



# Independent Review of the Department of Defense Nuclear Enterprise

June 2, 2014



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## Independent Review of the Department of Defense Nuclear Enterprise

The Honorable Charles T. Hagel  
Secretary of Defense  
The Pentagon

2 Jun 2014


Mr. Secretary,

Attached is the report responding to your direction to the Independent Review. It is based on visiting all the Navy and Air Force nuclear forces in the U.S. and three nuclear forces locations in Europe listening to Sailors, Airmen, and Marines who perform this mission. Section II of the report contains the direct answers to your charge to us to tell you what we think you need to do to strengthen the conduct of this critically important mission. Sections III, IV, and V provide discussion and recommendations for actions by other levels of command and authority in the Department.

The bottom line is that the forces are meeting the demands of the mission with dedication and determination but with such increasing difficulty that any margin of capability to meet the demands has been consumed and the Sailors, Airmen, and Marines are paying an unsustainable price. We believe that understanding the discussion and implementing the recommendations in this report will do much to restore the essential margins to ensure that the forces can continue to successfully perform the mission with acceptable and sustainable demands on the men and women performing the mission.

With respect,

  
Larry D. Welch, General, USAF (Ret)

  
John C. Harvey, Jr., Admiral, USN (Ret)

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# Independent Review of the DOD Nuclear Enterprise

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## Section I: Introduction

### Informing the Independent Review

The Independent Review Team (henceforth called the Review) examined the nuclear deterrent mission in the Departments of the Navy and Air Force and sought to identify leadership, organization, investment, morale, policy, procedural, and/or other shortcomings that are adversely impacting the mission. The Review visited six Navy and seven Air Force nuclear field activities, multiple support organizations, and headquarters organizations. The team also reviewed findings and recommendations from relevant previous reports and ongoing investigations including several recent Defense Science Board reports on nuclear issues and the Air Force Blue Ribbon Review of Nuclear Weapons Policies and Procedures.

The Review heard from all levels—from first-term Sailors, Airmen, and Marines to senior commanders. Our focus was on listening as we sought information directly from the professionals performing the nuclear deterrence mission. Participants at all levels were open and anxious to engage on the issues impacting their ability to perform their missions, and the discussions were remarkably candid.

The Review's approach to addressing the questions posed by the Secretary of Defense was to use the information gleaned from listening and from Review members experience and insights to form our professional judgments about the issues confronting the nuclear forces. While we were interested in facts, we were equally interested in perceptions since attitudes and beliefs drive behavior. Among the most serious problems encountered were a series of significant disconnects including those between what the DOD and service leadership expected and what the leadership did to empower the forces to meet those expectations; what leadership says and presumably believes and what the Sailors, Airmen, and Marines who must execute the mission actually experience; how the personnel system measures adequacy of manning and the total workload in the field associated with mission and other demands; the drive for efficiency in logistics support and what those in the field are experiencing in actually getting needed parts in a timely manner; and training quality versus the drive for quantity in training output. In addition, we found serious inefficiencies from micromanagement, excessive security demands, and the need to address a plethora of requirements not directly contributing to the mission.

Observed realities often supported the perceptions of these disconnects facing Sailors, Airmen, and Marines. For example, a widely perceived issue in the view of the force is inadequate manning. Yet, the Review repeatedly saw data reflecting 100% manning leading to a perception

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at leadership levels that this is not an issue. Sailors, Airmen, and Marines are not interested in statistics about the number of slots filled by available bodies. Instead, they face the reality of what they see as an excessive daily workload with shortfalls in numbers of trained and qualified personnel. This workload challenge is driven by multiple factors to include the lack of qualified personnel available to do the work (i.e., effective manning), the inefficiencies caused by micromanagement, the quest by commanders and supervisors for zero risk in all things (large and small), the additional workload imposed by a plethora of requirements that make little or no contribution to the mission, and by the limited availability of timely materiel support needed to accomplish the mission.

The Review believes these key disconnects between leadership intent and perceptions of various issues and the daily experiences of the Sailors, Airmen, and Marines on the deck plates, on the flight lines, in weapons storage areas, and in missile fields need to be addressed quickly and effectively. The discussion and recommendations in this report are directed at that need.

### **The Environment and the Expectation**

While there are specific differences, the Review found a surprisingly similar set of attitudes and issues in the forces making up the three legs of the U.S. strategic nuclear Triad and in the units supporting the NATO Dual-Capable Aircraft (DCA) force. These include a deep sense of pride and commitment in the men and women in the nuclear forces—men and women demonstrating extraordinary resilience under increasingly demanding conditions. We heard from a tough and resilient force that was not whining, but was instead providing a frank and candid description of what they have and what they need to perform the mission more effectively and efficiently. The forces understand the critical importance of their nuclear deterrent mission and universally demonstrate an attitude focused on mission accomplishment, “no matter what.”

Regardless of the shortfalls they face, whether in manning, equipment, documentation, or guidance, the forces sacrifice their own professional development, family time, and personal commitments to ensure that the mission is accomplished. As the weapons systems and support equipment age, and public support for their mission erodes, this extraordinary effort and sacrifice required of our Sailors, Airmen, and Marines to sustain the readiness of the nuclear forces has become the norm—a norm that, in the judgment of the Review, is not sustainable.

This longstanding and admirable commitment to mission accomplishment—despite all barriers—disguises the longer-term consequences of shortfalls in support for the nuclear forces. Metrics upon which senior leaders traditionally rely—meeting the demand for



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maintaining the mandated number of SSBNs on patrol, ICBMs on alert, and bombers/dual-capable aircraft (DCA) and crews ready for employment—do not provide leaders the insight needed to appreciate the true cost to the forces of meeting mission demands.

The men and women of the nuclear force believe that the Secretary of Defense, in directing this and other reviews, intends to take action at the highest level to ensure that nuclear forces remain fully mission capable in both the near- and far-term. While the forces are aware of relevant and appropriate actions taken in response to prior reviews, they also perceive that many key recommendations from previous reviews have had only marginal impact. Given the level of attention generated by the series of reviews now under way or recently completed, expectations are high that, this time, the response will be both sustained and effective. Apparent lack of effectiveness implementing those corrective actions will be difficult to overcome and will further erode credibility and confidence in the chain of command.

**The mission of the U.S. nuclear forces has always been demanding. In the past, positive margin in surplus capability provided the resilience needed to meet the challenging mission demands. This margin no longer exists. The underlying issues have been identified. The needed responses to many of the issues are not complex. Lasting action is possible, necessary, and expected.**

The disconnects referenced above and discussed in some detail in the remainder of the report have developed in absence of the integrated, synchronized nuclear enterprise that characterized the U.S. nuclear forces during the Cold War. That nuclear enterprise was far more effective in ensuring that senior leaders have visibility into the problems challenging the nuclear forces at the deck plates, on the flight lines, in the missile fields, and in the shops. Over time, with little notice at the levels that could address the problems effectively, mindsets, functions, and programs that used to support the nuclear mission have devolved into obstacles to the mission. In addition to the disconnects noted earlier there is a set of disconnects between purpose and result. An essential commitment to doing things right has devolved into an overbearing drive for micro-perfection. An inspection system intended to contribute to effective and efficient mission accomplishment has degenerated into “inspection is the mission.” A Personnel Reliability Program (PRP) intended to assist commanders in ensuring their people are fit for duty has devolved into a burdensome, largely administrative exercise that detracts from the mission. Necessary attention to detail has devolved into micromanagement. The specialized logistics systems that met the special needs of unique nuclear forces have largely been absorbed into a “normalized” system designed for efficiency at

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scale, but at the cost of creating massive inefficiencies in the nuclear forces. Each of these issues demonstrates the critical need to recreate an effective nuclear enterprise with the structure and processes that ensure senior leaders understand the issues addressed in this report.

These issues are addressed in four main sections of this report. Section II provides discussion and recommendations for actions suggested for the Secretary of Defense to address the disconnects noted above. Sections III and IV provide specific recommendations for the Services and others to help address a wide range of issues arising from or contributing to the disconnects. Section V addresses the special challenges at Minot Air Force Base—a northern tier installation that is the only location operating two legs of the U.S. strategic nuclear Triad.

**Actions to address these disconnects can be initiated now and begin to make a difference, in perception and in fact, quickly. They need no further study. There are certainly issues that will require action in the FY 16 or later POM commitments. However, given the history of response to previous reviews, delaying action on issues that can be addressed quickly will likely be perceived as simply being told, “The check is in the mail.”**

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## Section II: Key Issues for the Secretary of Defense

### Mission Ownership

The Review found a significant disconnect between the ownership, passion, and dedication to the nuclear deterrent mission that the Sailors, Airmen, and Marines performing the mission demonstrate every day and what the forces perceive to be the commitment to mission ownership by higher level leaders throughout the Department of Defense and the nation.

The 2010 Nuclear Posture Review and other formal policy guidance make clear that a healthy Triad of U.S. strategic nuclear and dual-capable aircraft are essential to the security of the United States and our allies who depend on the U.S. nuclear umbrella. The nuclear forces are acutely aware of the positive declarations in the Nuclear Posture Review (NPR). At the same time, they see leadership support not consistent with the declared policy. They are well aware of the public declarations by former (and, occasionally, current) senior national security leaders and others who question or deny the continuing relevance of the nuclear forces or segments of the nuclear forces. They also are well aware of the lack of public response to these views by their current senior leadership. This disconnect in ownership produces confusion in the force about the national and DOD leadership commitment to the nuclear mission.

The disconnect concerning mission ownership is evident at multiple levels in the chain of command. The Review consistently heard from the Sailors, Airmen, and Marines on practices and requirements that are burdensome, inefficient, and negatively impacting mission readiness. The issues are frequently associated with the various agencies and staffs that are to provide support to the forces or that are involved in the inspection of these forces. While the most common issue cited was the PRP, other examples included manning, threat assessment, and the impact on security forces, inspection procedures, test equipment, parts support, and technical documentation. The forces see immediate, sometimes draconian, reaction to incidents that create negative publicity, followed after a few months by a return to business as usual. They do not see proactive approaches that resolve the issues negatively impacting their mission needs. Many of these issues are longstanding and well understood by the forces in the field. However, they remain unresolved, indicating the need for more effective ownership, a more effective enterprise structure, and a more consistent commitment to the nuclear force.

The difficulty in defining such an enterprise complicates taking ownership of the nuclear enterprise. Here there is a different kind of disconnect. OSD and the Services refer to the “Nuclear Enterprise,” as if there were a coherent, integrated structure and set of activities

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supporting the nuclear forces. **The Review did not find a coherent, integrated structure and synchronized set of activities that could be characterized as a DOD “nuclear enterprise.” Instead, the Review found a loose federation of separate nuclear activities often imbedded in and indistinguishable from support for and execution of a wide range of non-nuclear activities. An enterprise structure does exist within the SSBN forces; however, the effectiveness of that structure seems over-reliant on the personalities and particular professional background of commanders and directors.**

The unauthorized movement of nuclear weapons from Minot AFB to Barksdale AFB in 2007 prompted numerous internal and external assessments, significantly increased the inspection regimen for nuclear forces, led to major organizational changes, and ended the careers of several commanders. The revelation of the inadvertent shipment of nuclear-related materials to Taiwan discovered in March 2008 produced further major actions resulting ultimately in the resignation of a Service Secretary and a Chief of Staff.

These responses, characterized as “reinvigoration,” were appropriate and necessary. They led to significant improvements in broken or inadequate processes and resulted in a needed increase in attention to the level of discipline and compliance essential to nuclear force operations. At the same time, the recent internal Air Force “Report on Nuclear Deterrence Mission” identified serious shortfalls in virtually all the areas discussed in this report. While the responses produced some positive progress, in many of the areas, the level of attention soon waned and the rate of progress was not commensurate with the priority and needs of the nuclear deterrent mission. The Review concluded that the root cause of disappointing results was lack of clear ownership of the nuclear deterrent mission at the level that can produce the needed cultural changes and ensure follow through to complete effective actions.

