DEPARTMENT OF DEFENSE

DEFENSE SCIENCE BOARD PERMANENT TASK FORCE ON NUCLEAR WEAPONS SURETY

AIR FORCE NUCLEAR ENTERPRISE FOLLOW-ON REVIEW

April 2013

OFFICE OF THE UNDER SECRETARY OF DEFENSE
FOR ACQUISITION, TECHNOLOGY AND LOGISTICS
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The DSB is a Federal Advisory Committee established to provide independent advice to the Secretary of Defense. Statements, opinions, conclusions, and recommendations in this report do not necessarily represent the official position of the Department of Defense (DoD).

The DSB Permanent Task Force on Nuclear Weapons Surety completed its information gathering in December 2012.

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MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY & LOGISTICS

Subject: Final Report of the Permanent Task Force on Nuclear Weapons Surety on the Air Force Nuclear Enterprise Follow-on Review

I am pleased to forward the final report of the Air Force Nuclear Enterprise Follow-on Review. DoD leadership tasked the follow-on review to assess the effect of the changes subsequent to the 2010 assessment and report.

The Task Force determined the nuclear force is professional, disciplined, committed, and attentive to the special demands of the mission and that those serving across the Air Force nuclear forces are proud of their contribution to the security of the nation. However, the Task Force identified three overarching issues that led to specific, identified issues and provides information and recommendations relevant to these issues.

Conditioned Culture: There is some continuing legacy from the combination of years of inadequate support in several areas and the intense inspection and oversight activity seen as necessary to restore and reinvigorate the Air Force nuclear enterprise following the 2007 incident. The consequences continue to manifest themselves throughout the nuclear enterprise.

Inadequate Communication: There exists a need for greater and more effective communication at all levels using media appropriate for the intended audience. Many of the frustrating support shortfalls experienced over a period of years have been or are being effectively addressed. Still, many in the workforce are unaware of what has been done and what is on track to be delivered in the future. This lack of communication also contributes to the first overarching issue.

Sub-Optimal Risk Assessment: Much of the risk assessment conducted across the Air Force nuclear enterprise has little to do with performance, safety, and security risk to accomplishing the mission. Decisions to avoid very small technical risk result in far greater risk to personnel to perform essential nuclear-related tasks.

I fully endorse all of the Task Force's recommendations contained in this report, and urge their careful consideration and soonest adoption.

Paul G. Kaminski
Chairman

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MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

Subject: Final Report of the Permanent Task Force on Nuclear Weapons Surety on the Air Force Nuclear Enterprise Follow-on Review

The final report of the Air Force Nuclear Enterprise Follow-on Review is attached. The Air Force leadership implemented extraordinary measures in their nuclear enterprise following two incidents in 2007 and 2008. In 2010, the leadership asked the Permanent Task Force on Nuclear Surety to do an assessment of the effectiveness of the extraordinary measures and assess the resulting state of the nuclear enterprise. The Task Force found that the measures had been successful and the nuclear forces had been restored to high standards of professionalism and discipline. At the same time, there were significant shortfalls in personnel, logistics, and facility support for the enterprise. In addition, some measures and practices intended to help ensure a thoroughly professional force had become counterproductive and needed attention. The leadership initiated actions to improve personnel, logistics, and facility support and to re-examine the inspection regime and the conduct of the Personnel Reliability Program.

In 2012, the leadership asked the Task Force to do a follow-on review to assess the effect of the changes subsequent to the 2010 assessment and report on the current state of the enterprise. The Task Force found that the nuclear forces are thoroughly professional, disciplined, committed to the mission, and performing the mission effectively. There are significant improvements in the problem areas addressed in the 2010 assessment with the exception of the Personnel Reliability Program, which continues to be mired in bureaucratic excesses that detract from the effectiveness of this important program. There have been important improvements in visible senior leadership attention, clarity of organization and responsibility, the inspection regime, logistics support, personnel support, and facilities. Still, there are enduring issues that require more responsive attention. To sustain the continuing progress in the nuclear enterprise and leverage the positive developments, the Air Force needs to provide faster and broader material evidence that the mission is indeed treated as Job 1 (or even as first priority behind the demands of ongoing combat operations).

The report provides information and recommendations relevant to these issues.

The Task Force received the full support of all levels in the Air Force nuclear enterprise in performing this review.

Larry D Welch, General, USAF (Ret.)
Chairman
Permanent Task Force on Nuclear Weapons Surety

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Tasking

In April 2012 the Defense Science Board (DSB) Permanent Task Force (PTF) on Nuclear Weapons Surety was asked to conduct a broad, independent review of the Air Force nuclear enterprise. This review is a follow on to the Task Force's 2010 Independent Assessment of the Air Force Nuclear Enterprise, report dated April 2011. This independent review was tasked to include an examination of organization, operations, logistics, and surety. The Terms of Reference are at Appendix B.

The Task Force is comprised of individuals with expertise in nuclear operations, nuclear weapons and systems, nuclear surety, and support systems and organizations. The Task Force membership is at Appendix C.

To gather the information and understanding demanded by this task, the Task Force visited and held discussions with components of the nuclear forces and with agencies supporting the nuclear forces. This activity extended from August 2012 through December 2012. The list of visits and discussions is at Appendix D.

This report focuses on the conduct and support of daily operations in the nuclear forces. It does not address important major acquisition programs to sustain the forces. Further, it does not address plans and programs to sustain the nuclear weapons stockpile.

Bottom Lines

The nuclear force is professional, disciplined, committed, and attentive to the special demands of the mission. Those serving across the Air Force nuclear forces are proud of their contribution to the security of the nation. They believe the nuclear mission should be Job 1, and they believe the senior leadership of the Air Force considers it Job 1. There is clear commitment in the forces, demonstrated daily, to overcoming any and all obstacles to mission performance.

The Task Force also noted a marked increase in attention to nuclear enterprise needs by the senior leadership. This emphasis has led to an increased focus on logistics, personnel, the inspection system, and the Personnel Reliability Program (PRP), with positive results either delivered or promised. For the 2010 Task Force assessment, the broadest array of support shortfalls was identified in the logistics area. For this 2012 assessment, the Task Force found increased attention and focuses on the needs of the nuclear enterprise at the Air Force Nuclear Weapons Center (AFNWC), Ogden Air Logistics Complex (OO-ALC), Air Force Materiel Command (AFMC), Air Force Global Strike Command (AFGSC), and Headquarters Air Force (HAF).

As a result of this activity, when compared to the 2010 review, the Task Force found improved morale, but noted that this was accompanied by skepticism about the promises of future improvements in support of the daily work involved in performing the mission.

Several factors contribute to the improved morale:

- The message about the importance of the nuclear mission is stronger, starting at the top of the Air Force and extending to multiple levels of leadership. Communications to the nuclear forces from the Air Force Chief of Staff and the visits by the Chief and the Chief Master Sergeant of the Air Force to the nuclear forces early in the Chief's tenure are important examples.
- The intercontinental ballistic missile (ICBM) wings and the strategic bomb wings are seeing the end of ten years of turmoil in the command structure for those components of the nuclear forces. The ICBM wings are now in their fourth and – hopefully – final major air command and the strategic bomb wings in their third and, again, hopefully final, major air command.
- There is clarity in the mission chain of command from Air Force Global Strike Command to the wings to the squadrons. Serving in a major air command, whose only mission is strategic nuclear deterrence and global strike, is perceived as important evidence of the leadership's commitment to the mission. AFGSC is maturing rapidly and the ICBM and bomber forces perceive early benefits and expect those benefits to grow.
- There is increased focus on the logistics support needs, particularly in the ICBM forces. The forces see increased focus across the logistics enterprise. There is improvement in availability of some of the support equipment essential to sustaining the weapon systems.
- There is tangible progress in addressing the long-term shortage of personnel in the munitions maintenance career field and in some of the other relevant career fields.
- There is increased attention to facilities. Some improvements are on-line and others have progressed from "promise" to "under construction."
- There are visible changes in the inspection regime and practices. There is a current effort to further reorient the inspection philosophy to rely more heavily on the wing commander's self-inspection program. These efforts are reducing the burden on the operating forces while providing the potential to improve the inspection programs' contribution to mission effectiveness.

