointing experienced technical leaders and managers.

**Recommendation: Solidifying the Secretary’s Ownership of the Mission**

The panel found that the U.S. nuclear security enterprise has suffered as an “orphan mission” since the end of the Cold War—a problem regarding the entire nuclear enterprise. In our deliberations, it became very clear that one major factor contributing to this situation is that a separately organized NNSA had the effect of isolating the nuclear enterprise from the needed Cabinet Secretary leadership.

The panel also observed that the separately organized provisions of the National Nuclear Security Administration (NNSA) Act<sup>3</sup> create a divided HQ staff since the Act prohibits functional staffs from serving both DOE HQ and NNSA. It is difficult to see the benefits of such an approach. NNSA comprises about 40 percent of DOE’s budget, and the total DOE’s nuclear-related programs, including cleanup and civilian

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<sup>1</sup> Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise (Augustine-Mies panel), *A New Foundation for the Nuclear Security Enterprise* (November 2014).

<sup>2</sup> Relevant statutes include 42 U.S. Code Chapter 84—Department of Energy and 50 U.S. Code Section Chapter 41—National Nuclear Security Administration.

<sup>3</sup> 50 U.S. Code Section 2400—National Nuclear Security Administration.

energy programs, represent more than 60 percent of the DOE annual budget.<sup>4</sup> One has to ask, “What CEO of a successful company would permit one of its largest, most demanding and unforgiving missions to be quarantined from the headquarters staff? Or to use an operational metaphor: How could the commander of a ship at sea fulfill his or her duties if 40% of the crew were “separately organized?” That would be both inefficient and risky. Therefore, it is with the “separately organized” structure of the Department. It creates a split in the perspectives and perceived responsibilities of the HQ staffs, which creates unnecessary duplication, friction, stasis, and risk.

The panel’s recommendation is to create the conditions for the Secretary (and the rest of DOE) to fully embrace the nuclear security mission, and then to create a healthy operating culture within this structure. One essential step toward overcoming the current situation and restoring the proper focus is to place the enterprise under the leadership of a knowledgeable and engaged Cabinet Secretary. There are critical roles to be played by a Cabinet-level official in solidifying partnerships across Cabinet Departments (especially Defense, Intelligence, and State), and in representing the enterprise within the White House as well as on Capitol Hill.

The panel therefore recommended that Congress amend the DOE and NNSA enabling legislation to “place the responsibility and accountability for the nuclear security mission squarely on the shoulders of a qualified Secretary.”<sup>5</sup> Under the proposed management model, the Secretary will be seen—both within DOE and externally—as the nation’s top official responsible for the nuclear security enterprise. The panel recommended several accompanying steps that would signify and reinforce this view of the Secretary’s ownership of the nuclear security enterprise. These include confirmation hearings and annual reporting responsibilities for the Secretary, as well as joint DOE-DOD [Department of Defense] planning activities that underscore the Secretary’s ownership.

The panel’s recommendations specified specific roles and responsibilities to be assigned to the Secretary. These are provided in the table below.

**Proposed Roles and Authorities of the Secretary of Energy**

<ul style="list-style-type: none"> <li>• The Secretary is assigned full ownership of and accountability for the nuclear security missions</li> <li>• The Secretary sets Departmental policy and priorities for executing nuclear security missions, conveys full authority to the Director for executing the missions, and ensures Departmental mission-support staffs serve the missions effectively</li> <li>• The Secretary’s nuclear security roles and needed background are emphasized by requiring confirmation hearings with both the Senate Energy and Natural Resources Committee and Senate Armed Services Committee</li> <li>• Annual mission reviews with Presidential staff and oversight committees of Congress emphasize the Secretary’s accountability</li> </ul>
<p><b>The importance of the enterprise and its missions is to be signified by renaming the Department the Department of Energy and Nuclear Security</b></p>

*Source: New Foundations, 29.*

<sup>4</sup> In Fiscal Year 2016, the budgets of NNSA (\$12.9 billion), Nuclear Energy (\$999 million), and Environmental Management (\$6.1 billion) total \$19.99 billion of DOE’s total budget of \$32.5 billion (61.5%), where NNSA is 39.6% of the entire DOE budget.