### **Leadership “Say-Do” Gap**

The disconnect between expectations from reinvigoration and its results also contributed to a significant and growing gap between what we say and what we do that undermines the institutional integrity necessary to maintain effective nuclear forces. The sustained leadership “say-do gap” is closely related to the ownership issue. Senior leadership declares that the nuclear mission is uniquely important. Yet, in their daily work, Sailors, Airmen, and Marines experience shortages in the materiel, qualified personnel, facilities, and funding support delivered to the forces. They then must compensate for these shortages with determination to get the mission done, no matter what it takes. Based on results—SSBNs on patrol, ICBMs on alert, bomber and DCA crews trained and ready aircraft—senior leadership perceives that all is

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well or at least acceptable with the forces. The Sailors, Airmen, and Marines perceive that leadership accepts, and expects, the demands on the force to sustain the mission, no matter what it takes. Recognition of this disconnect and the actions necessary to address it need to be focused and visible down the chain of command. More words without action will only create more doubt about the leadership's commitment to the mission. The nuclear forces are eager for substantive change and are mindful of past events. They are watching closely for actions that are meaningful, helpful, and lasting in response to the current problem areas.

Sailors, Airmen, and Marines also perceive a gap between other nations' nuclear force modernization and the U.S. plans for strategic nuclear force modernization. These perceptions vary in each leg of the strategic nuclear Triad. The SSBN force is informed about the plans for the Ohio-class replacement program, although some are skeptical about the expected service life of the Ohio class. The bomber force is generally aware of plans to build a new bomber, but they know little about its development or the schedule for certifying for nuclear mission capability. The ICBM force perceives that a decade of studies about the Minuteman replacement has yet to become an approved follow-on ICBM program. Many have little confidence in the long-term future of the ICBM within the U.S. nuclear force.

This report is one of a new set of responses to a new set of incidents. As in the past incidents, the responses to date by the senior leadership are necessary and appropriate. The internal Air Force Review and the Air Force Global Strike Command's recent Force Improvement Program (FIP) have identified a set of issues similar to many from past reviews and similar to those identified in this report. The Review is aware of recently announced positive additional decisions by the Air Force leadership to address key issues. Seeing the solutions to those and other issues relevant to Navy and Air Force nuclear forces through to effective conclusion is the path to closing or at least narrowing the "say-do gap."

### **Demand for Micro-Perfection**

The forces understand the need for a very high standard of performance in the nuclear deterrence mission. The mission is too important to fail, so the forces must be ready at all times to execute their essential mission functions. What the forces see, though, are leaders who demand zero mistakes in every operational and administrative action (an impossible expectation that cannot be realized), often unnecessarily and at the expense of sustained mission performance, primarily to reduce the risk of external criticism. The resulting disconnect of micro-perfection comes from a corrupted risk assessment process.

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The mass of directives that flow from multiple levels and multiple sources to the forces is a highly visible expression of this drive for micro-perfection. These directives converge only at the level of the Air Force wing and Navy SSBN commanders who cannot comply fully with the aggregate load of “shalls” and “wills” found in the multitude of guidance. In an effort to avoid rather than properly prioritize and manage risk, higher-level leaders and functional staff agencies are more likely to add to the excessive direction than to filter the non-mission essential demand. In many cases, in response to an inspection failure or untoward incident, new burdensome processes are implemented in an attempt to ensure “this never happens again.” **This reactive approach has led to a widespread substitution of process and procedure for personal responsibility and commander/supervisor responsibility, authority, and accountability. With the longstanding insistence on perfection on all fronts, a culture has evolved in which commanders accept attempts to eliminate the possibility of error in even non-essential processes and procedures through means that are so cumbersome and inefficient that overall risk to the mission increases.** Micro-perfection generates macro-risk to the mission.

The negative impact of this demand for micro-perfection can be difficult to see further up the chain of command. Practices that lack common sense frequently are masked by the Sailors, Airmen, and Marines who, regardless of the burdensome processes, deliver the mission “no matter what.” Leaders, therefore, may lack an accurate picture of the price the forces pay to achieve these positive outcomes. Continuing to push the troops to meet mission requirements with an increasing demand to do “more with less, and do it perfectly” especially in non-essential activities, subverts leadership, increases mission risk, and raises integrity concerns.

### **Inspection over Mission**

In many respects, the chain of command has allowed inspections and individual testing to supplant the authority and accountability of commanders. This is yet another high-consequence disconnect. Inspections are to contribute to the effectiveness and efficiency of the unit in maintaining daily readiness to perform its mission. Toward that end, inspectors should provide commanders insight so that commanders can make decisions. In practice, the chain of command has vested a degree of authority in inspectors that has resulted in commanders ceding their authority to inspectors and to the inspection regime. Today, a mistake by a single Sailor, Airman, or Marine having a bad day coupled with the judgment of a single inspector can result in a failure of the entire SSBN or wing—even in cases not involving a clear, critical error. The Review heard numerous examples of inspectors declaring that procedures were improperly

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performed based not on the direction in the technical order (T.O.) or directive, but on the inspectors' interpretations of the intent of the author of the directive. Pressure to implement processes so that no inspection discrepancy can ever happen again leads commanders to surrender to direction that is ever more detailed, rely less on the experience and judgment of their fully qualified technicians, and accept increasing inefficiency, frustration, and negative impact on the mission.

Sailors, Airmen, and Marines who perform the mission see inspection preparation, staff assistance visits, and responses to inspections as supplanting focus on mission performance. They see fear of inspection failure driving commanders' decisions, in too many cases, more strongly than mission readiness. They spend their time and resources on inspection rather than the mission. The Review saw mission briefings that described the units' daily focus in terms of what is inspected rather than the unit's mission.

This "inspection culture," which has accelerated in the Air Force since the reinvigoration following the 2007 and 2008 incidents, further erodes the chain of command's role, responsibility, authority, and accountability. The inspection culture exacerbates the impact of manning and experience shortfalls. Any misstep in the performance of a wing or boat's crew leads to an increasingly rigorous inspection regimen, creating a downward spiral of ineffectiveness where an already undermanned and under-experienced unit is over-worked, over-evaluated, over-drilled, over-observed, and under-trained—all at the expense of genuine proficiency and mission readiness.

A particularly egregious example of this disconnect is the current execution of the PRP. This program no longer effectively serves its intended purpose of ensuring that Sailors, Airmen, and Marines can perform their nuclear-related duties safely and reliably. Instead, driven by an administratively intense inspection process and an unresponsive PRP ownership structure, this program negatively impacts mission readiness. The execution of this program has become the poster child for the adverse impacts of the "inspections become the mission." The DOD directive on the execution of the PRP has removed most of the extraneous demands that consume enormous time and energy to ensure there is no issue of any kind in any PRP record. Yet, the Review did not find a single commander who had directed an end to these practices. Most commanders acknowledged that continuing these inefficient practices was a defense against inspection findings, instead of providing a useful addition to the commander's confidence in the fitness of his people for their daily duties. Continuing these practices

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demonstrates distrust of the Sailors, Airmen, and Marines who sustain and operate our nuclear forces, and is an egregious substitute for commander authority and accountability.

### **Recommendations for actions to be taken by the Secretary of Defense**

The following set of recommendations deal with the most basic and overarching need to address the key issues discussed in Section II.

#### ***Own the mission.***

- ▶ Direct quarterly meetings with leadership on progress toward complying with the Secretary of Defense’s direction on various corrective actions.
- ▶ On a regular and sustained basis, make it clear to all of the DOD that nuclear forces remain an essential underpinning of U.S. national security.
- ▶ Establish and support programs that maintain high awareness of verbal and written public declarations that question the need for nuclear forces and respond with equally public declarations.
- ▶ Direct that the loosely federated nuclear activities within OSD and the Air Force be brought together into a coherent and synchronized structure that focuses on direction and support for the nuclear forces.

#### ***Restore margin.***

- ▶ Establish that the nuclear mission has first priority and that the priority is to be reflected in personnel, logistics, and funding support.
- ▶ Direct that the Services address, in detail, the disconnects between expectations of meeting mission demands and the obstacles to meeting those expectations imposed by micromanagement, distracting emphasis on preparing for inspections, inefficiencies introduced by multiple directions from multiple sources—technical orders, instructions, higher headquarters directives, manuals—and the plethora of requirements that do not contribute directly to the mission.
- ▶ Direct the operational chain of command to filter non-mission direction instead of adding to the excess load on the mission forces.
- ▶ Direct that manning assessments address, in detail, the disconnect between available manning qualified to perform mission tasks and the total workload imposed by the mission and by issues addressed in the preceding recommendation.
- ▶ Direct that the most basic needs for Sailors and Airmen and their families receive priority attention—repairing broken equipment, adequate clothing for cold-weather conditions,



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vehicle maintenance, and providing support services (e.g., childcare center hours, commissary hours, fitness center hours, medical services).

- ▶ Direct that in addition to attention to the performance of the unit, inspection teams evaluate and report on the quality of higher headquarters' support for the unit's mission accomplishment and on those processes, procedures, and practices that are obstacles to mission performance.

***Restore mission confidence and credibility.***

- ▶ Bluntly and openly acknowledge the problems that have continued to develop since additional focus was placed on the nuclear enterprise in 2007-2008.
- ▶ Direct the immediate end to administrative and reporting requirements in excess of approved DOD direction.
- ▶ Clearly and forcefully, give the force your personal commitment to closing the current institutional "say-do gap."
- ▶ Direct a move from a culture of micromanagement by commanders and supervisors to a culture of empowerment of qualified people to do their critical work.

***Ensure accountability.***

- ▶ Hold senior leaders accountable for the required actions to assure both the confidence of the force and confidence in the force.
- ▶ Make it clear to all that individual behavior is a matter of personal responsibility and that failure to meet performance and behavior norms is a military discipline issue to be addressed by commanders.

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## Section III: Three Special Challenges

This report addresses a wide range of policy, direction, resource (human and material), and leadership issues that are broadly applicable to the nuclear forces. Three issues are particularly unique and call for special attention.

### The Cheating Issues

The two cheating on tests issues that raised concern over ethics and integrity in the force occurred in widely different environments and different parts of the force, but have remarkably common characteristics. These incidents occurred despite Navy and Air Force Service cultures that place a premium on integrity and with additional emphasis since these, and other, incidents occurred.

Contributing to both incidents are testing cultures that undermine the integrity sought by both Services. In both cases, the purpose of the tests had evolved from focus on measuring qualifications to accomplish a task to career-defining events that had direct, major impact on the professional futures of the participants. The professional and personal pressures associated with this mis-purposed testing, which are similar for the Air Force missile combat crew and the Navy nuclear propulsion prototype exams, significantly shaped perceptions and choices. The high degree of perceived importance of these tests for career progression ensured a strong desire to achieve the highest scores possible. The low correlation between the perceived importance of the tests and the validity of the purpose of the tests weakened the value placed on integrity in taking the tests. These conditions do not justify cheating, and these Sailors and Airmen made the wrong choice in dealing with the pressures.

The Review found that although the Charleston exam is just one part of an advanced qualification which many Sailors have successfully completed, success on this exam at the prototype has more far-reaching consequences. Qualification for this advanced watch station duty is a prerequisite in the nuclear forces to advance to Chief Petty Officer. A major motivation for the Sailors seeking prototype-training duty is the opportunity to complete this qualification. They move their families and some buy homes in Charleston. They see their professional and personal lives as hinging on success in this qualification, and thus this exam. They routinely work 12-hour days and then spend additional hours studying for the qualification. Similarly, the Air Force missile combat crews' experienced undue pressure associated with exam

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performance and its impacts on career progression and some crews dealt with the pressure by making the wrong choice.