There are also visible reasons in the daily lives of those performing the mission for skepticism. In some cases the skepticism reflects perceptions that the Task Force did not confirm as facts. Perceptions are important; however, the Task Force did not include them in this report unless they were raised repeatedly during discussions. It is also useful to emphasize once more that the forces will find a way to perform their mission whatever the obstacles. Eight causes of skepticism are listed below:

- While the Air Force leadership is providing a strong and positive message regarding the mission of the nuclear enterprise, the people sustaining the nation's nuclear capabilities continue to hear comments from some national leaders, past and present, questioning the need for the nuclear capabilities provided by the forces addressed in this report. The troops are experiencing and will continue to experience the limitations of constrained

budgets. These factors and others continue to raise questions in airmen's minds about the commitment to the nuclear force mission. Given these challenges, reinforcing this positive message will be a continuing need for the Air Force leadership.

- There is inadequate communication to the troops regarding actions underway to improve support for essential maintenance activities. Where there is communication, the means needs to include the social media culture of the intended audience.
- While the formation of the Air Force Global Strike Command is a positive development, members of the command note that senior flag officer leadership one grade below other operational major commands is inconsistent with the declaration that this command's business is Job 1.
- The maintenance workforce generally perceives that their maintenance facilities suffer from long-term neglect and are inferior to those of other commands with other missions.
- The long lead times for improvements, replacements, and enabling functions essential to mission efficiency are difficult for the troops to understand, particularly when compared to what they observe in program improvements elsewhere in the Air Force.
- Fixes for long-standing issues with support and test equipment for munitions maintenance that adversely impact the daily lives of maintenance people continue to be future promises rather than delivered reality.
- The nuclear systems maintenance force continues to be hampered by technical orders (T.O.s) that are outdated or inaccurate and, in many cases, with relevant direction scattered over too many documents to efficiently cross reference. The impact of these deficiencies is exacerbated by the increasing tendency to treat T.O.s for every kind of operation as step-by-step checklists.
- In spite of continuing work to make the Personnel Reliability Program more efficient and relevant, the administrative burden and negative impact on rank and file perceptions of the program has increased. Many officers and enlisted of all ranks perceive that the program has deteriorated to a massive exercise in record keeping with 100% perfection as the only acceptable goal.

To sustain the continuing progress in the nuclear enterprise and leverage the positive developments, the Air Force needs to provide faster and broader material evidence that the mission is indeed treated as Job 1 (or even as first priority behind the demands of ongoing combat operations). The force is patiently waiting for that expected material evidence in the form of visibly increased support for their daily mission work. With a believable commitment to the needed support to meet the demands of the mission, the forces will continue to progress. In contrast, if the practice continues to be to demand that the troops compensate for manpower and skill shortfalls, operate in inferior facilities, and perform with failing support equipment, there is high risk of failure to meet the demands of Job 1. The troops continue to

endure the stress of dealing with these issues and meeting unique demands for perfection to sustain force capability. This cannot continue indefinitely.

It was apparent to the Task Force that the relevant experience of much of the leadership in the forces and in the logistics support structure has become a positive characteristic of the nuclear enterprise. The concern lies in the structure and approach to building the future leadership of the enterprise. This is particularly relevant in the one-of-a-kind positions found in the logistics support structure.

Overarching Issues

The Task Force found three overarching issues that led to many of the identified specific issues.

- **Conditioned Culture:** There is some continuing legacy from the combination of years of inadequate support in several areas and the intense inspection and oversight activity seen as necessary to restore and reinvigorate the Air Force nuclear enterprise following the 2007 incident. The consequences are manifested in at least three ways: 1) Some in the operating forces continue to rely on frustrating workarounds even after help is available to operate more efficiently; 2) The workforce continues to have low expectations of responsive support and therefore accepts responses that do not address their needs when they should be demanding better answers; and 3) The major air command, numbered air forces, and wings continue to impose extraordinary processes that impose non-value-added workloads to deal with inspection team demands and practices that are, at least officially, no longer in use.
- **Inadequate Communication:** There exists a need for greater and more effective communication at all levels using media appropriate for the intended audience. Many of the frustrating support shortfalls experienced over a period of years have been or are being effectively addressed. Still, many in the workforce are unaware of what has been done and what is on track to be delivered in the future. This lack of communication also contributes to the first overarching issue.
- **Sub-Optimal Risk Assessment:** Much of the risk assessment has little to do with performance, safety, and security risk to accomplishing the mission. For example (and one that is discussed more fully later in the report), the Air Force prohibited the use of the bomb hoist in the Weapons Maintenance Truck (WMT) due to a long-standing (22 years) minor deviation from the specification for bolts. The decision to avoid that very small risk has resulted in far greater risk in handling B61 bombs with a fork lift and heavy manual lifting during routine maintenance operations. As another example, the drive for zero risk in applying medical judgment and achieving record keeping perfection in the PRP results in reduced manpower available for essential mission tasks. This drives security forces and nuclear weapons maintenance specialists to work longer or more frequent shifts, often under harsh conditions (e.g., winter in Minot, ND). Again, the very small risk reduction that might be possible from zero risk zeal in the PRP creates what

supervisors and medical leaders in the units believe to be a greater risk associated with the impact of reduced manning to perform essential nuclear-related tasks.

Specific issues associated with these overarching issues are discussed in the following five sections:

- Logistics Support,
- Personnel Support,
- The Personnel Reliability Program,
- The Zeal for Perfection and the Inspection Culture, and
- The Demands of the Functional Staffs/Centers/Managers on the Mission Chain-of-Command.

Logistics Support

An overarching driver of increased logistics challenges is the fact that most strategic weapons, weapon systems, and the support equipment are well beyond their planned life, which multiplies the challenges for logistics support.

Still, there has been significant progress in addressing the logistics support needs imposed by these aging systems. This progress has been achieved with changes in the AFMC structure and more intense focus on specific needs to support these systems. The Task Force saw progress attributable to this focus and saw reason to expect more comprehensive progress in the future.

There has been particularly notable progress in programs to support the ICBM force. The Ogden ALC and the AFNWC ICBM Systems Directorate (co-located with the Ogden ALC) have a series of programs underway to provide increased support. These include test equipment, Launch Control Center and Launch Facility modifications and upgrades, and missile transport and maintenance vehicles. There is also increased attention to the Technical Orders required to maintain nuclear and nuclear-related systems. Still, it will be some time before the programs put capabilities in the hands of the operational units. The Task Force is not confident that this increased support has become institutionalized. Instead, it may be personality driven. There needs to be careful attention to assuring continued commitment.

These steps have had a positive effect on the forces in the United States and in Europe and promise to be of ever-increasing value. Still, across the broader nuclear enterprise, long-standing deficiencies with large impact on the workforce continue with only modest overall improvement delivered to the operating forces.

The continuing deficiencies are addressed in five categories:

- Support and test equipment,
- Response to updating and modification of T.O.s,

- Response to parts needs impacting mission capability,
- Facilities, and
- Conflicts among Air Force Instructions (AFIs), inspection findings, relevant supplements, and other directive/guidance materials.

Support and Test Equipment

While there are important programs producing future promises, there has been only modest material improvement evident to the operating forces on issues noted in the Task Force's April 2011 report. Many of these issues were long-standing at that time. For example, the Re-entry System Test Set (RSTS) is essential to maintaining ICBM warheads. The RSTS continues to require extraordinary, time-consuming effort and workarounds. It can take hours of trouble shooting by the most experienced technicians to coax the set through the required self-test before it can be used for its intended purpose. The Re-entry System Test Console (RSTC) is on contract to replace the RSTS with first delivery expected in 2015. While that is good news for the warhead maintenance troops, it has been a long wait.