<sup>5</sup> *New Foundations, 26.*

## Assigning mission execution responsibility and authority to a Director, Office of Nuclear Security, reporting directly to the Secretary

While it is necessary that the Secretary own the NSE mission, execution responsibilities should be assigned to a strong enterprise Director with unquestioned authority to execute nuclear enterprise missions consistent with the Secretary's policy direction. This would be accomplished by revising the National Nuclear Security Administration (NNSA) Act to fully integrate the NNSA in DOE under the Secretary's leadership. Central to this reform is to make clear that the Director of the Office of Nuclear Security works directly for, and reports directly to, the Secretary. And—as discussed later—because the Secretary owns the mission, his or her entire staff must pivot to support it. The roles of the Director are spelled out in the accompanying table.

### Proposed Roles and Authorities of the Director, Office of Nuclear Security (ONS)

- The Director has full authority to execute the nuclear security missions under the policy established by the Secretary, and therefore must possess strong technical management capabilities
- For leadership and continuity, the Director's position is an Executive Schedule II with a tenure of at least six years (subject to Presidential review); the Director shall be assigned the rank of Deputy Secretary or Under Secretary of DOE&NS [Department of Energy and Nuclear Security]
- The Director is provided direct access to the President on issues critical to ONS's missions, such as nuclear stockpile safety, security, and reliability; non-proliferation
- The Director is provided direct access to the Secretary on all ONS matters; the Director advises the Secretary on all Departmental policies as they affect the nuclear security missions and recommends responses to findings and recommendations of advisory/oversight groups
- The Director is assigned risk acceptance responsibility and authority on ONS matters, taking full responsibility and accountability for executing the Secretary's policies for nuclear security missions
  - Mission-support staffs advise the Director on risk-acceptance decisions
  - Any disagreements between line managers and mission-support staffs are quickly raised through an appeals process to the Director for adjudication and decision (and in rare cases, where resolution is not reached, to the Secretary)
- The Director has full authority to shape and manage the ONS technical staff; existing political appointments beneath the Director are converted to Director-appointed Senior Executive Service or Excepted Service positions
- To eliminate redundancies, ONS receives mission support from Department headquarters staff functions; the Director provides input on performance evaluations for mission-support staff personnel

Source: *New Foundations*, 29.

In addition to our structural recommendations, the panel identified a number of management best practices based on high-performing benchmarked organizations. Prominent among these are the issues addressed above: a capable, empowered leadership with well-defined roles and responsibilities. But there are several other important conditions, including the following:

- (1) clear plans with careful analysis of the resources needed to execute those plans,
- (2) a clear line-management structure down through the operational activities,
- (3) strong program managers focused on mission deliverables,
- (4) effective communications,
- (5) effective incentives, and
- (6) clear accountability.

The panel's recommendations would establish proven practices addressing each of these conditions. Aggressive implementation would significantly improve operations in the near term, thus addressing well-known morale issues and, in time, reshaping the management culture.<sup>6</sup>

In sum, a simpler, clearer operational structure reporting to the Secretary would significantly enhance the Secretary's authority and control of the nuclear security mission. An effective structure could reduce the time and energy required to make the organization work effectively and thus would free time and energy to produce national security capabilities that address the nation's substantive challenges.

### **Creating the conditions for appointing outstanding technical leaders and managers**

Finally, the panel has made it clear that the national security enterprise requires capable technical leaders and managers with sufficient authority and tenures to forge a highly reliable operating culture. A Secretary with proven technology leadership skills is in the best possible position to "own" the NSE mission. Moreover, when one considers the NSE in the context of the entirety of DOE's S&T (science and technology) missions—comprising DOE's 17 National Laboratories—it is clear the Secretary has a vital national role in ensuring the health of U.S. science and engineering capabilities.

Last year's CRENEL report provides a view of the capability of the DOE laboratory enterprise to contribute to a broad range of national needs, including security, science, energy supply and demand, and economic technology competitiveness.<sup>7</sup> The DOE laboratories are national assets operating at the forefront of global science and engineering capabilities across a wide range of disciplines:

- high performance computing
- nuclear deterrence
- nuclear non-proliferation, counterproliferation
- sustainable energy
- energy efficiency
- genomics
- advanced manufacturing

The DOE laboratories are built from an accumulated federal investment over many decades. Today, the combined annual funding for the labs is \$11.7 billion from DOE and a total of \$14.3 billion when work funded by other agencies is included.<sup>8</sup> By this dollar measure, the DOE laboratory system is about four times the size of the Defense Advanced Research Projects Agency, two times the size of the National Science Foundation (NSF), three-fourths the size of the National Aeronautics Space Administration (NASA), and one-half the size of the National Institutes of Health (NIH). In short, the DOE labs are prominent assets among the nation's federal S&T institutions.