The Review examined the Command Directed Investigation (CDI) of the cheating incident at Malmstrom AFB and the Manual of the Judge Advocate General (JAGMAN) investigation into the cheating allegations in Charleston. The Review found the Malmstrom CDI to be an effective tool to help Air Force leaders affect change in the ICBM wings. The CDI identified the proximate issues and examined organizational culture and leadership issues influence on the decision of the crewmembers.

The JAGMAN of the Charleston cheating incident focused on examining the facts surrounding those accused of cheating, but did not attempt to determine whether larger issues within the force were causal factors and if a broader organizational culture and institutional leadership were culpable in the incident. The Director, Naval Reactors is addressing these broader organizational and culture issues. These issues warrant intense attention.

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**Recommendation:** The Secretary of the Navy and the Chief of Naval Operations (CNO) should ensure that the Director, Naval Reactors provides an in-depth report on actions to address the broader organizational, cultural, and institutional leadership issues contributing to the cheating incident at the Nuclear Training Unit (Prototype) and cheating incidents that have occurred elsewhere in the Fleet.

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Additionally, elsewhere within the Navy nuclear mission, testing is so disconnected that it is widely perceived by Sailors of all ranks as failing to focus on its most basic purpose—to ensure that the Sailor has the required knowledge to stand watch properly. Sailors nearly unanimously indicated that qualification tests include esoteric questions and require rote memorization of procedures and checklists that are not, and should not be, performed from memory when operating the propulsion plant. This has occurred over many years in an effort to “increase level of knowledge.” Sailors indicated they believe that instead of testing required knowledge, tests are designed and adjusted to meet an arbitrary desired grade average and success rate. The Review heard often that if too many Sailors pass the test, then outside organizations would declare, “The examination program was not rigorous as evidenced by high grades and few failures.” Given this motivation, a consequence of studying hard to do better on tests is more difficult and less relevant tests to meet an arbitrary pass-fail standard. This practice has generated a level of cynicism among dedicated Sailors that is counterproductive to the purpose

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of testing. The Review found similar issues with testing overly focused on rote memorization, nuanced questions, and ever-increasing difficulty as test results were deemed too favorable in the Air Force nuclear forces.

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**Recommendation: The Chief of Naval Operations and the Chief of Staff of the Air Force (CSAF) should** ensure that training and skill testing is focused on measuring whether the Sailor or Airman’s knowledge is necessary and sufficient for the mission, but does not devolve into a counterproductive continuous demand for higher grades.

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### **ICBM Combat Crew Duty**

The ICBM operators believe combat crew duty is essential to national security. Combat crewmembers are proud of what they do and how well they do it. However, combat crew duty is arduous and seemingly brings little tangible reward. A strong motivator for excellent performance is the desire to move out of the primary crew force into roles that reduce the frequency of the combat crew mission tours. In effect, missile combat crews strive to be the best in their duties in order to decrease the amount of time spent on the duties they perform so well. “Upgrading” from combat crew duty to instruct in the classroom and simulator serves this purpose by reducing alert tours from eight per month to two. There is also a strong belief, supported by considerable evidence, that spending as little time as possible as a combat crew member increases the chance that ICBM operators can remain in the ICBM career field if that is their preference after completing the initial tour.

This attitude stands in stark contrast to Air Force flight crews who generally are motivated to spend as much time as possible performing crew duty in the air. In-flight experience is an important basis for pilots advancing in position and responsibility, and is a clear marker of qualification to accomplish the combat mission. For B-52 pilots, upgrading from co-pilot to aircraft commander requires 600 total flying hours, at least 60 B-52 sorties, and a recommendation by the Wing Commander. Upgrading from B-52 aircraft commander to instructor pilot requires 1,200 total flying hours with 500 B-52 hours as a qualified aircraft commander. The ICBM force would benefit from a similar mindset. To increase missile combat crew (MCC) proficiency and reduce the motivation to escape combat crew duty, progression within the ICBM career field should be based on a set of experience-based criteria that emphasizes performing combat crew duty.

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The lack of tangible recognition MCC members receive for the essential combat deterrence mission they conduct every day contributes to low morale and the desire to “escape” combat crew duty. Aircrew members receive increased recognition for deployed and contingency operations and especially for combat duty. Conversely, there is little recognition of the demands and importance of the ICBM combat mission that requires routine deployment from the main base. MCCs should receive recognition for their combat mission performance on par with members of other career fields who deploy and conduct combat operations worldwide.

Crew members see the requirement for MCC members to receive credit for currency and proficiency training events only while supervised in the Missiles Procedures Trainer (MPT) or in the classroom environment as a lack of trust by the chain of command. Aircrew members who are qualified and current are trusted to self-monitor and take credit for required currency and proficiency-training events accomplished on combat sorties, test and evaluation sorties, and other types of flights that are not considered training flights. Qualified and current MCCs also should be able to self-monitor and receive credit for all training currency and proficiency events that they accomplish while performing their operational mission. Further, instructors should be part of the missile squadron combat crew force and continue to perform the combat crew mission. Evaluators also should perform much of their function in the Launch Control Center observing combat crew operations.

Career path is another major ICBM combat crew issue. Most officers whose first assignment is missile combat crew duty (AFSC 13N) do not expect to remain in the ICBM career field after their initial assignment. The ICBM career field cannot absorb all the 13N officers who want to remain after their first tour. As a result, ICBM operators experience uncertainty regarding their futures even before they enter initial training. There should be a wide range of follow-on opportunities for these young officers of proven capability, discipline, strategic understanding, teamwork, and ability to deal with stressful duties. In practice, the range of options has been narrow. Combining the missile and space career fields from 1994 to 2013 created an expectation that, for most officers, the missile combat crew assignment was the prelude to a career in the space career field (13S). This is no longer the case. There are not enough opportunities in the 13S career field to provide needed opportunities, nor is there reason to expect the 13S career field as a natural evolution. Now that the 13N and 13S career fields have been separated, ICBM operators may pursue other opportunities. However, actual opportunities change year-to-year, driving continued uncertainty. At the time of the Review’s visits to the missile wings, the guidance for the career cross-flow process limited officers not

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retained as 13Ns to the option of the space career field. The Review was subsequently informed that the guidance has been changed.

Since the number of officers that need broader opportunities is less than a 100 per year, it should be possible to enhance the desirability of an initial missile combat crew assignment by offering these officers more choices and guaranteeing them one of their choices. This may require some deviation from the Air Force personnel management plan, but that should be a small price with high payoff to reduce the current 13N career disincentive.

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### **Recommendations:**

- ▶ The Secretary of the Air Force and the CSAF should:
  - ▶ Initiate a program to enhance recognition and reward for ICBM duty.
    - ▶ Direct that, on a continuing basis, officers completing their initial missile combat crew assignment, in excess of those needed for extended 13N duty specify three choices of follow on career paths with assurance of selection for one of the three.
    - ▶ Reinstate the authority to wear a patch on the Airman Battle Uniform (ABU) that recognizes maintenance members for achieving the Master Technician, Team Chief, Crew Chief, Instructor and Evaluator status in accordance with AFI 36-2818 AFCSCSUP. This applies to ICBM, cruise missile, and bomber technicians.
    - ▶ Consider special pay for personnel who regularly perform duty deployed from the home base to the missile field.
    - ▶ Direct that AF ROTC commanders publicize the steps taken to make a first assignment to the ICBM forces more attractive and make it clear to the ROTC commanders that strategic nuclear deterrence is Air Force Job One and is to be treated accordingly in AF ROTC programs.
  - ▶ Direct that an appropriate percent of upper level graduates from ROTC and the Air Force Academy receive first assignments in the nuclear forces.
  - ▶ Increase field grade presence in ICBM operational squadrons.
- ▶ **The Commander, AF Global Strike Command should:**
  - ▶ Return full authority to the Missile Combat Crew Commander for execution of the specified duties of the Combat Crew.
  - ▶ Eliminate Deputy Combat Crew Commander instructors and evaluators.

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- ▶ Establish combat crew experience requirements to proceed from Deputy Combat Crew Commander to Combat Crew Commander to Instructor.
  - ▶ Assign instructors to the operational missile squadrons.
  - ▶ Direct that qualified and current MCCs be able to self-monitor and receive credit for training currency and proficiency events accomplished while performing their operational mission. **Hold the Combat Crew Commander accountable for mentoring the Deputy Combat Crew Commander.**
  - ▶ Initiate a program that recognizes extended service and increased qualification as a Missile Combat Crew member to include restoring the “Select Crew” patches and creating a new Double Centurion patch or pin for 200 Missile Combat Crew missions (alerts).
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### **The Nuclear Enterprise—Making it Real**

As suggested earlier in this report, the Review did not discover an existing “nuclear enterprise” across the Services and Department. The Review found elements of such an enterprise in the Navy with responsible and empowered leaders and activities directed at sustaining the SSBN force capabilities. Enterprise responsibility for the nuclear weapon system is vested in the Strategic Systems Programs organization commanded by a vice admiral with long tenure reporting to the Chief of Naval Operations. Enterprise responsibility for the platform is vested in a single Program Executive Office (PEO) reporting to the Secretary of the Navy. Operational responsibility for the SSBN deterrent mission is vested in type commanders reporting to four-star operational commands. As noted earlier, the effectiveness of this arrangement is inordinately dependent on personalities and experience, but it does provide a workable enterprise-like structure.

In contrast, the existing structure for leading, managing, and supporting the range of relevant nuclear activities in OSD, the Joint Staff, and the Air Force does not constitute a coherent “nuclear enterprise.” The relevant activities are more accurately characterized as a loose federation of separate activities scattered across multiple organizations without clarity in responsibility and accountability.

#### ***Office of the Secretary of Defense and Joint Staff***

Since the end of the Cold War, OSD attention to nuclear deterrence and the deterrent forces has devolved from nuclear-related offices at the ASD-level to those at the DASD-level at best. During the Cold War, the Joint Staff was populated with experts on nuclear operational and nuclear systems requirements. Today there are far fewer personnel with such experience. Up to



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the early 1990's there was a triumvirate within OSD looking across the whole of a coherent nuclear enterprise. The Assistant to the Secretary of Defense for Atomic Energy (ATSD/AE) was responsible for the nuclear warheads and stockpile management on behalf of DOD. The Director, Strategic and Theater Nuclear Forces within AT&L was responsible for the development of new nuclear platforms and weapons systems. The Assistant Secretary of Defense for International Security Policy focused on nuclear weapons policy and strategy. Together the three offices focused across the enterprise, synchronizing policy, mission, weapons, and platforms. Over time, those offices assumed additional responsibilities and attention to the nuclear mission diminished. For example, the focus of the ATSD was expanded to include chemical and biological weapons. The attention of the ASD in Policy with responsibility for nuclear deterrence devolved to a DASD with the addition of missile defense responsibilities. The platform and weapons system focus in AT&L morphed into a lower level AT&L Strategic Warfare office with additional responsibilities for ballistic missile defense, conventional global strike, command and control, and intelligence. These offices no longer integrate and strategically plan together for guiding and sustaining the nuclear forces. While there is a Nuclear Weapons Council addressing specific issues, there is no forum or office effectively integrating and synchronizing OSD organization and activities into a nuclear enterprise.

### ***The Air Force***

In the case of the Air Force, the end of the Cold War, the changes in the logistics structure, subsequent BRAC dictated base closures, and organizational realignment negatively affected dedicated support for the nuclear forces. A structure “normalized” across the Air Force for support for other Air Force systems replaced the special nuclear logistics support structure and activity. The result adversely effected focus on the nuclear forces. Absent an enterprise focus, it has proven difficult for the Air Force to sustain the activities needed to address the variety of needs and issues unique to, and more pronounced in, the nuclear forces. There are at least ten major activities within the nuclear forces and support structure that require enterprise attention. These ten activities currently involve at least twelve major players spread across Air Force headquarters and field commands. A description of the activities and major participants is at Appendix D.