The MHU196 Munitions Handling Trailer, used to load weapons on the B-52, was fielded 25 years ago. It suffers from several continuing sustainment issues. Counterweight balance parts, of which 12 exist on each trailer, are breaking and are now difficult to procure in the Air Force supply system. The electronic A14 box also has recurring sustainment issues. While a new design for what are, by today's standards, relatively simple electronic components is finally being tested, the production of the units has not been funded. Ensuring a sufficient number of operational trailers to perform the workload is challenging and requires extra work on the part of weapon maintainers, loaders, maintenance schedulers, and others. The Task Force was informed of these same trailer issues in 2010.

The availability and condition of the WMTs in Europe has improved. In 2010, one or more munitions support squadrons were required to share a single serviceable WMT, which required road travel between the squadron sites. Extensive road travel imposed additional wear and tear on the WMT. Now, each squadron has the authorized two WMTs, and most of them are at least partially mission capable. Yet, the WMTs are increasingly difficult to support because of obsolete and unavailable parts, corrosion issues, and inadequate technical and engineering data. Stopgap measures to deal with these issues have not been effective. It is difficult to reconcile the time lags in addressing known issues with the WMTs with the importance of the nuclear mission. Two examples are instructive:

- None of the WMTs are currently fully mission capable. The issue—as noted earlier—is with the bolts attaching the weapon hoist to the WMT walls. The hoist is used to move the weapon from the transport trailer to the working fixture in the WMT and to handle the heavy tail section during maintenance operations. The problem is that the end of the bolt is flush with the outer surface of the nut while technical data requires that two threads show beyond the surface of the nut. This deficiency has existed throughout the

22-year life of the WMT and has not resulted in any problems with the activities conducted in the WMT. In spite of this 22-year record, there has been a recent decision in USAFE to prohibit use of the hoist, which makes the WMT only partially mission capable. This requires an awkward process entailing the use of a forklift to move the weapon into the WMT and the manhandling of the 200-pound tail section to move it within the WMT. The current plan is to replace the bolts as expeditiously as possible. In the meantime, maintenance personnel must use procedures that, by any informed judgment, impose a far greater safety risk than that presented by the deficiency in the bolt length. Whatever the resolution of this issue, it should have been resolved in hours or days, not weeks and months. The issue was resolved by the time this report was finalized.

- The second issue is the procurement of the replacement for the WMT. Procurement was to occur many years ago. The replacement is the Secure Transportable Maintenance System (STMS) and a contract was awarded in July 2012 (and was immediately under protest). The plan now – assuming the current contract award protest is resolved expeditiously – is to begin delivery in 2015. The long wait presents yet another example that calls into question the credibility of the Job 1 status of the mission.

Recommendations:

The Commander, AFNWC, in coordination with the Strategic Systems PEO, should:

- **Establish a quarterly newsletter informing the operating forces of completed actions and plans underway to support equipment and other logistics needs, changes in policy, and resource updates.**
- **Include media appropriate to the intended audience to continuously update information relevant to the concerns of the workforce.**

The Director, ICBM Systems Directorate should provide the staff assistance needed to quickly resolve the remaining RSTS connecting cable issue.

Response to Needed Updating and Modification to Technical Orders

The impact of the RSTS and connecting cable deficiency is multiplied by slow response to the need for engineering support and T.O. updates. A continuing issue arising from visible defects on aging warhead components that could qualify as damage has been further exacerbated by new guidance. Before conducting Limited Life Component (LLC) replacement activity on the Minuteman III (MMIII) warhead, the technical team must inspect the components of the warhead for visible defects. The criteria for assessing whether a visible defect is damage can be described in specific or general terms. In many cases, the relevant defect may be a mark or minor scratch or discoloration on a component that is eventually deemed to be serviceable. Anything falling outside specific T.O. direction on assessing that possible defect by the technical

team requires that the crew cease the activity, prepare an Unsatisfactory Report (UR), return the asset to storage, and prepare a replacement article. This can cost the technical team a full day's work for each such instance. It also multiplies handling of nuclear components.

The issue is further complicated by the dividing line between the Engineering Technical Assistance Request System (ETARS) and the Unsatisfactory Report system. The ETARS is used to report problems with components within the re-entry vehicle (RV) where the engineering authority resides in the ICBM System Directorate of the AFNWC while the UR system is used to report issues associated with the weapon where the engineering authority resides in the Department of Energy (DOE).

The AFNWC has an accelerated process in place to address ETARS. It also has a process to accelerate the movement of URs to the engineering authority in the DOE National Nuclear Security Administration (NNSA) nuclear weapons laboratories. Once the process moves into the laboratory system for engineering assessment and decision, it is no longer under AFNWC control. Hence, the workforce loses visibility on the status of the asset. The AFNWC and the laboratories receive nearly a thousand URs each year in different categories of urgency. Currently, the tracking system for the URs is manual. Timely tracking and visibility into the status of action on the URs clearly requires an automated system.

Two specific recent examples are instructive.

- The same type of defect on the same type of component, over a two-year period, produced 25 instances of work stoppage and 25 URs. In each case, the eventual engineering finding was that the defect did not constitute damage and the asset was serviceable. At the time of this writing, there has still been no change to the T.O. to permit the technical activity team chief in the unit to assess the possible defect. Hence, each instance still requires an engineering decision by the NNSA laboratory and each recurrence can waste a day's work for a maintenance team and increases the handling of nuclear components.
- In a second instance, there was new direction to "inspect a component for damage" with no further description of what constitutes damage. Given the zeal for zero-risk perfection that has grown to dominate such operations, the technical team has no choice but to treat any defect as potential damage, requiring suspension of the operation pending engineering assessment. In a recent case during an inspection, the team went through four warheads before finding a fifth that was satisfactory such that they could complete the maintenance activity. Again, there is technical direction for similar conditions on other components or parts of components. Even so, the T.O. does not allow the team to apply that assessment process to the new direction.

Responsiveness to such deficiencies in the T.O.s has been slow and, in some cases, has produced unusable new T.O.s. One of several similar experiences described by the users illustrates the scope of the issue for the maintenance workforce. When a major change to

T.O. 11N-B1004-1 (Weapons Loading and Tie-Down) was delivered to the field, the users quickly discovered 66 errors that impacted the performance of the activity. When this was reported through proper channels, the wing was told to submit 66 AFTO 22 forms – the normal process for requesting changes to T.O.s. In essence, the response was for the wing to assume an additional workload to compensate for major deficiencies in the process. The T.O. was virtually unusable. Given that a response to an AFTO 22 can take two years, the wing did not find that approach responsive to the need. The AFNWC has processes in place that ensure that hands-on users review technical data before publication. The results sometimes indicate that such a review was inadequate at best. A major issue is that the people doing hands-on work are expected to perform without error, and the consequences for error, even one that causes no damage or mission failure, can be severe. Yet, these same people are handed a T.O. with 66 errors and told they will have to do the work to correct the deficiencies that slip through the review system. It will be far more efficient all around to provide the time and funding to ensure that the T.O. changes and new T.O.s are both timely and correct. There should be no need to sacrifice one characteristic to ensure the other.

On multiple occasions, the Task Force heard cost as the perceived reason for the delay in issuing updated and/or new T.O.s. This was confirmed in a meeting at AFNWC; specifically, that limited O&M funds resulted in the delay in reissuing updated T.O.s. Given the modest cost and impact on the mission, it is difficult for the workforce to accept this as a valid reason for failure to provide needed technical direction for maintaining nuclear weapons. In later discussions, the Director, ICBM Systems Directorate in AFNWC declared that cost has not and will not be a reason to delay response to the need to update or correct T.O.s.