Viewed from this perspective, DOE is a vital S&T and national security resource that has far greater and more important operational roles than has been acknowledged over the history of the Department. The panel believes the Department's top leadership team—especially, but not exclusively, the Secretary of Energy—should be selected and judged in view of its ability (1) to provide state-of-the-art applied science

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<sup>6</sup> A compelling critique of the workplace environment and morale, and the implications for DOE missions, can be found in the National Research Council report, *Managing for High Quality of Science and Engineering at the NNSA National Security Laboratories* (Washington, DC: National Academies Press, 2012).

<sup>7</sup> Commission to Review the Effectiveness of the National Energy Laboratories [CRENEL], *Securing America's Future: Realizing the Potential of the Department of Energy's National Laboratories*, 2 vols. (October 2105).

<sup>8</sup> Cited in the CRENEL Report, vol. 2:3, table 1.

and (2) to produce fundamental capabilities essential to national security. Structured appropriately, the job of the Secretary of Energy provides a unique opportunity to contribute to scientific advancement and national well-being.

The tenure of Energy Secretary Ernest Moniz demonstrates that a Secretary, who is highly qualified and experienced and possesses the necessary credibility and intellectual stature, can establish leadership across the Department. He harnessed the capabilities of DOE's laboratories to play a substantive role in the technical negotiations with Iran on the nuclear armaments agreement. DOE's technical contributions must continue as treaty compliance is monitored. Similarly, capable Under Secretaries and Assistant Secretaries have moved programs in valuable directions. For example, strong technical leadership enabled DOE to conceive, establish, and execute the Stockpile Stewardship Program.<sup>9</sup>

The panel believes a radically new mindset is needed in conceiving the role of the Secretary. To be sure, the Secretary has a wide range of important political and policy responsibilities, however much of the task is truly not a Washington political position: it is more akin to the technical leadership positions in NASA, NIH, or NSF. Fundamentally, the stewardship of the laboratory system, including the national security enterprise, comprises critical responsibilities that must be given close attention and provided effective leadership.

Selecting proven leaders for the Department, combined with the simplification of the management structure will set the DOE on the needed path toward the creation of a healthy operating culture. These steps are the essential first steps.

**Q1b. A complaint has been that NNSA's statutory semi-autonomy has impeded communications across DOE components. Explain how your proposed structure would enable fuller communication.**

The panel's recommendations would simplify and improve communications through three important steps.

**Recommendation: Define the communication channel up and down the chain of command**

First, the clear assignment of mission ownership to the Secretary and mission execution to the Director of ONS defines the backbone of the HQ communications and decision-making framework. The Secretary and the Director of ONS would be responsible to create mechanisms that would integrate needed management information. This should simplify reporting demands, allow for the integration of needed management information, and more closely linked reporting requirements to management responsibilities.

This step addresses one source of confusion seen by the panel regarding the operational chain of command and reporting relationships. DOE has been plagued by the existence of parallel communication channels within individual functional communities without a clear delineation of authority and accountability. Because of the blurring of authority, the enterprise lacks a clear definition of who needs what information and who gives direction and provides effective mechanisms for establishing an integrated view across functional communities.

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<sup>9</sup> An example of effective technical leadership is posed in the article by Victor H. Reis, Robert J. Hanrahan, and W. Kirk Levedahl, "The Big Science of Stockpile Stewardship," *Physics Today* 69(8) (2016), 46, <http://dx.doi.org/10.1063/PT.3.3268>.

**Recommendation: Eliminate the HQ divide that impairs communication within functional communities**

Second, the panel’s recommendations would remove the “headquarters divide”—the separation of NNSA HQ functional communities from their counterparts in DOE headquarters. The ambiguities and overlaps in roles and responsibilities under the “separately organized” structure have created disincentives for individuals to share information across this divide because each HQ staff is, in effect, in competition with the other HQ staff for control.