Small or unique forces or both characterize the systems and activities that constitute Air Force strategic nuclear forces and support for NATO DCA. Effective and efficient support for these systems demands approaches beyond the processes that serve a large fleet of F-16 or C-17

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aircraft. Air Force Materiel Command has undertaken to integrate responsibility for support for the ICBM force into a single system program office. Support for the nuclear bomber force remains fragmented over at least four system program offices.

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### Recommendations:

- ▶ **The Deputy Secretary of Defense and the Chairman, Joint Chiefs of Staff should** clarify the roles of the OSD and Joint Staff and realign the structure within OSD and the Joint Staff to meet the need to synchronize nuclear activities across DOD to include addressing issues of policy, strategy, mission, platforms, weapons, and support.
  - ▶ **The Secretary of the Air Force Secretary and the AF Chief of Staff should** create a coherent and specialized nuclear enterprise focus encompassing Air Force headquarters, Air Force Materiel Command, U.S. Air Forces in Europe, and Air Force Global Strike Command.
    - ▶ For nuclear command and control, the OSD CIO and USSTRATCOM will need to determine and establish an enterprise structure.
    - ▶ For the ICBM force, move expeditiously to treat the ICBM vehicle, warhead, Launch Facility, Launch Control Center (LCC), and essential equipment supporting the LCC as the integrated ICBM weapons system.
    - ▶ For the nuclear bomber force, give overarching responsibility for the weapon system to a single systems program officer answering to the AFNWC.
    - ▶ Identify and tag all nuclear system support and test equipment and direct priority commensurate with the Job One declaration.
  - ▶ **The Commander, AF Global Strike Command should** ensure that supply chain expertise is integrated into those units (e.g., maintenance squadrons) that require the knowledge to effectively and efficiently work within the supply system to address units' supply needs.
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## Section IV: Underlying Issues: Leadership Focus, the Nuclear Enterprise Culture, Command Oversight, Investment—Visible Support, the Security Burden, and the Personnel Reliability Program

### Leadership Focus

The Review finds that many leaders in the nuclear forces accept adverse mission impact because they cannot or will not appropriately categorize risk. The intolerance for any level of failure leads to treatment of even the smallest errors, having little or no impact on mission performance, at the same level as appropriate for major failures. The Review observed leaders at all levels who share a strong desire for mission success; however, by failing to manage risk, those same leaders bear direct responsibility for allowing a climate of fear to develop among Sailors, Airmen, and Marines in the nuclear forces. This risk-averse, inspection-focused culture has become self-perpetuating and presents a greater risk to the mission than the sum of the risks avoided.

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**Recommendation:** The Secretaries of the Navy and the Air Force, the CNO, and the CSAF should initiate the actions recommended for the Secretary of Defense in Section II of this report, and be clearly seen by their respective forces to have taken ownership of the nuclear mission.

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The remainder of this section provides specific discussion and recommendations supporting the needed leadership focus.

### The Nuclear Enterprise Culture

The intolerance of less-than-perfect outcomes at any level in the nuclear enterprise has fostered a culture characterized by risk aversion and over-reliance on processes and procedures to the detriment of personal responsibility and the authority and accountability of commanders.

Risk-averse leaders avoid rather than manage risk, whatever the cost to the mission. To avoid risk they create monitoring and evaluation programs that remove the need to make risk decisions. The goal becomes ensuring that their people cannot fail to do everything right. This approach pushes the authority and decisions to do the job up the chain of command delaying the work, undermining confidence, and devaluing the qualification of those performing the

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mission. Excessive monitoring and evaluating may reduce individual risk of “failures” in the short term, but sustaining this approach damages the mission. Each attempt to stamp out even the possibility of less-than-perfect results requires an increase in the already overly burdensome monitoring, leaving less time and attention available to focus on the mission.

Although most units pass their nuclear inspections and assessments, a single issue or a set of minor issues with little or no impact on mission performance can have a significant impact on the unit. Because inspection results have more gravity than mission success, a culture has developed where inspection is the mission. Too many leaders fail to understand that this approach is fundamentally flawed. Those leaders higher in the chain of command who value compliance with process over effective decision making as a measure of field commanders’ performance and mission success reinforce this negative cycle. Currently, less than full compliance for even minor issues with little to no mission impact can cause a unit to fail an inspection with major consequences for the commander.

### **Processes, Procedures, and Micromanagement**

Processes and controls dictated from above replace the commander’s authority and accountability for mission success. This “leadership by procedure” led an ICBM Squadron Commander to declare, “We are told what we are allowed to do and everything else requires us to ask permission.” A senior NCO with extensive experience in the mission said, “We spend more time proving we are doing our job right than actually doing our job.”

Risk aversion can quickly become visible distrust of those accountable for the mission. For example, in the ICBM force, the operational squadron responsible for the performance of the combat crews is not involved in their initial or continuing training. A separate squadron conducts this training. The declared reason is to ensure proper standardization—implying that the operational squadron commander, supported by an operational group standardization structure, cannot be trusted to meet the required standards.

Avoiding risk by avoiding the problem until it becomes a major issue is a near inevitable outcome of risk-averse cultures. Too often, it takes a significant event for the leadership to recognize major problems within the force. Leaders’ focus on identifying root causes once a single major problem emerges, but do not adequately consider and assess indicators and trends that provide a holistic view of the force. This is also a consequence of the inability to accept small errors as a reality.

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## Recommendations:

- ▶ **The Secretaries of the Navy and Air Force, the CNO, and the CSAF should:**
  - ▶ Provide guidance that the first priority for commanders is to empower those under their command to perform the nuclear deterrent mission effectively and efficiently, and there will be no tolerance for practices that place risk of criticism above risk to the mission.
  - ▶ Drive down through the chain of command that:
    - ▶ Effective and efficient execution of the mission demands that commanders and supervisors empower their people by driving decisions down to the lowest level qualified for the decisions.
    - ▶ The preferred corrective action for errors is to correct, not punish, the Sailor, Airman, or Marine's performance with additional information, training, or hands-on supervision appropriate to the situation.
- ▶ **The Commander, AF Global Strike Command, the Commander, U.S. Fleet Forces, and the Commander, Pacific Fleet should take action to:**
  - ▶ Provide the support (to include investment) needed for the men and women in the force to meet the professional demands of their daily work consistent with the declared priority of the mission.
  - ▶ Empower all levels of command and supervision to use their professional expertise and judgment to execute the mission within established guidelines and directives.

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## Personnel

The Review frequently saw briefing charts characterizing the manning situation as 100% with no further qualification. This overall body count metric provides little useful insight into the true manning situation. The Review heard a case, which was not atypical, where the manning was near 100%. However, 5-level (journeyman-level) and 7-level (craftsman/supervisor-level) qualifications were only at 40% authorization with 3-levels (apprentice-level) at 140% of authorization. Lack of capacity to qualify the 3-levels due to the excessive workload for the experienced personnel to meet mission demands exacerbates this situation. In a Munitions Support Squadron (MUNSS) in Europe with a total manning authorization of 130-140, there may be only two or three E-6's authorized to perform or supervise essential operations. There may be only one of the two or three qualified and available for critically important functions such as the command and control function. The body count remains at 100% and the higher

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headquarters view is likely to be that the unit is fully mission capable unless the commander calls attention to available and effective manning shortfalls by reducing the readiness rating of the unit under the Status of Resources and Training System. Commanders typically are loath to do this.

Further, the manning standard, based on mission requirements, does not account for the myriad of other requirements imposed as additional duties that add significantly to the actual workload. It is the combination of mission demands and the plethora of additional demands that constitutes the cost to the Sailor, Airman, and Marine of sustaining the reported readiness. The Review was unable to discover a reporting system that provides awareness of the full cost to senior leaders.

In the Air Force, there is confusion over who is accountable for providing manning resources to the force and the process for meeting the need. The natural assumption would be that the A1 (Personnel) is accountable to the commander for ensuring that units are effectively manned. The reality seems to be a diverse set of “functional” managers forecasting and filling manpower needs. These managers may or may not have visibility into the units and be held accountable for this function by the chain of command. Given the multiple functional managers involved, it is difficult for the operational commander to know where to go for help from the headquarters.

The existing system also fails to account for the effects imposed by the current execution of the PRP. Initial assignment matches are made largely without regard for the systemic inefficiencies of PRP qualification with the process being left to the gaining and losing commanders to resolve. The rejection rate at some units with special conditions and a high percentage of personnel requiring PRP qualification can be between 40 and 50%. For each such rejection, there can be a 60-to-90 day loss in filling the position followed by a lengthy period to qualify those accepted for PRP duties.

The Air Force has recently published the “Nuclear Enterprise Human Capital Strategic Plan.” This plan reflects awareness by the senior leadership of key areas needing attention. Execution of needed actions remains to-be-determined.

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### Recommendations:

- ▶ **The CNO and the CSAF should** direct an addition to the readiness reporting system that requires specific and accurate portrayal of:

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- ▶ The relationship between authorized manning and the qualified and effective manning available to meet the workload. The portrayal should account for grades, qualification levels, and certification requirements, including PRP.
  - ▶ The relationship between the mission basis for manning and the total cost to Sailors, Airmen, and Marines of maintaining the required readiness of the nuclear forces.
  - ▶ **The Secretary of the Air Force and the CSAF should** clearly establish that the A1 community is accountable to the Chief of Staff and to commanders for forecasting and filling personnel needs with the functional managers contributing to career development and providing advice as needed but not direction.
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### **Testing/Inspection**

The current inspection regime does not achieve its intended purpose to ensure mission readiness and execution by validating that units meet established standards. Instead, the inspection system undermines commander authority and has become a major detractor to mission readiness and effective and efficient management. As noted earlier, enormous management and leadership attention is devoted to preparing for and dealing with inspections. Senior NCOs in the ICBM force characterize the result as enormously inefficient and wasteful. Efforts to redirect the inspection system now encounters a culture of “inspection is the mission,” widely accepted by commanders at multiple levels.

For example, at the time of the Review’s visit, the missile maintenance unit at the Strategic Weapons Facility Pacific (Bangor) had been involved in outside agency inspections for five consecutive weeks. The missile maintenance activity recorded 100 inspections by agencies outside their activity in the past year. Inspection and inspection-like activities at the 91st Missile Wing at Minot AFB in 2013 (including outside and internal inspection-like activities to prepare for outside exercises, evaluations, and inspections) totaled 32 and encompassed over 100 days of that year, and a total of 293 leadership days (squadron-level commanders and above). This did not include the 59 “visits” to the unit, ranging from Congressional delegations to the USSTRATCOM Commander to a French delegation.

Much of the angst regarding inspections and their influence on the demand for perfection, the passion for process and procedure, and micromanagement comes from the units interactions with the Defense Nuclear Surety Inspection (DNSI) teams. The DNSI team is to provide assurance to the Chairman of the Joint Chiefs of Staff (CJCS) that the forces are meeting acceptable surety standards. To do this, the DNSI teams conduct two activities. One is an

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inspection of each unit in parallel with the Service inspection team each 54 months. The second is oversight of the Service inspection team inspecting at least one of each type of unit each 54 months. There is a nearly universal view in the forces that the parallel DNSI inspections create conflict and confusion with little or no benefit. The CJCS need for assurance that the Service inspection programs are providing adequate insight into the readiness of nuclear forces can be better served with wider use of oversight of Service inspections rather than parallel inspections.

The Air Force recently overhauled its inspection system in order to allow units to focus on daily mission performance rather than inspection preparation. This move is unquestionably positive for the Air Force as a whole. However, this approach is not currently applied to the Air Force Nuclear Surety Inspection (NSI) where the benefits are likely to be greatest. The result is that a typical NSI for an Air Force wing in the United States can include the major command inspection team, the core Air Force Inspection Agency (AFIA), and the core Defense Threat Reduction Agency (DTRA) DNSI team. The aggregate can be a 90-person inspection team. For USAFE, it can be 150 inspectors. In the case of the Munitions Support Squadrons in USAFE, the number of inspectors of a function sometimes outnumber the unit members assigned to the function. The need for such a potpourri is a source of bewilderment to many being inspected. It will take strong and persistent leadership to move from the inspection culture to the daily performance culture and the inspection system should contribute to that end.