On the other end of the spectrum, there is guidance, sometimes conflicting, for a single logistics operation imbedded in T.O.s, Air Force Instructions and supplements, inspection findings, and other technical data. The net result of accumulated multiple interim changes and multiple T.O.s relevant to a single operation is added workload and potential for critical mistakes. There can be a dozen or more different pieces of guidance that the technician must navigate to ensure total compliance in performing a required technical operation. For example, some parts of T.O.s that are primarily for other operations contain direction relevant to preparing a weapon for air transport. Still, the team conducting the activity believes they must follow every piece of direction from every T.O. and Instruction that could apply to their operation even if that direction is a single sentence or paragraph that is largely duplicative. As an example, there are sixteen guidance documents that address surety support for the WS3 vault in Europe while the core document is outdated (January 2005). Young airmen must flip back and forth among these documents to ensure compliance, not necessarily mission effectiveness. The airmen who do the hands-on work are thus forced to compensate for the lack of priority accorded the instructions that purport to provide the guidance needed to support the mission.

The T.O. issues are another example of frustration with the lack of feedback to the workforce on the status of responses to their needs. This situation would be ameliorated with the introduction of an automated T.O. change process tracking system. One frustrated maintainer asked “why Job 1 couldn’t have a tracking system similar to his FEDEX packages?”

Recommendations:

The Deputy Assistant Secretary of Defense for Nuclear Matters should lead an effort to eliminate the non-productive workload and unnecessary handling of nuclear components caused by the current UR system.

The Commander, AFMC should:

- **Direct full funding of development and publication of changes, updates, and rewrite of Technical Orders supporting nuclear operations.**
- **Direct a high priority on responsive attention to Technical Orders to include timely interim changes, incorporation of interim changes into the basic T.O., and consolidations of guidance for a single operation into a single self-contained Technical Order.**
- **Ensure that revised T.O.s are vetted by hands-on experts before publication.**

The Commanders, AFGSC and AFNWC should establish a working group composed of hands-on experts to identify duplication and proliferation of guidance in T.O.s and other publications that create non-value-added workload for the maintenance force and rescind/remove the identified guidance.

The Commander, AFNWC should:

- **Make the liaison with the Sandia National Laboratories more effective in ensuring expeditious response to URs impacting nuclear warhead maintenance. This should include electronic connection for immediate communication with any needed exhibits and descriptions for engineering assessment. The goal should be immediate response to a work stoppage during warhead maintenance. The goal can be realized by:**
  - **Immediate engineering assessment by the required engineering authority, or**
  - **A return to increased authority for 7- or 9-level technicians in the maintenance facility.**
- **In coordination with the National Nuclear Security Administration (NNSA), establish a tracking system for URs impacting Air Force nuclear weapons maintenance and to provide for expeditious changes to T.O.s to preclude repeated work stoppages and handling of nuclear components for similar issues that currently require repeat engineering assessment.**

Response to Parts Needs Impacting Mission Capability

Certain policies that create efficiencies for other weapon systems can create major inefficiencies for activities involving systems that are unique and small in number, such as in the case of nuclear weapons systems, specifically those related to the B-2, the B-52, ICBM

maintenance support equipment, and support for MUNSSs in Europe. For nuclear weapons, the "economic case" approach to having/supplying some nuclear system parts based on demand experience is not effective. Unique items in small quantities that are not often used do not generate demand for parts driving mission capability. Meeting the need for support of these systems requires the expertise to forecast needs and establish special levels. The operating units have not used this system effectively. There exists a need for assistance to the operating forces and the provision of resident supply chain expertise to the maintenance squadrons. (Past reductions in the supply career field removed supply specialists from the munitions maintenance squadrons.) While the HAF/A1 reinstated supply billets assigned to the WSAs at each of the missile wings and although the Logistics Readiness Squadrons (LRSs) at the Wings have supply personnel, there are none assigned to field-level maintenance. The Task Force found that in some—and perhaps most—maintenance squadrons, the function is still being performed by maintenance technicians who are not, and should not be, qualified to deal with special needs from the supply chain. The parts supply issue is further complicated by the need for a central authoritative coordinating authority to integrate the roles of the plethora of logistics organizations with a role in supporting the nuclear forces – AFMC, AFGSC, the System Program Offices, multiple Air Logistics Centers and Complexes, and contractor operations. For the WS3 and WMT in Europe, there is an Operating Location San Antonio and an Operating Location Ramstein that helps manage this problem. There exists no similar activity for bomber or ICBM support. The Nuclear Integration Team or the Sustainment Center at AFMC Headquarters could be candidates for this role. A further complicating issue voiced by the supply chain management personnel is that there is limited knowledge or understanding of how the wholesale side of supply supports (and impacts) the retail supply and maintenance functions.

The Task Force was encouraged by recent activity initiated by the 748th Supply Chain Management Group (SCMG) to fix the demand forecasting problem – i.e., often the field isn't getting parts because the Air Force supply chain and Defense Logistics Agency (DLA) don't know the field needs parts, therefore the parts pipeline isn't being primed. The MK12A and MK21 are being used to prove the process of making lasting changes in demand forecasting and the intent is to apply this approach to the whole missile system. The Task Force was told that the new process provides a communication forum for the ICBM Systems Directorate (aka SPO), maintainers, and field to input all past usage, current status, and future requirements for parts in the weapons system to supply chain management partners to ensure parts are on the shelf in the future. The Task Force looks forward to tracking progress on the ability to demand forecast the nuclear weapons system parts.

Supply System Support for Unique ICBM Needs

Many of the supply practices directed for ICBM operations were designed for aircraft flight line operations rather than for the dispersed ICBM structure (a few acres versus thousands of square miles). The Task Force heard several examples of the inefficiencies created by applying aircraft flight line practices, which assume ready access to all the available logistics support, to the ICBM force where the needed logistics support must accompany the workforce to the field location.

Recommendations:

The Commander, Air Force Global Strike Command should ensure that the supply specialists provided to the wings for the purpose of helping establish special supply levels to deal with the special challenges presented by nuclear systems are directed at that activity.

The HAF A10 and A4 should take action to change AFMAN 23-110 and AFI 21-202 to support the uniqueness of the environment for ICBM maintenance.

The AFGSC/A4 and the AFMC Sustainment Center/LG should offer the staff assistance needed for the maintenance organizations at the three missile wings and three bomb wings to establish and sustain the special supply levels needed to support their operations.

The 414th Supply Chain Management Squadron (of the 748 SCMG) should partner with the experts at AFGSC to build a "training team" to conduct additional supply chain process functional awareness training.

Facilities

Facilities are part of the perceived mismatch between the declaration that the nuclear mission is Job 1 and the visible support for the mission. The Task Force saw evidence of significantly increased attention to facility needs. However, the facilities supporting the strategic nuclear forces are still perceived as far inferior to those available for other missions. For example, the 69th Bomb Squadron transferred to Minot in 2009. They now hope to have a flight line Aircraft Maintenance Unit (AMU) facility for the squadron in 2016, but that is not assured. The Weapons Storage Area high-bay was designed to support a single squadron. There has been no expansion to support the second squadron and there is no training facility and the Task Force was unable to discover a plan to address either need. The impact of the lack of a training facility is an extensive delay – often a year – to enter a new maintenance technician into the training required before they can do hands-on work.

The facility issues are particularly acute at the ICBM launch facilities (LFs) and Launch Control Centers (LCCs) where water intrusion from ground water has produced major damage, including collapsing electrical conduits. Left unaddressed, the water intrusion consequences are likely to accelerate and threaten the continued viability of the facility. This has already created an increased workload, and in at least one case, interferes with required operations. There are piecemeal efforts to deal with these problems, but there is a need for a comprehensive initiative to sustain the MMIII launch control facility infrastructure. The Rapid Execution and Combat Targeting (REACT) Service Life Extension Program, which upgraded the operating functions of the ICBM LCCs, is a successful example of such a comprehensive program (began in 2002; deployed in 2006). The ICBM Systems Directorate of the AFNWC is preparing a proposal for such a comprehensive program. The execution of the program needs the full support of Air Force Global Strike Command and the HAF Staff.

Recommendations:

The Commander, AFMC, supported by the Commander, Air Force Global Strike Command should direct development and support of a comprehensive program to sustain the launch facility infrastructure with an early focus on addressing ground water intrusion.

