



**The Deputy Secretary of Energy**  
Washington, DC 20585

January 24, 2012

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DNF SAFETY BOARD

The Honorable Peter S. Winokur  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, DC 20004

Dear Mr. Chairman:

This letter is to inform you that the Department of Energy (DOE) has completed Action 2-1 of the Department's Implementation Plan (IP) for Defense Nuclear Facilities Safety Board (Board) Recommendation 2011-1, *Safety Culture at the Waste Treatment and Immobilization Plant (WTP)*. The deliverable for Action 2-1 is a letter to the Board transmitting the Secretary's expectations for Nuclear Safety at the Department. On December 5, 2011, the Secretary and I issued our expectations for Nuclear Safety at DOE in the enclosed memorandum to Heads of all Departmental Elements, and encouraged them to disseminate it widely throughout the Department.

In the context of Nuclear Safety at the Department, the memorandum addresses the Secretary's and my expectations for Roles and Responsibilities, Safety Culture, Safety through Standards and Managing Risk, and Integrated Safety Management; and reinforces the issuance of clear and specific safety culture attributes in DOE G 450.4-1C, *Integrated Safety Management System Guide*.

This issue is of great importance to DOE, and as the Responsible Manager for this Recommendation, I am focused on ensuring thoughtful execution of the IP and the continuous improvement of safety culture throughout the Department.

Sincerely yours,

A handwritten signature in black ink, appearing to read "D. Poneman", with a long horizontal flourish extending to the right.

Daniel B. Poneman

Enclosure





The Secretary of Energy  
Washington, DC 20585  
December 5, 2011

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DNF SAFETY BOARD

MEMORANDUM FOR HEADS OF ALL DEPARTMENTAL ELEMENTS

FROM:

SECRETARY STEVEN CHU

DEPUTY SECRETARY DANIEL B. PONEMAN

SUBJECT:

Nuclear Safety at the Department of Energy

### Introduction

Nuclear safety is a core value of the Department of Energy. As our management principles state: "We will pursue our mission in a manner that is safe, secure, legally and ethically sound, and fiscally responsible." Over the past three years, recommendations we have received from external sources, queries from our stakeholders, operational events, and input from our internal oversight organizations have clearly indicated that although the Department has made great strides in nuclear safety, we will only succeed through teamwork and continuous improvement. The safety culture issues that have arisen in various fora underline the need for intensified effort. Given the responsibilities for the safety of our workers and the public with which we have been entrusted, no contractor or Federal employees should ever feel unable or unwelcome to raise safety issues. To the contrary, constant vigilance and a questioning attitude should be encouraged.

We are now embarked on a broad assessment of safety culture within the Department to better understand where we need to improve. That assessment and the recommended actions that will follow from it will underpin the next steps we will take in our journey of continuous improvement. This memorandum briefly describes the destination; it reflects our vision for how the Department should function. In some areas, the Department is already operating consistently with that vision; in others we have more work to do. Our aim is to ensure we all have a clear vision of where we are going so that we can all be working in the same direction, with the same goals in mind.

DOE and its predecessor agencies, tracing back to the Manhattan Project, have consistently pursued a mission to support "the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public." Thus, nuclear safety has been an integral part of our vital and urgent mission from its inception, and our goal is to continuously improve our safety performance. Our overall approach to nuclear safety is further articulated in DOE P 420.1, *Department of Energy Nuclear Safety Policy*. We are firmly committed to these policies and expect a similar commitment from all DOE employees, contractors, and partners.



DOE's mission includes diverse operations involving a variety of nuclear materials and processes. We recognize our unique obligations as a self-regulated agency to establish and meet high standards for nuclear safety, maintain exceptional nuclear safety performance, and provide rigorous, comprehensive, and trustworthy oversight and enforcement of those nuclear safety standards. Only through these actions can we provide adequate protection of our workers, the public, and the environment, while sustaining the public trust and confidence crucial to our ability to fulfill the mission.