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### Recommendations:

- ▶ **The Chairman, Joint Chiefs of Staff should** direct the needed change to CJCS Instructions to:
  - ▶ Eliminate the requirement for additional agencies to inspect in parallel with Service inspection teams.
  - ▶ Transfer responsibility for oversight inspections of Service inspections from DTRA to USSTRATCOM and USEUCOM.
- ▶ **The Commanders, Submarine Forces, and the Commander, AF Global Strike Command should:**
  - ▶ Require that inspection reports provide useful information to commanders at all levels on what and how the unit is doing, what the higher headquarters and support organizations are doing for the unit and, what the structure outside the unit is doing that makes mission execution more difficult and more costly to the Sailors, Airmen, and Marines who perform the mission.



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- ▶ Differentiate sharply between inspections and assistance visits by ensuring that assistance visits respond to specific needs identified by the unit commander, rather than to the higher headquarters staff, and that reports generated by such visits are for the unit commander to use as the commander sees fit.
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## **Training**

Training for Sailors and Airmen consists of three phases: initial accession training, qualification training at their duty station, and continuing training.

***Initial Accession Training.*** There is a widespread belief in the forces that the effectiveness of initial training has been significantly reduced. Sailors and Airmen believe that throughput is emphasized over rigor. The Review could not verify whether training quality has actually declined over the years, but nearly all Sailors and Airmen interviewed believed this to be the case.

Nuclear propulsion training is a particular challenge for the Navy. Training of nuclear operators occurs in two phases: classroom training at the Nuclear Power School (NPS) and hands-on training at the Nuclear Power Training Unit (NPTU)—referred to as “prototype.”

However, the training environment at the NPTU requires significant improvement. Due to a variety of reasons, including the age of the prototype propulsion plants and commensurate unavailability due to increased maintenance requirements, extraordinary efforts are required to sustain Fleet nuclear operator manning levels. The capacity shortfall causes major delays between completion of Nuclear Power School and entry into NPTU—sometimes up to a year. This delay reduces the value of NPS training and exacerbates the training difficulties in the NPTU phase. Additionally, for a six-year enlistment, the delay between training phases equates to a 17% reduction in the time available for trained operators to perform their mission in the Fleet. To deal with the decline in trainee throughput, the Office of Naval Reactors instituted a policy to allow doubling the student load per instructor during prototype training sessions. None of the instructors—current or past—who met with the Review thought this solution had merit. Additionally, because of the increased student load demands, staff workload has increased while training quality has suffered. The staff, made up largely of senior enlisted Sailors, must conduct maintenance on the aging prototypes in addition to training students, while also pursuing their own qualifications necessary to advance as previously discussed. The

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result for the staff is 12-14 hour days to support training, followed by extra hours to study for their own qualifications.

An additional issue is the relevance of the hands-on training using prototypes that differ significantly from systems in the fleet. While there are plans for upgrades to the prototypes and for acquisition of more realistic simulators, these solutions are in the longer-term future. The purpose of hands-on training with a reactor is to teach students how to qualify to stand nuclear propulsion watch, yet many instructors—past and present—declared that the NPTU training did not significantly reduce the time required to qualify on the boat or carrier. This being the view, they felt Sailors going directly from Nuclear Power School to the Fleet would better serve the Fleet. Given the reality of the overloading of the aging prototypes and resultant negative impact on the quality of the pipeline training observed, and the advancement in what can be achieved via simulations such as the Fleet Interactive Display Equipment (FIDE) training simulator, this view has merit.

**Qualification Training.** In the ICBM and bomber forces, technicians critical to maintenance must complete 3-12 months of training and certification at their assigned duty stations before they can conduct maintenance. Because of the lack of training facilities, serviceable equipment, and experienced personnel in the operational wings, personnel newly assigned to a four-year tour can wait 12-20 months to enter training. Consequently, by the time they are qualified, they have made little contribution to the mission for a major part of their tour at the base. Further exacerbating the situation is a “Base of Preference (BOP)” policy, which allows Airmen to transfer after three years.

In nuclear propulsion, operators must qualify watch stations on their specific platform. Since none of the nuclear power plants used for training at prototype exist in the fleet, with the exception of the basic “how to” skills of standing watch, watch-standers must start again from the beginning when they get to the fleet.

**Continuing Training.** The report has discussed continuing training in the ICBM community in previous sections. Continuing training in nuclear propulsion consists of required weekly training ranging from 2-5 hours per person depending on the ship’s operations. Monthly tests are used to determine the effectiveness of training. As previously discussed, these tests have become increasingly difficult in order to maintain a desired average and failure rate, mostly in response to external inspections. Sailors report that these tests have become yet another task that must be accomplished providing little to no benefit to their ability to stand watch.

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## Recommendations:

- ▶ **The Secretaries of the Navy and Air Force, the CNO, and the CSAF should** direct the Navy and Air Force formal training activities to develop capability to require a hands-on demonstration of skills before graduation in addition to heavily computer-based training and testing.
- ▶ **The Secretary of the Air Force and the CSAF should** direct specific additional manpower and training equipment to the three northern-tier bases to enter 3-level assignees into 5-level training immediately and without an additional burden on the operating force.
- ▶ **The Director, Naval Reactors should** examine the continuum of nuclear operator training and certification from NPS to NPTU to the Fleet, accounting for:
  - ▶ The responsibilities of the Director to deliver and maintain certified nuclear operators in the fleet,
  - ▶ The material condition of the prototypes,
  - ▶ The manning levels at each of the commands involved,
  - ▶ The availability of technology to provide high-fidelity simulators, as is done in the aviation community, and
  - ▶ Determining the best balance of effort to train and certify nuclear operators and to relieve the high-pressure situation facing the staff at the prototypes.

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## Command Oversight

Air Force senior leadership took aggressive action responding to the issues identified by internal and external reviews following the 2007 Minot AFB unauthorized movement incident. Further actions were initiated following the Air Force requested Defense Science Board Permanent Task Force follow-up in 2010. The actions included:

- ▶ Standing up a Major Command: Air Force Global Strike Command with responsibility for all Air Force strategic nuclear forces.
- ▶ Establishing an Air Force assistant chief of staff reporting directly to the Chief of Staff of the Air Force (CSAF) focused on the nuclear issues.
- ▶ Assigning the Air Force Nuclear Weapons Center additional responsibilities for logistics and engineering support to the nuclear forces.

These actions increased attention on the execution and support of nuclear forces activities in the Air Force. Still, they did not drive the level of daily senior leaders' attention, involvement,

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and sustained demand for force and support improvement that was provided by Strategic Air Command before its disestablishment in 1992. This lack of senior leadership attention is not characteristic of other Air Force missions (e.g., air combat operations, space operations, and airlift) that have a four-star general commander of a Major Command solely focused on that command's mission. Instead, under the current organization, the CSAF is the only four-star general with direct responsibility for the nuclear forces. The CSAF cannot provide the needed daily attention and there is no substitute for this level of attention to major mission areas in the military culture. A single commander has the responsibility for mission execution; however, with the reduction in strategic nuclear forces over the years, Air Force Global Strike Command has been considered too small to assign a four-star commander. This is a limitation on influence and attention, and sends a less than desirable message to the Airmen performing the mission.

The Navy approach to a similar issue for nuclear forces is three-star type commands under four-star Commanders. This seems to provide an enterprise structure for operating the forces and executing the mission with a perception in the forces that they receive four-star attention, and with relevant four-star participation in policy, budget, acquisition, and operational matters impacting the nuclear forces. Additionally, Director, Naval Reactors, another four-star, is tasked with the training and regulatory oversight of nuclear propulsion activities.

The Navy approach to nuclear weapons and the nuclear weapon system on the SSBN has remained consistent since the Strategic Systems Programs (SSP) office was established fifty years ago. SSP is responsible for providing the operating forces with materiel support for both weapons and weapon systems.

A consequence of the division of responsibilities in the Air Force is that essential activities receive only intermittent attention from the set of leaders and managers who are at the level necessary to ensure the degree of continuing attention to the needed mission focus, culture, priorities, education and training, political and moral support, and material support. During the Cold War, there was a clearly understood chain of accountability for the mission from the President through the chain of command to the members of the operating units and support organizations. The chain of command understood that the cost in time and resources of ensuring the standards of professional skills and conduct and providing the full set of support to those from whom we demand the skills and conduct was well worth the result.

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**Recommendation: The Secretary of the Air Force and the CSAF should:**

- ▶ Establish and institutionalize across Headquarters Air Force and Air Force Materiel Command that responding to Air Force Global Strike Command needs is their highest priority with near-term demonstrations of support that are immediately visible to the nuclear forces.
- ▶ Significantly strengthen the influence of the Air Force Global Strike Command in setting and sustaining priorities, ensuring effective follow-through on solutions to needs and issues, and in conveying the importance of the nuclear deterrent mission. Some options for consideration are:
  - ▶ The strongly preferred option to address this issue is to elevate the Commander, Air Force Global Strike Command to a four-star position.
  - ▶ If the preferred option is not possible, an alternative is to retain the current Air Force Global Strike Command structure but create a four-star Air Force Strategic Command with broad strategic forces responsibility, authority, and accountability with Air Force Global Strike Command as one of the subordinate commands.

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**Investment—Visible Support**

Numerous previous reviews and assessments have examined support issues. It is sufficient for this review to confirm that there is continuing evidence, experienced every day in the forces, that the level of support is not consistent with the expected priority for the nuclear mission. Areas of longstanding and continuing deficiencies include logistics support, facilities, training support, guidance, and directives. The troops note that it can take the Air Force and Navy longer to replace a failing piece of test or other support equipment or to correct a facility problem than it takes to field a major weapons system. Two relevant examples are the Reentry System Test Sets (RSTS) at the Air Force Global Strike Command northern tier bases and the Weapons Maintenance Trailer (WMT) at the Munitions Support Squadrons (MUNSS) in Europe. The RSTS is essential to sustaining the Mark 12A and Mark 21 warheads for the Minuteman III and the WMT supports all the B61 bomb maintenance work in Europe for all of NATO.

These deficiencies generate highly inefficient maintenance operations for ICBMs, bombers, and the B61 activities in USAFE. As an example, ICBM maintainers, who will find a way to accomplish the mission no matter what the cost, work around the problem of unreliable test equipment by taking additional test equipment, which is already limited, to the work site to increase the probability that “one will work.” The alternative is to take only the required gear

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and risk a work stoppage due to test equipment malfunction when at remote sites far from base. Waiting for repair parts or for functioning support equipment adds to already routine 14-16 hour workdays, overwhelming any perception of progress in logistics support for the maintainers in the field.

Missile crews in various Launch Control Centers (LCCs) cite equipment that remains broken for months or years, work orders that are five-years or more old, and conditions that shut down an LCC which have been repeat issues for a decade. The LCCs are badly in need of an end-to-end survey of discrepancies and an urgent continuing program to address and correct the issues.

In some cases, there are corrective actions underway, or at least planned, to address the issues. Some occur at a normal pace, some with repeated delays, but few with visible evidence to those performing the mission of high priority or urgency.