The Commander, Air Force Global Strike Command should:

- **Establish and sustain a higher priority on providing the needed flight line facility support for the added bomb squadron at Minot.**
- **Give high priority to the development of a weapons training facility for cruise missile launcher training at Minot.**

Personnel Support

The attention to the nuclear weapons maintenance technician (2W2) career field is producing tangible results. While the initial result has been a large increase in numbers of 3-level technicians, this increase lays the foundation to meet the long-term need.

Headquarters Air Force has conducted a number of manning standard assessments that have resulted in improved resource-to-tasking match. However, the manning standards for a missile wing are either non-existent or deficient depending on whose view is expressed. The issue associated with manning standards is the need to allow for the unique nature of the ICBM mission workload arising from the ICBM "flight line." While the bomber flight line is measured in acres, the ICBM "flight line" is measured in thousands of square miles. Hence, movement to, from, and around the bomber flight line is largely inconsequential in terms of time and workload. The movement to, from, and around the ICBM "flight line" consumes multiple hours in routine travel time. There exists a clear perception that the manpower surveys do not benefit from an understanding of the unique factors in the ICBM force maintenance workload.

The combination of manpower reductions and the practice of filling slots with reduced rank and qualification levels increases the demand on supervisors, both officer and senior enlisted. These demands are further exacerbated by the combination of an attitude that there must be no mistakes and the difficulty in getting senior noncommissioned officers (NCOs) to accept assignments to some bases. These factors have led some senior NCO and officer supervisors to focus much of their attention on supervising activities that would normally be performed by lower-level supervisors. This added role interferes with these individuals' essential role in planning and mentoring and their attention to the broader aspects of the health and effectiveness of the organization. Frustration with this situation was apparent in discussions with the Task Force and is reflected in retention. This should be cause for serious concern.

The workload in munitions maintenance is increased by inefficiencies resulting from a tendency to expect "jack-of-all-trades" performance from maintenance technicians whose training and

focus should be on maintaining systems. Recent action by HAF/A1 has added maintenance scheduler (2R) and supply specialist (2S) positions in the wings to serve those needs in the AFGSC munitions maintenance squadrons. The next challenge in this area will be to fill those positions and reorient the workforce to take advantage of the presence of these specialists.

The special expertise planning and scheduling demands have been particularly intense at the missile wings where the heavy modification and update schedule and the drive to accelerate the conversion to single warhead MMIIIs have complicated the planning and scheduling task.

Further, it is not clear that the manpower standards take adequate account of the impact of the PRP on personnel availability. The result is that when nuclear operations units are seen by the personnel system as manned to the existing AF standard, in reality they are likely to be manned at 10-15% below standard when taking into account the PRP impact. There are currently some PRP variances in process. One is a 5th Bomb Wing request for a 9% multiplier (plus-up) for security forces supporting the WSA. The request is unfunded but "being worked" by AFGSC. Still, most units live with the shortfall and mitigate it with longer working hours for those available for duty. Units reported that in key fields impacted by PRP demands, such as munitions maintenance and security forces, filling to 110%-120% is needed to deal with the impact of those not available for a variety of PRP-related reasons—the incoming certification process, rejections of incoming personnel with disqualifying issues, suspensions for medical reasons, etc. The issue of relevant manpower standards also extends to other activities that heavily impact units with the nuclear mission. For example, the manning standard for maintaining the security force HUMVEE is the same as for pickup trucks although the HUMVEE is significantly more difficult to maintain.

The impact of the manning, skill-level, and grade-level shortfalls has been particularly apparent at Minot. Retention in the missile wing maintenance force has been 48%; retention in the security forces has been 32%. Part of the low retention is related to the harsh Minot weather and working conditions, but there was a time when working at Minot was a badge of honor. Minot weather has always been Minot weather. What has changed is the perception of negative career impacts, the slow response to concerns, and the need for tangible evidence that things are improving and will continue to improve.

Recommendations:

The Commander, AFGSC and the Headquarters AF/A1 should create and implement a manning standard that addresses the unique characteristics of a missile wing operating over thousands of square miles.

The Commander, AFGSC should give high priority to correcting the underlying cause of the distraction from their proper roles and increased stresses impacting senior NCOs – the demand for perfection; the shortfalls in mid-level NCO experience – resulting in the perceived need to be actively involved in the work at all levels to ensure that nothing can go wrong.

The Personnel Reliability Program

This section of the report is highly critical of the bureaucratic excesses of the PRP practices. At the same time, the Task Force wants it to be clear that both the Task Force and the people in the forces who are the victims of the excesses believe unequivocally that the PRP is critically important to the execution of the nuclear mission. The Air Force leadership has stressed that the PRP is a commander's program in place to help the commander ensure that the people in his or her unit with access to nuclear weapons meet high standards of reliability. Still, in practice, the execution of the program is mired in bureaucratic excesses that detract from the intent of the program. The PRP is far too important to allow its effectiveness to be undermined by bureaucratic excesses.

Direction and Practices

Current direction for the PRP clearly declares that the management of the program is a function of command. That direction also establishes reasonable parameters. For recertification, look back is only to the last certification. Inspectors are to do record checks to the 95th percentile instead of the 100th. Look back for inspections is limited to five years. Furthermore, a number of current problematic PRP practices widely credited to Air Force directives are actually located in supplemental direction from subordinate units.

New direction will face the culture that has grown up around the PRP concept over a period of years, further exacerbated by the response to the 2007 incident at Minot AFB. That culture is in strong opposition to new direction. The overall tone, the management of key aspects of the program, and the practices used in inspections of units' conduct of the program in years past has led to a program that is counterproductive to its intended purpose. The current program has conveyed the message that the workforce, supervisors, and commanders relied upon to maintain and operate the nation's nuclear forces cannot be trusted with the most basic judgments about the fitness for duty of the people with whom they work daily. There exists a deeply rooted drive for zero risk that largely ignores the responsibilities of supervisors and commanders and the safety valve of the two-man requirement for any access to a nuclear asset.

Record Keeping Burden

PRP medical and record keeping aspects overwhelm other program considerations to the point of being counterproductive. In numerous cases, attention to these aspects is almost totally substituted for the attention and focus of personal responsibility, direct supervision, and personnel reliability chain of command. The perfection demanded in PRP medical processes and record keeping is often seen as the real essence of the PRP. This is exacerbated by the intense focus on the medical and administrative aspects by inspection teams while the other reliability aspects (e.g., job performance) are largely ignored. The only standard that is considered acceptable for PRP record keeping is perfection, and the definition of perfection can be ludicrous. At one base, the PRP inspectors from the MAJCOM IG declared it a major finding that the dimensions of the red status identification stickers were 1.5 inches rather than the

prescribed 2 inches. One medical group commander, referring to the bureaucratic excesses stated: "administrative paperwork and chasing regulations are the focus of PRP rather than serving the airmen on PRP to ensure they are ready to perform their jobs."

Even with the intense focus on the administrative provisions of the medical and record keeping aspects of PRP, there is surprising confusion and interpretation about that direction. There are reports that inspection teams continue to look back to files created prior to the previous certification when assessing whether the most recent certification was properly assessed. The Task Force found some units interpret DoDI 5210.42, "PRP certification…as determined through comprehensive screening" coupled with DoD 5210.42R specifying "all records available for screening" as requiring a cover-to-cover review of medical records on all members considered for PRP, including members who have recently "PCS'd" from a PRP base. Units are criticized for errors or oversights in PRP records that look back over multiple certifications in previous assignments. Squadron commanders report that the recertification process continues to include an interrogation with questions relevant to events far in the past, well beyond the current guidance. The Task Force notes that for an initial Top Secret clearance, the DoD requires only a ten-year look-back. Yet, in practice, PRP initial certifications, and sometimes recertifications, often look back to early high school, experience that is often fifteen or more years in the past.