To achieve our mission, DOE must strive to excel simultaneously as a self-regulator, as an owner, and (in full cooperation with our laboratories and contractors) as an operator. Each of these roles is vital and must be executed with rigor and integrity.

No matter what role you play in supporting the DOE enterprise – whether a line manager, mission support, contractor, Federal employee, internal or external oversight – you are a key part of the Department's efforts to execute our mission safely and responsibly. Each one of us, whether contractor or Federal employee, must be invested in and take responsibility for the safety of our activities, and we must continuously refresh our efforts to review and improve our approach. Safety is everyone's business.

### **Roles and Responsibilities**

As Secretary and Deputy Secretary, we bear ultimate responsibility for nuclear safety at DOE facilities. Under our direction, line managers have the authority and the responsibility for establishing, achieving, and maintaining stringent safety performance expectations and requirements among all Federal and contractor employees, as well as at DOE labs and facilities.

The Secretary has established the DOE Central Technical Authorities (CTAs), who are responsible for implementing nuclear safety requirements rigorously and consistently, providing authoritative nuclear safety guidance, and establishing goals and expectations for subordinate personnel and contractors. The CTAs are supported by the Chief of Nuclear Safety and the Chief of Defense Nuclear Safety. These offices provide line management oversight and support to achieve consistent execution of field level nuclear safety functions.

The Department's Office of Health, Safety and Security (HSS) has two discrete functions. First, HSS, in close collaboration with CTAs and line management, is responsible for the development of DOE nuclear safety policy, Federal Rules, Orders, and the associated standards and guidance, as well as for reviewing safety issues complex-wide. HSS identifies opportunities for improvement and best practices for line managers in order to strengthen safety culture and performance. The second HSS function is to conduct independent oversight and regulatory enforcement that is independent from line management. On behalf of the Secretary, HSS independently and regularly evaluates contractor and Federal personnel safety performance and recommends needed improvements. The independence of HSS, which reports directly to the Office of

the Secretary, guarantees that HSS will retain the autonomy to exercise its oversight and regulatory role without potential conflicts of interest.

Contractor management must carry out the direction from Federal line management, while fostering a work environment where every individual accepts responsibility for safe mission performance, demonstrates a questioning attitude and awareness of work conditions that may affect safety, and assists other employees and contractors in discouraging unsafe acts or practices.

The Defense Nuclear Facilities Safety Board also plays a pivotal role in providing recommendations as well as oversight to the Department. The Board was established by Congress in 1988 to provide recommendations to the Secretary of Energy with respect to defense nuclear facilities, “as the Board determines are necessary to ensure adequate protection of health and safety,” taking into consideration “the technical and economic feasibility of implementing the recommended measures.” The Board evaluates the content and implementation of the standards relating to the design, construction, operation, and decommissioning of defense nuclear facilities; reviews applicable orders, regulations, and requirements) at each Department of Energy defense nuclear facility; and reviews the design of a new Department of Energy defense nuclear facility before construction of such facility begins. The Board makes recommendations to the Secretary of Energy, and the Secretary takes the recommendations fully into account whenever making decisions regarding matters under the Board’s jurisdiction.

For this system of distributed authority combined with accountability to work, it is essential that data flow freely through the organization; transparency is vital.

### **Safety Culture**

DOE is committed to a strong and sustained safety culture, where all employees – from workers with shovels in the ground to their managers all the way up to the Secretary and everyone in between – are energetically pursuing the safe performance of work, encouraging a questioning work environment, and making sure that executing the mission safely is not just a policy statement but a value shared by all.

A strong safety culture is embedded in the Department’s objective of management and operational excellence. In particular, DOE strives to provide an open culture that not only embraces, but also actively seeks out evidence of potential problems so that any problems can be corrected promptly.

Operational safety at DOE requires the relentless pursuit of continuous improvement. We achieve this by evaluating performance data for insights into potential problems and solutions. We expect all members of our organization to participate in this effort. DOE’s recently issued Integrated Safety Management System Guide 450.4-1C includes detailed information to assist sites in managing a strong safety culture.