The panel’s structural recommendations for removing the headquarters divide include the consolidation of HQ mission-support staffs. These staffs would form professional pools of expertise available to each of the major operational components of the Department. The panel envisions a matrix-support arrangement in which functional experts would belong to a professional functional community but would be assigned to support the operating components. For example, legal experts, accounting experts, or public affairs experts would be managed through their functional community but they would be assigned to support the operating components, under the direction and review of the operational component head. (This resembles the supported-supporting command relationship routinely employed in the military and industry.)

**Recommendation: Create a clear channel of communication and direction between the Director of ONS and field-operating contractors**

Third, the panel noted that, at the field-operating level, free-flowing information between the operating activities and headquarters is an essential attribute of highly reliable organizations. A number of recommendations touch on the character and content of such communication. The actions include improved mission planning, improved infrastructure planning, and improved program planning. (For these plans to have meaning and to improve management, they must be based on realistic costing and program planning; hence the panel has also emphasized the need for an effective, independent costing activity.)

The integration of operational communications (and direction) is addressed by establishing a simple, clear operating structure. The panel’s recommendation is as follows.

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.

The key synchronizing functions that had been performed by the Albuquerque Operations Office are needed today. An effective mechanism would solidify the decision authority of the Director and coordinate the efforts of all the key officials accountable for executing the program. The participants include the Director, Deputy Directors, program managers, the management and operations contractor leadership, and field office managers.

An effective mechanism will permit the participants to share information regularly across sites, programs, and functions. It will provide a clearinghouse for raising issues in the execution of programs and for considering strategies for resolving them. Over time, the discipline of exercising leadership and management roles through this mechanism will reinforce the needed management culture by improving communications, understanding, and working relationships.

In summary, the panel’s recommendations would consolidate and clarify channels of communication in all three of these important dimensions: communication up and down the chain of command;

communication within functional communities across the current HQ divide; and the integration of field-level communication between the Director of ONS and site operators.

**Question 2. Under the NNSA Act, the limitation on the Secretary’s delegation authority effectively prohibits the exercise of authority, direction, or control by non-NNSA DOE personnel.**

**Q2a. Would you explain whether or not you agree the statutory limitations on the Secretary’s delegation authority impedes or potentially impedes the Secretary’s ability to ensure sound and effective management?**

The Secretary’s ability to delegate authority to HQ staffs is an area where the panel found inconsistencies in the statutes. “Separately organized” is variously defined, implying different relative roles for DOE HQ staff and NNSA staff in 42 U.S.C Chapter 84 versus 50 U.S.C. Chapter 41. Footnote 29 of the panel’s report records the following:

DOE and NNSA define and govern their relationship based on legislation that does not unequivocally assign policy and risk acceptance authority. Section 7144 of 42 U.S.C. Chapter 84 reads, “The Secretary shall be responsible for establishing policy for the National Nuclear Security Administration” and “The Secretary may direct officials of the Department...to review the programs and activities of the Administration and to make recommendations to the Secretary regarding administration of those programs and activities, including consistency with other similar programs and activities of the Department.” Section 7144(a) further states that, “The Secretary shall be responsible for developing and promulgating the security, counterintelligence, and intelligence policies of the Department.”

These statutes conflict with § 2402(b) of 50 U.S.C. Chapter 41, which declares, “The Administrator has authority over, and is responsible for, all programs and activities of the Administration...including...(2) Policy development and guidance...(6) Safeguards and Security...(9) Environment, safety, and health operations” and § 2402(d), which states “the Administrator can establish NNSA-specific policies unless disapproved by the Secretary.”<sup>10</sup>

As a practical matter, NNSA operates under authorities and mechanisms that create unnecessary ambiguity and friction. The panel found that the NNSA Act, as implemented, made organizational changes designed to insulate NNSA from DOE headquarters (1) without specifying the Secretary’s roles, (2) without stipulating the relationships between NNSA and DOE headquarters staffs, and (3) without requiring actions to shift the Department’s culture toward a focus on mission performance. NNSA was not provided the line-management authority necessary to “own” mission execution, including the integration of safety, security, and environmental concerns into the decision-making for executing NNSA’s missions. Neither was an effective policy implementation framework established. Many of the details of these structural flaws are provided in Chapter 2 of the panel’s *New Foundations* report.