The result of the intense focus on the medical and administrative demands of the PRP – from commanders to the new recruit alike (i.e., a collective view among airmen) – is that many regard current PRP practices as creating a threat to their professional lives and a detriment to their mission. For recertifications, the individual faces the possibility that an event years ago will deny them the opportunity to continue to perform in spite of long, effective, and honorable service in a career field.

Undermining the Commander's Program

Commanders face the near certainty that repeated audits of past data will provide fuel for criticism for events and decisions that preceded the individual's assignment to the unit or the base. The expected issue is not whether the commander considers the issue with past data to be of any relevance to the reliability for duty of the individual. From past experience, the issue is more likely to be the fact of an error in the record. Enormous effort goes into these audits with little evidence of value.

Suspensions for the possibility of cause are required by direction from levels below HAF even though the possibility of cause seldom becomes actual cause. For example, an off-base dental appointment to have an annual examination or a routine filling requires suspension until the individual proves upon return that there was no cause. While the system declares there is no stigma with suspension, the individual must physically visit the medical facility upon return (at a specified time in some wings) and cannot perform his work until this administrative process is accomplished. Individuals who care a great deal about their work team know that there is no cause for suspension and feel they are forced to let their team down for no reason. It can take

three to five days to return to work when the eventual determination is that there was no cause for concern. This also requires the time and attention of medical technicians, doctors, and certifying officials. Those new to this system wonder why, if this is a commander's program, their supervisor is not allowed to determine whether there is cause to consider suspension from a routine medical or dental appointment.

There are indications of near-contempt for the current administration of the medical and record keeping aspects of the program. A member of a medical group discussing the program declared "we suffer from irrational ignorance." A young airman suggested that PRP has become Job 1 and that there should be a new bumper sticker for the rest of the activity "maintaining a curious interest in the nuclear enterprise."

Air Force Institutional Awareness

Another dimension of the PRP issue is that the larger Air Force is not knowledgeable about the program. The consequence is that personnel are not being vetted for PRP prior to their assignment. For example in a USAFE aircraft maintenance unit, twenty people incoming to the unit last year for duties requiring PRP certification were not acceptable for that status. This was largely because the losing commander was not informed and educated on PRP. Another USAFE unit specified that half the people coming into a remote MUNSS were cancelled because they could not be certified for PRP. Each such cancellation post-assignment leads to a delay in filling positions. In the case of a MUNSS, there may be only one or two people with the assigned skills. Airmen across the enterprise voiced that the personnel system is seemingly not doing its job on vetting for PRP. The impact is longer hours and more shift work to compensate for the de facto lower manning.

The Permanent Task Force and its predecessor Joint Advisory Committee has, over the past 15+ years, observed a number of efforts to reform the PRP to make it more relevant to its critically important intended purpose. The result has been short-lived improvement soon overwhelmed by an increasingly intense focus on the medical record keeping aspects of the program to the near exclusion of all other leadership and management responsibilities for personnel reliability and capability and the relationship to the mission. The program is becoming increasingly counterproductive. Therefore, the Task Force is recommending more drastic measures to reorient the program.

Recommendations:

The Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, in conjunction with the Navy and Air Force should review and update DoD 5210.42R to provide clarity in baseline requirements assuring that the PRP is implemented as a commander's program with clear accountability for determining the fitness for duty of people subject to the PRP.

The Secretary and the Chief of Staff of the Air Force should take action that, in guidance and in practice, ensures that the PRP is a commander's program and the commander is accountable for determining the fitness for duty of people subject to the PRP. This action should consider suspending all Air Force and subordinate unit guidance on PRP that exceeds the requirements of the DoD guidance.

The Commanders, USAFE, AFMC, AFGSC, the Air Force Inspection Agency (AFIA), and Defense Threat Reduction Agency (DTRA) should emphasize to inspectors that the purpose of examining PRP medical records is to help assess the implementation of the overall PRP, not to search out the occasional administrative error in the records.

The chain-of-command from the Commander, USAFE and Commander, AFGSC to wing commanders, and medical group commanders should ensure that the effort devoted to repeat auditing and rechecking the PRP medical records is consistent with the need to ensure that the program is effective in achieving the intended purpose rather than a program mired in bureaucratic emphasis on perfect record keeping.

The HAF/A1 should establish a procedure to ensure that when assigning personnel to positions requiring Personnel Reliability Program certification, both CONUS and OCONUS units, there is an early determination that those personnel do not have disqualifying conditions. This could be accomplished by:

- **Providing the needed expertise in the assignment activity at the Personnel Center, or**
- **Providing the relevant personnel records to the gaining commander immediately after making the assignment selection.**

The Zeal for Perfection and the Inspection Culture

Air Force Global Strike Command, USAFE, the Air Force Inspection Agency, and DTRA have taken steps to reduce the number of higher headquarters inspections, thereby leaving wing and squadron commanders more "white space" to focus on training and performing their mission. Specifically, AFGSC has adopted a "gatekeeper" scheduler that limits the visits imposed on the operating wings. In addition, there is an ongoing change in the overall concept of Nuclear Operational Readiness Inspections with more emphasis on unit self-inspection. The objective is to move towards a culture in which the units are responsible for continuous self-inspection in a quest for continuous mission excellence rather than a motivation to "just do well" on external inspections. With the employment of this concept, the major command inspection team focus would be on verifying or disagreeing with the unit's assessment of their status. Assuming that this concept continues to mature, it can be an important step in moving from a zeal for perfection in inspections to a zeal for mission excellence confirmed by external inspections. It will be important to ensure that the operating wings are provided the added manpower for this

function both to signal its importance and to ensure it serves the operating forces rather than penalizes them.

Further, there has been significant clarity regarding the purpose and conduct of the Staff Assistance Visit (SAV) and the Nuclear Surety Staff Assistance Visit (NSSAV). In general, the attitude toward SAVs has evolved from de facto inspection to response to the commander's requests for help. SAV reports are not vetted through any IG process, nor is there a requirement to track/report deficiencies or findings. In USAFE, this attitude has been further strengthened by the fact that the commander owns the SAV report, and it does not go to higher headquarters. The NSSAV, however, continues to be conducted as quasi-inspections. Based on AFI 91-121, Nuclear Surety Staff Assistance Visit Program and the AFGSC supplement, the AFGSC/SE (safety office) oversees the NSSAV program for AFGSC units and there is a requirement to track/report deficiencies and corrective action.

Even with these desirable improvements, the "white space" is sometimes at least "gray" when viewed by the workforce. Specifically, internal exercises can fill the white space created by reduced external inspections. This is particularly the case when lower-level exercises are conducted to prepare for the wing-level exercises that are conducted to prepare for the external inspection.

In addition, part of the solution to reduced external inspections has been large inspection teams that, in effect, perform two or more inspections during one period. For example, there were 60 inspectors for a recent Defense Nuclear Surety Inspection (DNSI) of a remote 135-person Munitions Support Squadron. During this DNSI, there was a 3-to-1 ratio of inspectors to operators inside the crowded WMT. Still, the reduction in the total burden of the numbers of external inspections seems to be real and welcome. Part of the excess inspection population is the practice of using unit inspections to train and qualify new inspectors. This practice places the burden of sustaining the inspection team on the operating forces.

As discussed earlier in this report, the zeal for perfection has senior NCOs and officers overseeing technical operations that should be supervised by E-5s. It is understood that E-9s are too senior to spend their time on technical operations, but the mentality is that the unit cannot afford a mistake for fear of the inspection regime.

Recommendations:

The Commanders, AFGSC and Air Force Inspection Agency (AFIA) should strongly enforce the concept that the wing commander is responsible for a self-inspection program that ensures that the commander knows the mission and compliance status of wing capabilities and an important function of the inspection team is to validate or identify discrepancies relevant to the wing commander's assessment.

The HAF/A1 in coordination with the AFIA should assess the additional manpower needs for an effective self-inspection program.