No one who expresses a safety concern need fear retribution or penalty for stepping forward with a concern. It is against the law, regulation, and DOE policy for either Federal or contractor employees to suffer any such reprisal. There are multiple channels through which to express safety concerns, and it is the policy of the Department to review and respond appropriately to any and all concerns.

Of course, there are multiple factors at play in the evaluation of any potential safety concern, and reasonable people with relevant subject matter expertise may differ on the appropriate response to any given set of data. That is why the Department is committed to an analytically sound and honest evaluation of any safety concern, in order to assure adequate protection from possible radiological or other safety hazards.

### **Safety through Standards and Managing Risk**

The Department's approach to nuclear safety is founded on a demanding set of standards that capture the world's best knowledge and experience in designing, constructing, operating, deactivating, decommissioning, and overseeing nuclear facilities and operations. DOE applies validated national and international standards to the maximum extent possible, because these standards reflect broad input from a large and diverse group of experts. As our management principles state: "We will apply validated standards and rigorous peer review."

DOE has developed a Directives system for nuclear safety expectations that sets clear, concise, and demanding expectations, incorporating the lessons and experiences of past practices while encouraging efficiency and innovation. The DOE Directives system manages risk by balancing two complementary approaches. On one hand, specific direction on adherence to approved standards and procedures is required to ensure explicit control of processes when the consequence of an error is intolerable (such as nuclear explosive safety), to assure minimum acceptable quality, to promote uniform repeatable performance, and to avoid repetition of previous problems/errors. On the other, general direction for all individuals to remain alert to improvement and to exercise informed judgment is also required, since too much rigidity can stifle creative solutions that could be even more effective than the method specified. DOE endeavors to maintain a workforce that is mindful of its environment and actions in order to detect deviations from assumptions or expectations and to respond with appropriate expertise and resiliency.

Our management principles also require that we "manage risk in fulfilling our mission." This is essential to a robust safety culture, as demonstrated by the 2010 Deepwater Horizon oil spill, which vividly demonstrated the inadequacy of a mere "check-the-box" mentality when it comes to smart decision-making in a complex and hazardous operational environment. Since DOE expects rigorous compliance with its requirements, managers and workers must recognize and embrace their personal accountability to meet safety standards, while avoiding a tendency for rote compliance with requirements. In some cases, it may be necessary to raise a hand and ask if another approach could offer a smarter way to assure safety. This attitude must be encouraged.

## **Integrated Safety Management**

Integrated Safety Management (ISM) serves as the touchstone of our nuclear safety program.<sup>1</sup> DOE policy requires the Department systematically to integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. We have also adopted a graded approach to safety and security by providing a higher degree of protection and oversight to higher risk/consequence facilities and activities.

Consistent with ISM and our safety policy, DOE emphasizes operating with the least hazards and least hazardous material possible to achieve the mission and mitigating any remaining hazards with engineered controls if possible. We apply ISM at the site, facility, and activity levels concurrently to assure that all DOE and contractor workers are engaged and actively participating in the activities necessary to keep safety and safe operations at the center of our mission.

## **Conclusion**

Nuclear safety is integral to the Department's mission. DOE embraces its obligation to protect the public, the workers, and the environment. We have adopted robust and demanding safety policies to guide our nuclear operations. We hold line management accountable for safety. We seek to foster an open culture where we actively seek opportunities to enhance the safety and quality of our operations. We depend on our highly trained workforce to identify errors and opportunities for improvement. We celebrate the individuals who contribute to our safety culture ideals. We integrate safety into all that we do and at all levels within our organization. We construct and maintain high-quality facilities and infrastructure that reflect our commitment to reducing hazards through engineering and defense-in-depth. We support a vigorous and active advisory, oversight, and enforcement effort through organizations outside of line management, such as HSS and the Defense Nuclear Facilities Safety Board, to provide further assurance that we are protecting the public, the workers, and the environment.

In all these ways, the Department of Energy aims to retain the trust and confidence of the American people. We have no higher duty.

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<sup>1</sup> See <http://www.hss.doe.gov/HealthSafety/ism/> for additional details on ISM.