During the time the panel conducted its review, it observed the same problems with ambiguity and friction within the HQ staffs as was observed in an earlier GAO [U.S. Government Accountability Office] report:

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<sup>10</sup> *New Foundations*, 22, fn 29.

...NNSA and DOE have not fully agreed on how NNSA should function within the department as a separately organized agency. This lack of agreement has resulted in organizational conflicts that have inhibited effective operations.<sup>11</sup>

Each community believes it is doing what is directed by the statutes; and each is correct—given its interpretation of the law. But lacking an effective management framework—including the lack of an especially clear delineation of value-added roles and responsibilities—the inevitable result is duplication, friction, stasis, and risk.

**Q2.b. To the extent you believe this is an impediment or potential impediment, please explain how your recommendations address this or otherwise enhance the Secretary’s ability to ensure sound and effective management of the Department.**

The fundamental solution is to create a healthy operating culture in DOE. First and foremost, this requires establishing the Secretary’s mission ownership and the Director’s responsibility and authority for executing the mission under the Secretary’s direction. Having done this, the need remains to create a simple, clear management structure. The panel’s recommendations to remove the HQ staff divide would remove the existing legislative ambiguities in authorities and responsibilities described above. In doing so, the resulting framework would make clear that the Under Secretary heading the Office of Nuclear Security owns the responsibility for executing the NSE mission. Two specific recommendations from the panel’s report are central to this:

- (1) First, 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 [and]
  - eliminates overlapping headquarters staffs<sup>12</sup>

An essential step in establishing the needed matrix management structure is the alignment and systematic documentation of roles, responsibilities, authority, and accountability. Individuals at all levels should understand their roles and their contributions to mission execution. This should be done in a manual available to everyone working within the nuclear security enterprise.

- (2) Second, the Secretary should stipulate that the Director, ONS, shall receive support from the Department’s mission-support staffs in order to eliminate redundancies, reduce costs, and leverage best practices. To make this approach work effectively, the Secretary must establish suitable management structures and processes to ensure that the Director can interact with and draw upon the skills and expertise across line-management staffs and these DOE&NS mission-support elements.

An effective personnel management system is essential. The Director should have input on performance evaluations for those mission-support staff personnel assigned to assist ONS. The Director further should have the authority to approve or dismiss assigned individuals. In addition, those DOE&NS functional staff directors responsible for the functional communities

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<sup>11</sup> U.S. GAO, *National Nuclear Security Administration: Additional Actions Needed to Improve Management of the Nation’s Nuclear Programs* (Washington, DC: U.S. GAO, January 2007).

<sup>12</sup> *New Foundations*, 32.

who provide matrix support to ONS must be accountable to the Secretary to ensure their organizations' responsibilities are executed in support of nuclear security missions.

While mission-support staffs serve primarily to support and advise line managers, there must be a mechanism that allows functional experts to question and appeal the decisions of the line managers. Such a mechanism needs to elevate issues quickly to the appropriate authorities for resolution, as described in Action Item 4.1 [of the panel report].

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

To codify the resulting management system, the Department will need to create a manual that clearly defines and codifies roles and responsibilities, including authority, direction, and control.

**Question 3. Under the current set-up, NNSA has its own mission support offices, which your report indicates contribute to duplicative DOE mission support and separate lines of direct accountability and reporting either to the Secretary or to the Administrator. Would you explain specifically what is necessary to reform the mission support functions of the Department to ensure more effective and efficient support of the Secretary's legal, security, management, and oversight responsibilities?**

As explained previously under Question 2.b, the Secretary should eliminate the HQ divide by consolidating functional staffs. For example, DOE should have a single General Counsel. Legal experts working throughout DOE would be hired and managed by the General Counsel. Lawyers supporting the ONS would be selected by the Director of ONS, assigned for duty by the General Counsel with the approval of the Director of ONS, and performance evaluations would be provided by the Director to the General Counsel. (The other DOE component organizations would have similar processes for selecting and rating legal staff assigned to assist their component.) Under this system, each of the Department's functional communities builds and manages a common core of professional capability. The advantages of such a management structure is that it fosters communication within the community, creates greater flexibility for career development and management, and makes the most cost-effective use of available talent.

There are a number of alternative ways for structuring this arrangement. The ideal solution likely will vary across functional communities. Limited by its scope, the panel did not undertake the detailed analysis necessary to propose arrangements for specific operating elements.