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#### **Recommendations:**

- ▶ **The Secretaries of the Navy and Air Force, the CNO, and the CSAF should** ensure that the responses to the issues and recommendations in this and other reports address the structure, the priorities, the processes, and accountability for addressing the long standing neglect of the nuclear forces to include:
  - ▶ Creating entities in the logistics and supply chain structure that focus on nuclear forces needs as their priority and that have the authority to secure resources commensurate with the priority of the nuclear mission.
  - ▶ Establishing a near- and long-term program of facility upgrades at the two Naval Strategic Weapons Facilities (Atlantic and Pacific), and the northern-tier Air Force bases.
- ▶ **The Secretary of the Air Force and the CSAF should** establish that the ICBM Launch Facility and Launch Control Center are integral parts of the ICBM weapon system.
- ▶ **The Commander, Air Force Materiel Command should** establish a program to eliminate the plethora of technical orders required for many single tasks by:
  - ▶ Changing the priority from lowest cost and easiest for the T.O. community to what best serves the Airman doing the work.
  - ▶ Setting an accelerated timeline to reach the goal of a single document governing the performance of any single technical task.

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- ▶ **The CNO, the Commanders, Submarine Forces, the Director, Naval Reactors, the Commander, Naval Sea Systems Command (NAVSEA), the Director, Strategic Systems Programs (SSP), CSAF, the Commander, Air Force Global Strike Command, and the Commander, Air Force Materiel Command should** communicate the nuclear investment plans and programs, near-, mid-, and longer-term to ensure that Sailors, Airmen, and Marines performing the nuclear mission know what to expect beyond visible progress in support of field operations.
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### **The Security Burden**

The security forces supporting the Navy and Air Force nuclear mission have experienced a constant ratcheting of requirements driven by the outcome of security exercises against highly capable and completely informed aggressor forces in high-consequence, but low-probability scenarios. For the SSBN force, this has led to maintenance and operational practices that create further inefficiencies and increases operational and maintenance risk. For the ICBM force, it has increased the requirement for the size of security force deployments to unachievable levels that have been waived for years. Aggressor exercises reveal potential vulnerabilities directly translated to an unrealistic threat codified in the DOD directive with no effort to adjudicate the requirement based on credible threat intelligence. Hence, the security forces are always on high alert, regardless of the real world threat situation, with the inevitable and logical questions about the credibility of the need for the intense daily commitment.

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**Recommendation:** The Deputy Secretary of Defense should direct the DASD/Nuclear Matters to lead the DOD 5210.41M stakeholders in updating and modifying security force requirements and security procedures for protection of nuclear force capabilities to be responsive to a graduated set of threat warning levels rather than permanently based on the worst case scenario.

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### **The Personnel Reliability Program (PRP)**

The PRP is to assist the commander in determining the mental fitness of his or her people to perform duties that could provide access to nuclear weapons. Instead, it has become a disruptive and distracting detractor to the nuclear mission. As implemented, the PRP undermines personal responsibility and commander authority and accountability, imposes an enormous tax on productivity, conveys distrust of Sailors, Airmen, and Marines dedicated to the

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nuclear deterrent mission, and, on balance, detracts from assurance of genuine fitness for duty. Further, it has evolved from a commanders program concerned with the range of potential stresses faced from a variety of issues such as finances, family, or career pressures to an inspection system program focused intensely on review of medical records. This condition has existed for so long that too many leaders at various levels prefer this set of onerous processes that relieve them of leadership responsibility. This is another example of a pattern of devaluing personal and leadership responsibility and accountability in favor of processes and procedures that reduce leadership risk at the expense of mission risk.

In one instance, a Competent Medical Authority (CMA) supporting four geographically separated nuclear activities verbally established a policy of end-to-end reviews of the PRP records of each individual newly assigned regardless of past enrollment in the PRP program. This end-to-end review can delay productive employment by six to eight weeks. To add to the burden, the review includes providing a cover sheet documenting any past issues found in the review, no matter how far in the past. This process is clearly to avoid criticism by an inspection team and is in conflict with both the intent and specific direction in the DOD and Air Force PRP directives. The negative impact to manning effectiveness, generated by a supporting functional, is obvious and egregious yet no one in the command chain has objected to the practice.

The PRP has also been expanded from a reliability program to a catchall for virtually anything that could affect the Sailor, Airman, or Marine's mental or physical ability to perform any aspect of the daily work. For example, a broken finger or a sprained ankle is reason for temporary suspension. The reason given is that either the individual or the individual's supervisor might cause further injury were the individual returned to duty. An eye appointment is reason for temporary suspension because the eye exam may include dilating the eyes creating temporary sensitivity to light. An unintended consequence of such extremes is that some who are especially conscientious about their role on their team and obligation to fellow Sailors, Airmen, and Marines forgo exams and treatments that are needed, but that are for conditions that common sense says "would have no impact" on reliability.

The members of the Review do not question the importance of the purpose of the PRP. To the contrary, the importance of the program dictates that bureaucratic excess not undermine the purpose of the program. The PRP is now widely accepted by commanders as filling their responsibility for ensuring their peoples' fitness for duty considering the full set of issues and pressures faced by the personnel in the nuclear forces—job, family, medical, and other issues. In fact, PRP does not and cannot serve these functions.



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The requirement to provide PRP records both electronically and in hard copy reinforces the perception that some significant set of the rules are to serve inspections. The electronic requirement is a best practice in modern medical record keeping—military and civilian. The reason given to the Review for the hard copy record was the probability of electronic failure and loss of records or access to records—temporary or permanent. A host of other electronic transaction and record-keeping systems are able to minimize or eliminate these risks. The more credible reason is to facilitate end-to-end reviews by inspectors.

**The current set of PRP practices conveys the perception the leadership does not trust the men and women we trust to maintain, operate, and secure our nuclear forces to follow procedures to ensure that their commanders, supervisors, and work partners are informed on personal issues and conditions that could adversely impact work performance. PRP practices attempt to replace the personal responsibility of individuals, supervisors, and commanders with processes that create inefficiencies, hardships, and distrust.**

There is a plethora of practices in the PRP sending a message that the men and women who sustain and operate our nuclear forces are not trustworthy.

It is widespread Air Force and Navy practice, not required by DOD or Service instruction, to suspend individuals from PRP duty for off-base medical and dental appointments. The individual must then return to the medical authorities for reinstatement regardless of the nature of the appointment to include physical therapy and routine dental work. For an on-base appointment at some installations, the individual surrenders their identification card or line badge to pick up the records and, after the appointment, must wait until the PRP monitor at the medical facility notifies the unit that the individual did not have a potentially disqualifying experience. This process applies to everyone from the first-term Sailor, Marine, or Airman to the wing or boat commander. Further, during the routine five-year security clearance review, the individual is suspended until the clearance is adjudicated whether or not there is any reason to question the clearance.

The price for this extraordinary caution is that a significant part of the workforce is unavailable for duty based on “potentially disqualifying information (PDI),” rather than actual evidence that an issue might exist. DOD guidance does not require these practices. They are additions designed primarily to reduce the risk of any possible oversight, primarily administrative error, in the execution of the PRP.

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The emphasis on possible medical issues arising from use of prescription medications ignores the more likely cause of real concern. The DSB Permanent Task Force in 2010 asked commanders and PRP monitors to assess the risk that a prescribed or first use of over-the-counter medicine would generate a high risk with access to a nuclear system compared to the risk emanating from the stresses of work, family, finances, or other non-medicine related issues. The second was by far the greater concern, yet many of the administrative excesses that burden the work force under the PRP are directed at the possibility, not the probability, of a medicine-induced problem. Interviews for this report produced the same response.

While the Navy has a more reasonable approach to operational SSBN crews on PRP, Navy and Marine security forces and maintenance personnel in support facilities experience the same PRP frustrations for the same reasons as do their Air Force counterparts. For nuclear security forces, the Review finds the PRP over-reach to be redundant and unnecessary given the existing policy of arming and use of force (CJCSI 3121.01B). Under the Services right to arm guidance, commanders must continually monitor the suitability of personnel for armed duty and withdraw the authority to bear firearms when necessary. Under this guidance, commanders must evaluate available information and if necessary take immediate action to withdraw the affected person's authority to bear a firearm or have access to any government-owned firearm or ammunition. This process provides the attestation by a commander that a service member (in this case, security force member) is fit for duty.

A solution to the egregious procedures for PRP medical treatment seems straightforward: require that individuals inform their supervisors or commanders on return from an off-base or on-base appointment, and let the supervisor or commander ensure that any issues receive the needed attention. If an individual fails to comply, the breach is a military discipline issue, not a medical or PRP issue. The objection to such a commander-accountable approach is the possibility, in fact the past reality, that when inspectors pore over years of PRP records of hundreds of people, they may find an instance where an individual returned to duty without following the proper procedure. The result is additional processes overlaid to protect against the inspection, even when the infraction would have little or no risk to mission. Because of this philosophy and practice, individuals and commanders are relieved of responsibility for military discipline in order to avoid what should be a minor inspection issue. The price for the risk aversion that permeates this and other PRP practices is the mission risk that goes with individuals and commanders who become more comfortable with onerous process than with personal and command responsibility.

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An additional undesirable effect of PRP and the commanders' fear of the consequences of applying their own judgment is that people who want to avoid alert or watch duty or security force operations can simply declare they are "stressed," earning them a suspension from PRP and therefore relief from difficult duties. Common vernacular in the force is "playing the card" to escape from duties requiring PRP. The individual can "play the card" in technical training to avoid being sent to PRP duties or play it after being assigned.

**To express the Review's conclusion in the clearest possible terms: the current implementation of the PRP is enormously wasteful, harmful, and does not achieve its intended purpose to help commanders ensure that people whose duties afford access to nuclear systems or nuclear command and control systems are reliable and fit for duty.**

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#### **Recommendations:**

- ▶ **The Secretary of Defense should** direct that the Services invoke commander's right to arm authority as the standard to determine the reliability of nuclear security forces and eliminate the application of the PRP for nuclear security forces.
- ▶ **The Chairman, Joint Chiefs of Staff, the Secretaries of the Navy and Air Force, the CNO, the Commandant of the Marine Corps, and the CSAF should:**
  - ▶ Direct that the inspection teams are to determine that proper PRP processes and procedures are in place to inform commanders and for commanders to take appropriate action. Inspectors are not to audit records.
  - ▶ Direct that PRP qualification be limited to only those personnel with direct access to nuclear systems or performing command and control of nuclear systems and operations.
- ▶ **The Commanders, Submarine Forces, the Director, SSP, and the Commander, AF Global Strike Command should** take action to ensure that the PRP is returned to its intended purpose of assisting commanders to ensure that their people are reliable and fit for duty to include:
  - ▶ Directing that electronic medical records will not be converted to hard copy facilitating auditing and inspection activity.
  - ▶ Establishing that people qualified under PRP remain qualified with changes of station until there is an explicit reason to doubt continued qualification. A new station with new duties or an interval between PRP required assignments is not such a reason.

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- ▶ Establishing that only cause, not the potential for cause is reason for suspension from PRP.
  - ▶ Removing all administrative requirements and processes in excess of those required by the DOD directive.
  - ▶ Charging commanders and supervisors, not the PRP monitor and medical community, with the responsibility to know their people and their issues that could affect fitness for duty.
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## Section V: Minot AFB—A Special Case

Minot AFB has special importance to the nuclear deterrence mission. Minot is the only base in either the Navy or the Air Force to host two legs—ICBMs and bombers—of the U.S. strategic nuclear Triad. Its role in bomber weapons support is unique, and its environmental challenges are unparalleled. As a result, conditions at Minot magnify many of the challenges discussed in this report. Weather conditions make every task more difficult and more time consuming. Travel to and from work at the dispersed ICBM facilities is more demanding. Hydraulic seals leak, equipment breaks, transport vehicles fail more frequently, and aircraft are cycled into limited hangars for maintenance. In addition, Minot AFB is isolated with a nearby town of about 40,000 permanent residents and an influx of transient oil workers adding to the demand on the limited infrastructure that serves its population.