The Demands of the Functional Staffs/Centers/Managers on the Mission Chain-of-Command

The basic issue is the degree to which higher headquarters staffs and functional managers understand that the operational mission of the Air Force succeeds or fails with the performance of Air Force operational wings and their subordinate units. Hence, a primary function of the chain-of-command, staff organizations, and functional managers is to help make wing commanders successful. When the actions of the staffs and functional managers instead make the wing commanders' job more difficult, there is a serious imbalance.

Over time, with continued consolidation and centralization of functions for efficiency, the balance between the authority of functional staffs/centers/managers and the responsibility of the mission chain-of-command has shifted significantly to functional management. The instrument for much of the imbalance is the trend in Air Force Instructions addressing functional areas. This issue was virtually universal in the minds of wing commanders in the nuclear enterprise. They reported that there are literally thousands of directions and prohibitions in functional AFIs, the effect of which demand the commander give priority attention to issues that may or may not have any relevance to the unit's mission. Some examples that were cited within a bomb wing include: AFI 31-101 (Air Force Installation Security Program) which heavily impacts security forces by requiring commanders to establish a registration program for privately owned weapons – this is not a trivial undertaking; AF 21-101 (Aircraft and Equipment Maintenance Management) requires a coordinated wing instruction be developed to control tools, equipment, and electronic devices; and AFI 21-200 (Munitions and Missile Maintenance Management), requires a wing commander to ensure a detailed munitions/maintenance facility plan is developed, which is challenging to accomplish given that there are no facilities/civil engineering persons assigned to the units. The demand for such attention is frequently reinforced by inspection teams. The plethora of such direction emanating from multiple functional managers with multiple views of priorities often results in conflicting direction, generating additional requirements for the commander's time, resources, and attention. Some, commanders and airmen alike, declared that if they tried to comply with even a majority of the direction in the AFIs, they would be unable to perform their basic mission.

This issue is not unique to the nuclear enterprise and the Air Force Chief of Staff is well aware of the situation. The Task Force was informed by the AFIA that there is an effort underway to re-examine all direction in functional AFIs to determine that which is essential to the mission and that which is not. The intended outcome was unclear. Simply categorizing direction as important or not important will not relieve commanders of the burden of dealing with the unimportant so long as it continues to be presented as direction.

There is also an issue of coordination among functions – i.e., lack of coordination before drafting and releasing AFIs to understand the impacts on other functions and the operational mission overall. For example, during a recent USAFE NSI, a security forces unit was performing an activity in accordance with the published functional guidance. When the individual performing the activity responded to questioning by the functional inspector, the inspector declared, "that's not what I meant when I wrote it."

Recommendation:

The Secretary and the Chief of Staff of the Air Force should clearly declare the primacy of the authority of the mission chain-of-command accountable for the performance of the mission and the priority accorded the mission. Any direction to wing and squadron commanders should be vetted by the appropriate level in the chain-of-command.

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Appendix A:
Summary of Recommendations

Logistics Support

Support and Test Equipment

The Commander, AFNWC, in coordination with the Strategic Systems PEO, should:

- Establish a quarterly newsletter informing the operating forces of completed actions and plans underway to support equipment and other logistics needs, changes in policy, and resource updates.
- Include media appropriate to the intended audience to continuously update information relevant to the concerns of the workforce.

The Director, ICBM Systems Directorate should provide the staff assistance needed to quickly resolve the remaining RSTS connecting cable issue.

Response to Needed Updating and Modification to Technical Orders

The Deputy Assistant Secretary of Defense for Nuclear Matters should lead an effort to eliminate the non-productive workload and unnecessary handling of nuclear components caused by the current UR system.

The Commander, AFMC should:

- Direct full funding of development and publication of changes, updates, and rewrite of Technical Orders supporting nuclear operations.
- Direct a high priority on responsive attention to Technical Orders to include timely interim changes, incorporation of interim changes into the basic T.O., and consolidations of guidance for a single operation into a single self-contained Technical Order.
- Ensure that revised T.O.s are vetted by hands-on experts before publication.

The Commanders, AFGSC and AFNWC should establish a working group composed of hands-on experts to identify duplication and proliferation of guidance in T.O.s and other publications that create non-value-added workload for the maintenance force and rescind/remove the identified guidance.

The Commander, AFNWC should:

- Make the liaison with the Sandia National Laboratories more effective in ensuring expeditious response to URs impacting nuclear warhead maintenance. This should include electronic connection for immediate communication with any needed exhibits

and descriptions for engineering assessment. The goal should be immediate response to a work stoppage during warhead maintenance. The goal can be realized by:

  - Immediate engineering assessment by the required engineering authority, or
  - A return to increased authority for 7- or 9-level technicians in the maintenance facility.

- In coordination with the National Nuclear Security Administration (NNSA), establish a tracking system for URs impacting Air Force nuclear weapons maintenance and to provide for expeditious changes to T.O.s to preclude repeated work stoppages and handling of nuclear components for similar issues that currently require repeat engineering assessment.

Supply System Support for Unique ICBM Needs

The Commander, Air Force Global Strike Command should ensure that the supply specialists provided to the wings for the purpose of helping establish special supply levels to deal with the special challenges presented by nuclear systems are directed at that activity.

The HAF A10 and A4 should take action to change AFMAN 23-110 and AFI 21-202 to support the uniqueness of the environment for ICBM maintenance.

The AFGSC/A4 and the AFMC Sustainment Center/LG should offer the staff assistance needed for the maintenance organizations at the three missile wings and three bomb wings to establish and sustain the special supply levels needed to support their operations.

The 414th Supply Chain Management Squadron (of the 748 SCMG) should partner with the experts at AFGSC to build a "training team" to conduct additional supply chain process functional awareness training.

Facilities

The Commander, AFMC, supported by the Commander, Air Force Global Strike Command should direct development and support of a comprehensive program to sustain the launch facility infrastructure with an early focus on addressing ground water intrusion.

The Commander, Air Force Global Strike Command should:

- Establish and sustain a higher priority on providing the needed flight line facility support for the added bomb squadron at Minot.
- Give high priority to the development of a weapons training facility for cruise missile launcher training at Minot.

Personnel Support

The Commander, AFGSC and the Headquarters AF/A1 should create and implement a manning standard that addresses the unique characteristics of a missile wing operating over thousands of square miles.

The Commander, AFGSC should give high priority to correcting the underlying cause of the distraction from their proper roles and increased stresses impacting senior NCOs – the demand for perfection; the shortfalls in mid-level NCO experience – resulting in the perceived need to be actively involved in the work at all levels to ensure that nothing can go wrong.

The Personnel Reliability Program

The Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, in conjunction with the Navy and Air Force should review and update DoD 5210.42R to provide clarity in baseline requirements assuring that the PRP is implemented as a commander's program with clear accountability for determining the fitness for duty of people subject to the PRP.

The Secretary and the Chief of Staff of the Air Force should take action that, in guidance and in practice, ensures that the PRP is a commander's program and the commander is accountable for determining the fitness for duty of people subject to the PRP. This action should consider suspending all Air Force and subordinate unit guidance on PRP that exceeds the requirements of the DoD guidance.

The Commanders, USAFE, AFMC, AFGSC, the Air Force Inspection Agency (AFIA), and Defense Threat Reduction Agency (DTRA) should emphasize to inspectors that the purpose of examining PRP medical records is to help assess the implementation of the overall PRP, not to search out the occasional administrative error in the records.

The chain-of-command from the Commander, USAFE and Commander, AFGSC to wing commanders, and medical group commanders should ensure that the effort devoted to repeat auditing and rechecking the PRP medical records is consistent with the need to ensure that the program is effective in achieving the intended purpose rather than a program mired in bureaucratic emphasis on perfect record keeping.

The HAF/A1 should establish a procedure to ensure that when assigning personnel to positions requiring Personnel Reliability Program certification, both CONUS and OCONUS units, there is an early determination that those personnel do not have disqualifying conditions. This could be accomplished by:

- Providing the needed expertise in the assignment activity at the Personnel Center, or
- Providing the relevant personnel records to the gaining commander immediately after making the assignment selection.