This unique and challenging set of circumstances should call for special attention and additional support at Minot AFB. Instead, there are important instances where the opposite has occurred. A B-52 squadron was added three years ago with no additional facilities, including the essential flight line maintenance facility. That facility is only now under construction. Minot AFB faces challenges in hiring and maintaining civilian employees to fill support positions on base competing with the energy resources development in the area. North Dakota Senator John Hoeven’s letter to the Federal Salary Council in March 2014 stated that the cost of living in Minot has changed from 14% below the national average in 2003, to 6% above in 2013. Minot AFB is at a disadvantage in competing with other local employment opportunities.

In the face of the challenges, support organizations have limited operations important to Airmen and their families. On-base daycare hours do not accommodate a 12-hour shift (the standard maintenance cycle). The commissary hours have been reduced with the commissary closed on Monday (consequently with limited perishable items available on Saturday and Sunday—prime shopping days). Further issues include reduced manning at the base medical clinic while the load on the off-base facilities has increased. The wait at the clinic pharmacy is often an hour or more.

A number of personnel policies have unintended effects at Minot AFB. Senior NCOs reluctant to serve at Minot AFB often retire rather than accept the assignment or retire soon after moving to Minot where the job market for people leaving the military is especially strong. A result of the personnel policies applied to Minot AFB is that many of the senior NCOs supervising maintenance for the B-52 have no experience with that system. It is typical that members of

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the senior NCO maintenance leadership have been on base less than a year. Several senior NCOs charged with the responsibility for maintaining this difficult weapon system expressed significant discomfort with their qualifications for these responsibilities—a very unusual experience in discussion with Air Force senior NCOs.

The Base of Preference program allows transfer from Minot AFB three years into a four-year enlistment. Given the lengthy nuclear training and qualification process, an Airman in critical specialties, such as missile maintenance, is likely to have just reached an effective level of proficiency at the three-year point.

The lack of training capacity to qualify the 3-level arrivals for productive missile, bomber, and warhead maintenance exacerbates the impact of the personnel turbulence at the three northern-tier bases, particularly at Minot. The time and energy of the available 5- and 7-level technicians are fully consumed keeping the ICBMs on alert and generating the bomber sorties needed to train the aircrews. There are three possible solutions or combination of solutions: 1) assign and retain more qualified technicians at Minot AFB, 2) provide higher qualification for those coming from technical training to their Minot AFB assignment, and/or 3) provide additional dedicated training resources—people and equipment—to train and qualify 3-levels as 5-levels. The third approach is likely to be more rapidly executable than the other options.

In spite of these special challenges, we found the officer and enlisted force at Minot AFB committed to and succeeding in the mission regardless of personal cost. If the response to this dedication is increased lasting attention and support, the outcome can be positive. If, however, the current trend of complacency continues based on the assumption that the troops will continue to meet the mission by “making do” with insufficient support and resources, the path can only lead to eventual mission failure—which could be sudden, and with major consequences.

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**Recommendations: The Secretary of the Air Force and the CSAF should:**

- ▶ Direct special priority for mission support and support for families at Minot AFB.
  - ▶ Initiate approaches controlled tours at the northern-tier bases—Minot, Malmstrom, and Francis E. Warren.
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## **Section VI: Reinforcing the Understanding of Nuclear Forces**

As mentioned previously, national guidance and articulation is clear on the need for continuing to sustain and support the nuclear forces. Still, the force is deluged with views—some from prominent and influential sources questioning the need for some or all of the forces. This section is intended to help reinforce the understanding of the importance of strategic and theater nuclear forces to present some of the special pressures on these forces.

### **The Sea-launched Ballistic Missile (SLBM) Force**

The SLBM force is widely and properly recognized as providing a continuous level of deployment to survive any level of nuclear attack, retaining an assured level of capability for a devastating response to even the most massive attack on the U.S. or our nuclear forces. The deterrent power of this capability in the minds of potential adversaries is apparent in current efforts to emulate this capability. The SSBN force shares a challenge fundamental to all nuclear forces. The purpose is to never need to perform the mission they constantly train and prepare for. This demands a high degree of perfection. Still, the people executing this mission are daily engaged in the wide range of activity required to keep a part of the force in a survivable state.

Three factors enhance leading and motivating this force. The first is this leg of the strategic nuclear Triad has been largely immune from adverse writings and declarations—other than from those who espouse a drive to zero nuclear weapons. The second is that the tightly integrated personnel management of the SSBN and attack submarine force is large enough and diverse enough to provide viable career paths. The third is that the high priority the USN and DOD place on the replacement for the Ohio class submarine further enhances the message about the importance of the SSBN force.

The SSBN force carries a heavier burden of survivable, second strike than during the Cold War since the bomber force has stood-down from a daily survivable alert status and the number of ICBMs has been reduced. At the same time, the SLBM capability is concentrated in a smaller number of SSBNs than during the Cold War causing the pressures and fluctuations in deployments. The aging of the SSBN fleet, combined with funding and manning shortfalls in both the operational forces and support structure have caused unpredictability in a historically predictable pre-deployment, patrol, and refit cycle. Today, constant adjustments in refit schedules have caused variable patrol lengths, which further compress an already intense off-

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crew training period, resulting in long working hours in what was previously a “decompression” period between patrols.

### **The Bomber Force**

The bomber force continues to provide uniquely flexible, visible demonstrations of capability and will. For decades, the nation has relied on important demonstrations of the deterrent power of that capability, e.g., the Cuban Crisis more than fifty years ago, as well as recent signaling on the North Korea peninsula. This capability is unmatched in the world today.

Leading and motivating this force entails a mix of positive and negative factors. On the negative side, there is a moderate public attack on the need for the cruise missile carrying B-52 force (which is the bulk of the bomber force given the early termination of the B-2 acquisition program by a previous administration.) A further challenge is associated with the small size of the B-52 force—two wings, with one of the wings unusually dependent on the other for readiness to execute the mission. Even so, while the bomber force is small, there is a wide range of career opportunities in the rest of the operational Air Force for B-52 trained personnel. A further mixed issue is the B-52 force conventional mission that overlaps in a wide range of activities that are relevant to readiness for the nuclear mission and is cited to “provide professional satisfaction” to B-52 personnel. The potential negative is that the dual mission can detract from focus on the nuclear mission. The high priority by the Air Force placed on a replacement for the B-52 is a positive reinforcement for the bomber force.

### **The Intercontinental Ballistic Missile (ICBM) Force**

The ICBM force provides a responsive capability of almost unimaginable magnitude that is continuously at a full state of readiness. Only a massive and unambiguous nuclear attack against the U.S. homeland, with unmistakable consequences for the attacker, can significantly degrade this force. Potential adversaries clearly understand and respect this capability. Virtually all have mirrored this approach in their own nuclear forces. The removal of the bomber force from daily alert status and the reduction in number of SSBNs impose an even heavier burden on the ICBM force than during the Cold War.

Due to the nature of the mission—missiles on ready alert 24/7—the ICBM force presents unique leadership challenges. Motivating and leading the ICBM force faces a set of challenges that, by any measure, are more demanding than for the other legs of the Triad. The challenges begin with the unique nature of the daily duties of the missile combat crews. Unlike the submarine and bomber forces, the ICBM force is not engaged in a wide range of operational



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activities that are common to other legs of the strategic nuclear Triad or common to other Air Force and Navy operations. Instead, they drive long distances, often in extreme weather, to perform the daily deterrence mission directed at ensuring they will never have to perform the actual nuclear strike mission. Unlike SSBN and bomber crews, they perform these duties separated from their commanders by long distances. Staying sharply focused on this mission requires a depth of understanding, commitment, and strategic thought beyond that demanded of most company-grade officers.

Unlike air operations, driven by the operational flying schedule and submarine operations focused on the turn-around between deployments and the pace of activities associated with life and duty on the boat, for ICBM operations, the drivers are maintenance and security. The missile combat crew's most intense daily focus is on dealing with those issues for the ten missiles under their control. Hence, the combat crew and maintenance team measure the priority accorded the mission by how well the systems continue to operate daily—and in many cases they are disappointed.

An additional issue is the future replacement for the 40+ year-old Minuteman III ICBM. While there are high priority programs for the replacement for the SSBN force and the bomber force, the replacement for the ICBM continues to be under study. The fact that strategic systems have far outlived their expected life is good news, but the age and condition of these weapons systems adds to the challenge of conveying to the ICBM force that they remain highly relevant to national security and that it is vitally important that they maintain a high level of professionalism.

An important difference between the ICBM force of the Cold War and today's force is the move to single warhead ICBMs which moved the force from concerns about instability to a strongly stabilizing contribution to the deterrent force.

### **The Dual-Capable Aircraft (DCA) Force**

The DCA mission and the associated MUNSS capabilities remain valid and essential to the U.S. and NATO Alliance. NATO leadership affirms each year that as long as nuclear weapons remain in existence, NATO will continue to be a nuclear alliance. As such, the U.S. and other NATO members continue to believe that U.S. and Allied DCA need to remain deployed in Europe; that the U.S. must retain corresponding safe, secure, and reliable nuclear weapons; that burden sharing among the allies is fundamental; that the allies need to broaden extended deterrence against a range of potential threats; and that Russia's large tactical nuclear weapons arsenal should be included in any future nuclear reduction agreements. There are currently 15 NATO

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member states involved in nuclear burden sharing, 27 involved in nuclear planning, and 28 involved in nuclear policy. U.S. nuclear weapons in NATO provide a deterrent against existential threats to alliance members. They are indispensable for linking U.S. and European security. They discourage proliferation by allies, and they create uncertainty in the minds of potential adversaries. The U.S. and its allies believe that NATO Alliance cohesion would be severely strained if nuclear weapons were removed from Europe and some allies would feel increasingly vulnerable. The U.S. contribution to NATO nuclear deterrence is varied readiness levels of F-16 and F-15E DCA and B61 nuclear gravity bombs. These USAFE forces, especially the Munitions Support Squadrons supporting the DCA mission, face special challenges—on host nation bases, often remote and isolated, separated from mission and logistics support elements, and lacking the standard amenities of U.S. bases.

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## **Appendix A: Participating Review Team**

Admiral (USN, Ret) John C. Harvey, Jr., Co-Chair

General (USAF, Ret) Larry D. Welch, Co-Chair

General (USAF, Ret) C. Robert Kehler

Rear Admiral (USN, Ret) Robert M. Hennegan

Colonel (USAF) Norman M. Worthen

Commander (USN) Robert D. Blondin

Major (USAF) Andrew C. Salloum

Fleet Master Chief (USN, Ret) Michael J. McCalip

Senior Master Sergeant (USAF) Tyler G. Terrel

Ms. Brenda K. Poole

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## Appendix B: Tasking and Terms of Reference



SECRETARY OF DEFENSE  
1000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-1000

FEB 10 2014

MEMORANDUM FOR GENERAL LARRY WELCH, USAF (RET)  
ADMIRAL JOHN HARVEY, USN (RET)

SUBJECT: Independent Review of the Department of Defense Nuclear Enterprise

Thank you for agreeing to lead the Department of Defense (DoD) Independent Review ("Review") of the Department's Nuclear Enterprise ("Enterprise"). I ask that you conduct the Review to identify gaps or deficiencies in Enterprise programs, policies, and procedures and that you provide both short- and long-term recommendations for corrective action. Your work is to be conducted separately from the internal review I have asked the Joint Staff and the Assistant Secretary of Defense for Global Strategic Affairs to lead.

Your primary objective is to examine the nuclear mission in both the Departments of the Air Force and the Navy regarding personnel, training, testing, command oversight, mission performance, and investment and provide both short- and long-term recommendations for addressing identified deficiencies.

I hereby appoint you as highly qualified experts of the DoD pursuant to title 5, U.S.C., section 9903. You are to have access to all relevant DoD information and previous investigations into the Enterprise, unless prohibited by law. Should you determine the need to travel or conduct outside interviews, the Director of Administration and Management (DA&M) will make appropriate arrangements.

I ask that you begin the Review on March 3, 2014. A briefing, including findings and recommendations, should be provided to me and the Chairman of the Joint Chiefs of Staff by June 2, 2014. I request that you brief me fully on your findings prior to disseminating your final results. You may also identify follow-on issues that may require further study. At any time in the process, you may bring matters you deem appropriate directly to the attention of the Deputy Secretary or me. You will have full access to me.

All DoD Components will fully cooperate in the conduct of your Review and will provide support and timely responses to all requests for relevant information, detail of personnel, or other support.

By copy of this memorandum, I direct the DA&M to secure and coordinate the necessary technical and administrative support for your Review from DoD Components. Furthermore, the DA&M will coordinate administrative, facilities, and other support from the Department, as required.



OSD001376-14

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On behalf of the men and women of the Department and their families, thank you for your willingness once again to serve the Department, the Nation, and the American people.



Attachment:  
Terms of Reference

cc:  
Deputy Secretary of Defense  
Secretaries of the Military Departments  
Chairman of the Joint Chiefs of Staff  
Under Secretaries of Defense  
Vice Chairman of the Joint Chiefs of Staff  
Chief of Staff, Army  
Chief of Naval Operations  
Chief of Staff, U.S. Air Force  
Commander, U.S. Strategic Command  
General Counsel of the Department of Defense  
Assistant Secretaries of Defense  
Director, Joint Staff  
Director, Administration and Management  
Director, Naval Nuclear Propulsion Program

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## **TERMS OF REFERENCE**

### **Department of Defense Nuclear Enterprise Review**

This Terms of Reference sets forth the objectives for the Secretary of Defense-directed independent review (hereafter referred to as the “Review”). The purpose of the Review is to examine the leadership, organization, investment, morale, policy, and procedure-related factors in light of a series of recent incidents across the nuclear enterprise, develop findings, and provide recommended corrective actions within 90 days. The Review will be conducted separate from, but in parallel with, a Department of Defense (DoD) internal review and related investigations directed by the Department of the Air Force and Department of the Navy. The findings from these other efforts will be shared with the Review panel to further inform their work.

#### **Background**

The safety, security, reliability, and effectiveness of our nuclear weapons arsenal and the reliability of our nuclear deterrent are essential components of America’s national security. Personnel failures within the nuclear forces, as indicated by a series of recent incidents affecting both the Air Force and Navy, threaten to jeopardize the trust and confidence of the American people in this mission. Maintaining unquestioned capability to carry out our nuclear deterrence mission is a fundamental obligation of DoD.

#### **Objectives and Scope**

The Review should determine whether there are DoD and military service leadership, organization, investment, morale, policy, procedure-related, or other weaknesses or omissions in the nuclear enterprise that are adversely impacting the mission. The Review will examine incidents in the nuclear enterprise since the 2007 Minot incident including: the recent cheating incidents at Malmstrom and Charleston, the relief of senior leadership in 20<sup>th</sup> Air Force and USSTRATCOM, and deficiencies highlighted during routine inspections.

The Review will:

- Examine the underlying leadership and management principles governing the nuclear enterprise and the health of the culture that implements those principles;
- Examine the contributions of organization, procedures, testing/inspection, training, command oversight, investment, and the Personnel Reliability Program;
- Identify successful personnel management practices within the nuclear enterprise;
- Identify key gaps and/or problems concerning the growth and development of the personnel within the nuclear enterprise;
- Identify remedies for any gaps or problems, to include both rapidly implementable actions and longer-term structural changes that may be necessary; and

- 
- Investigate any other areas relevant to the concerns of the Secretary of Defense as outlined above.

**Methodology**

- The Review should consider findings and recommendations from previous relevant reports and studies, to include ongoing investigations by the Air Force and Navy and the DoD internal review.
- The Review may interview appropriate senior officials.
- The Review will seek information directly from the sailors, airmen, and other professionals performing this mission, including soliciting anonymous inputs from junior officers and NCOs.
- The Review will take into account all applicable laws, policies, and regulations, including DoD directives, instructions, and manuals.

**Process**

- The Review will be co-chaired by GEN Larry Welch, USAF (Ret) and ADM John Harvey, USN (Ret).

**Timeline and Deliverables:**

The Review will begin on March 3, 2014. The Review co-chairs will provide monthly updates to the Secretary of Defense and personally brief their findings and recommendations within 90 days. Senior Air Force, Navy, and OSD officials will also be subsequently briefed and will develop implementation plans, if so directed by the Secretary of Defense.

**Support:**

- The Under Secretary of Defense (Comptroller)/Chief Financial Officer will ensure adequate funding is provided for the Review.
- The Director of Administration & Management, through Washington Headquarters Services, will coordinate with other DoD Components on behalf of the Review and provide human resources, office facilities, and other support, as required, to ensure the success of these efforts.
- The Review will be able to draw upon the full support of the Military Departments and other DoD Components for support, personnel, information (including, but not limited to, documents and personnel to be interviewed), and analytical and investigative capacity and other requirements as determined necessary by the co-chairs of the Review.

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## Appendix C: Visits and Discussions

### Air Force

#### *Forces*

- ▶ Air Force Global Strike Command Headquarters, Barksdale AFB
- ▶ USAFE Headquarters, Ramstein AB
- ▶ 2nd Bomb Wing, Barksdale AFB
- ▶ 5th Bomb Wing, Minot AFB
- ▶ 8th Air Force, Barksdale AFB
- ▶ 20th Air Force, Francis E. Warren AFB
- ▶ 31st Fighter Wing, Aviano AB
- ▶ 90th Missile Wing, Francis E. Warren AFB
- ▶ 91st Missile Wing, Minot AFB
- ▶ 131st Bomb Wing, Whiteman AFB
- ▶ 307th Bomb Wing, Barksdale AFB
- ▶ 341st Missile Wing, Malmstrom AFB
- ▶ 509th Bomb Wing, Whiteman AFB
- ▶ 608th Air Operations Center, Barksdale AFB
- ▶ 701st Munitions Support Squadron, Kleine Brogel AB
- ▶ 702nd Munitions Support Squadron, Büchel AB

#### *Support*

- ▶ Air Force Inspection Agency, Kirtland AFB
- ▶ Air Force Materiel Command, Wright-Patterson AFB
- ▶ Air Force Nuclear Weapons Center, Kirtland AFB
- ▶ Air Force Safety Center, Kirtland AFB
- ▶ Headquarters Air Force A1, A3/5, A4/7, A6, A8, and A10, Pentagon
- ▶ Secretary of the Air Force SAF/IG, Pentagon

### Navy

#### *Forces*

- ▶ Naval Nuclear Power Field "A" School, Charleston SC
- ▶ Naval Nuclear Power School, Charleston SC
- ▶ Naval Nuclear Power Training Unit, Charleston SC
- ▶ Naval Base Kitsap-Bangor, WA
- ▶ Submarine Group Nine



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- ▶ Trident Training Facility Pacific
  - ▶ Strategic Weapons Facility Pacific
  - ▶ USS Nevada SSBN 733
  - ▶ Naval Submarine Base Kings Bay, GA
  - ▶ Submarine Group Ten
  - ▶ Trident Training Facility Atlantic
  - ▶ Strategic Weapons Facility Atlantic
  - ▶ USS West Virginia SSBN 736
  - ▶ USS Florida SSGN 728

### ***Support***

- ▶ Headquarters Navy DNS, PPOI, N1, N2N6, N3N5, N4, N8, N9, Pentagon
- ▶ Naval Nuclear Propulsion Program, Washington Navy Yard
- ▶ Strategic Systems Programs, Washington Navy Yard
- ▶ Submarine Force U.S. Atlantic Fleet

### **Other**

- ▶ Defense Threat Reduction Agency, Kirtland AFB
- ▶ DOD Chief Information Office, Pentagon
- ▶ Joint Staff, Nuclear, Homeland Defense, and Current Operations (VJ-33), Pentagon
- ▶ Joint Staff, Strategic Stability J5
- ▶ OSD AT&L/NCB/Nuclear Matters, Pentagon
- ▶ OSD Policy/GSA/Nuclear and Missile Defense Policy, Pentagon
- ▶ U.S. Strategic Command, Offutt AFB

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## Appendix D: Air Force Nuclear Enterprise

### Major Activities

- ▶ Bomber platforms
- ▶ Bomber nuclear support and test equipment
- ▶ Cruise missiles (LRSO)
- ▶ Nuclear gravity bombs
- ▶ ICBM platforms
- ▶ ICBM support and test equipment
- ▶ Nuclear warheads
- ▶ Dual-Capable Aircraft
- ▶ Dual-Capable Aircraft support and test equipment
- ▶ Nuclear Command and Control

***Responsibility and accountability for these activities within the Air Force are fractionated among:***

- ▶ SAF/AQ
- ▶ AF/A10
- ▶ Air Force Global Strike Command
- ▶ Air Force Materiel Command
- ▶ Air Force Life Cycle Management Center
- ▶ Air Force Sustainment Center
- ▶ Air Force Nuclear Weapons Center
- ▶ Air Force Space Command
- ▶ Air Combat Command
- ▶ Air Mobility Command
- ▶ U.S. Air Forces in Europe
- ▶ Air Force Nuclear Safety Center

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## Appendix E: Reports Reviewed

### Unclassified Document List

#### **2006**

- ▶ Defense Science Board Task Force on Nuclear Capabilities Report Summary, December 2006

#### **2008**

- ▶ Air Force Blue Ribbon Review of Nuclear Weapons Policies and Procedures, February 2008
- ▶ Defense Science Board Permanent Task Force on Nuclear Weapons Surety, Nuclear Weapons Inspections for the Strategic Forces, December 2008
- ▶ Defense Science Board Report on Nuclear Deterrence Skills, September 2008
- ▶ Defense Science Board Permanent Task Force on Nuclear Weapons Surety, Report on the Unauthorized Movement of Nuclear Weapons, February 2008
- ▶ Reinvigorating the Air Force Nuclear Enterprise, October 2008
- ▶ Report of the Secretary of Defense Task Force on DOD Nuclear Weapons Management, Phase I: The Air Force's Nuclear Mission (Schlesinger Report Phase I), September 2008
- ▶ Report of the Secretary of Defense Task Force on DOD Nuclear Weapons Management, Phase II: Review of the DOD Nuclear Mission (Schlesinger Report Phase II), December 2008

#### **2009**

- ▶ Air Force Comprehensive Assessment of Nuclear Sustainment, Phase II (AFCANS II), April 2009
- ▶ DOD IG Status of Recommendations to Improve the AF Nuclear Enterprise, September 2009

#### **2011**

- ▶ Air Force Comprehensive Assessment of Nuclear Sustainment, Phase III (AFCANS III), January 2011
- ▶ Defense Science Board Permanent Task Force on Nuclear Weapons Surety, Independent Assessment of the Air Force Nuclear Enterprise, April 2011

#### **2013**

- ▶ Defense Science Board Permanent Task Force on Nuclear Weapons Surety, Air Force Nuclear Enterprise Follow-On Review, April 2013

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## **Classified Document List**

### **2007**

- ▶ Commander Directed Investigation of Unauthorized Transfer of Nuclear Weapons, August 2007

### **2008**

- ▶ Donald Report, May 2008
- ▶ Navy Inventory and Assessment: Nuclear Weapons and NWRM, May 2008
- ▶ Strategic Systems Programs Self-Assessment of Navy Nuclear Weapons, May 2008

### **2009**

- ▶ Report of the NC2 System Comprehensive Review Federal Advisory Committee, December 2009

### **2010**

- ▶ AFGSC Ops Review Board, October 2010

### **2011**

- ▶ DSB Independent Assessment of AF Nuclear Enterprise, March 2011
- ▶ Report of the Navy Nuclear Weapons Comprehensive Biennial Assessment, November 2011

### **2012**

- ▶ AFCANS IV, August 2012

**In addition, reviewed many newspaper articles, periodicals, “60 Minutes,” and other open-source information.**