The Zeal for Perfection and the Inspection Culture

The Commanders, AFGSC and Air Force Inspection Agency (AFIA) should strongly enforce the concept that the wing commander is responsible for a self-inspection program that ensures that the commander knows the mission and compliance status of wing capabilities and an important function of the inspection team is to validate or identify discrepancies relevant to the wing commander's assessment.

The HAF/A1 in coordination with the AFIA should assess the additional manpower needs for an effective self-inspection program.

The Demands and Authorities of the Functional Staffs/Centers/Managers on the Mission Chain-of-Command

The Secretary and the Chief of Staff of the Air Force should clearly declare the primacy of the authority of the mission chain-of-command accountable for the performance of the mission and the priority accorded the mission. Any direction to wing and squadron commanders should be vetted by the appropriate level in the chain-of-command.

Appendix B: Terms of Reference

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
3050 DEFENSE PENTAGON
WASHINGTON, DC 20301-3050

NUCLEAR, CHEMICAL, AND
BIOLOGICAL DEFENSE PROGRAMS

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Terms of Reference – Defense Science Board (DSB) Permanent Task Force (PTF) on Nuclear Weapons Surety – Air Force Nuclear Enterprise Follow-on Review

The DSB Permanent Task Force on Nuclear Weapons Surety is requested to conduct an independent and objective review of the Air Force nuclear enterprise to include organization, operations, logistics, and surety. This is a follow-up to the PTF review performed from July–October 2010, culminating in recommendations in the April 2011 DSB PTF Independent Assessment of the Nuclear Enterprise report. The PTF should review issue areas identified in the April 2011 report as well as changes that have occurred since the PTF review. Specific review areas should include:

- Air Staff focus on the nuclear enterprise
  - Sustainment and modernization
  - AF corporate process changes
  - AF/A10 organization – functional alignment
  - Policies
  - Enterprise-Wide Cultural Indicators
    - Leader Messages, Policies, & Actions (promotion rates, investment)
    - Airman Attitudes & Behaviors
- Global Strike Command
    - 20^{th} Air Force and wings
    - 8^{th} Air Force and wings
    - Working relationship with Air Force Materiel Command
- Air Force Materiel Command
  - Nuclear systems logistics organization and processes
  - The Air Force Nuclear Weapons Center at Kirtland
    - Roles and responsibilities
    - Logistics and organization – to include interface with Hill AFB organizations
    - Positive Inventory Control of Nuclear Weapons Related Materiel (NWRM) and NWRM Shipping
  - Technical Orders
  - Maintenance
  - ICBM Engineering and Management
- USAFE
  - MUNSS and Main Operating Bases
  - Theater and Dual Capable Aircraft (DCA)-Mission unique issues (Weapons/System Maintenance, Personnel Policies, Personnel Reliability Program, Weapons Security)

- Air Force Inspection Agency activities and focus
- Personnel processes – Long-term development of nuclear expertise
  - Assignments
  - Human capital development

The review will be sponsored by the Under Secretary of Defense for Acquisition, Technology and Logistics and the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (who is authorized to act upon the advice and recommendations of the Board).

General Larry Welch, USAF (Ret), will serve as the Task Force chairman. David B. McDarby, Defense Threat Reduction Agency, will serve as the primary Designated Federal Official.

Drawing upon the expertise and knowledge of members, special government employees, and previous related studies and reviews, the Permanent Task Force is the appropriate group to conduct this comprehensive, independent reassessment of the Air Force nuclear enterprise.

The Task Force will operate in accordance with the provisions of P.L. 92-463, the "Federal Advisory Committee Act," and DoD Directive 5105.4, the "DoD Federal Advisory Committee Management Program." It is not anticipated that this Task Force will need to go into any "particular matters" within the meaning of title 18, United States Code, section 208, nor will it cause any member to be placed in the position of action as a procurement official.

Steve Henry
Deputy Assistant Secretary of Defense
(Nuclear Matters)

Appendix C: Task Force Membership

CHAIRMAN

General Larry Welch, USAF (Ret.)

MEMBERS

Mr. James Gosler

Vice Admiral G. Peter Nanos, USN (Ret.)

Dr. Robert Selden

Dr. James Tegnelia

DESIGNATED FEDERAL OFFICIAL

Mr. David McDarby, Defense Threat Reduction Agency

TASK FORCE SUPPORT

Ms. Brenda Poole, Science Applications International Corporation

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Appendix D: Visits and Discussions

Headquarters Air Force A1, A4/7, A8, and A10

Secretary of the Air Force SAF/AQ, SAF/IG

Air Force Inspection Agency

The Forces:

- Air Force Global Strike Command Headquarters, Barksdale AFB
- USAFE Headquarters, Ramstein AFB
- 8th Air Force, Barksdale AFB
- 2nd Bomb Wing, Barksdale AFB
- 5th Bomb Wing, Minot AFB
- 20th Air Force, Francis E. Warren AFB
- 90th Missile Wing, Francis E. Warren AFB
- 91st Missile Wing, Minot AFB
- 391st Missile Wing, Malstrom AFB
- 31st Fighter Wing, Aviano AB, Italy
- 702nd Munitions Support Squadron, Büchel AB, Germany

Logistics and Support Organizations:

- Air Force Materiel Command, Wright-Patterson AFB
- Air Force Nuclear Weapons Center, Kirtland AFB
- Ogden Air Logistics Complex, Hill AFB
- ICBM Systems Directorate, Hill AFB
- 748th Supply Chain Management Group, Hill AFB
- 635th Supply Chain Operations Wing, Hill AFB

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Appendix E: Acronyms

2W2	Nuclear Weapons Maintenance Technician
A1	Deputy Chief of Staff for Manpower and Personnel
A4/7	Deputy Chief of Staff for Logistics and Installations and Mission Support
A8	Deputy Chief of Staff for Strategic Plans and Programs
A10	Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration
AFGSC	Air Force Global Strike Command
AFIA	Air Force Inspection Agency
AFIs	Air Force Instructions
AFMC	Air Force Materiel Command
AFNWC	Air Force Nuclear Weapons Center
ALC	Air Logistics Complex
AMU	Aircraft Maintenance Unit
CONUS	Continental United States
DLA	Defense Logistics Agency
DNSI	Defense Nuclear Surety Inspection
DoD	Department of Defense
DOE	Department of Energy
DSB	Defense Science Board
DSB PTF	Defense Science Board Permanent Task Force on Nuclear Weapons Surety
DTRA	Defense Threat Reduction Agency
ETARS	Engineering Technical Assistance Request System
HAF	Headquarters Air Force
ICBM	Intercontinental Ballistic Missile
LCCs	Launch Control Centers
LFs	Launch Facilities
LLC	Limited Life Component
LRSs	Logistics Readiness Squadrons

MK12	Minuteman III Re-Entry Vehicle with the W-78 Warhead
MK21	Minuteman III Re-Entry Vehicle with the W-87 Warhead
MMIII	Minuteman III
MUNSS	Munitions Support Squadron
NCOs	Noncommissioned Officers
NNSA	National Nuclear Security Administration
NSI	Nuclear Surety Inspection
NSSAV	Nuclear Surety Staff Assistance Visit
OCONUS	Outside the Continental United States
OL-RAM	Operating Location at Ramstein
PCS'd	Permanent Change of Station
PEO	Program Executive Officer
PRP	Personnel Reliability Program
REACT	Rapid Execution and Combat Targeting
RSTC	Re-entry System Test Console
RSTS	Re-entry System Test Set
RV	Re-entry Vehicle
SAV	Staff Assistance Visit
SCMG	Supply Chain Management Group
SPO	Systems Program Office
STMS	Secure Transportable Maintenance System
T.O.s	Technical Orders
UR	Unsatisfactory Report
USAFE	United States Air Forces in Europe
WMT	Weapons Maintenance Truck
WS3	Weapons Storage and Security System