NUCLEAR SURETY

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The Air Force implements a stringent nuclear surety program to ensure nuclear weapons and their components do not become vulnerable to loss, theft, sabotage, damage, or unauthorized use. All individuals involved with nuclear weapons and nuclear weapon components are responsible for the safety and security of those devices at all times.

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"The purpose of the Air Force Nuclear Weapons Surety Program is to incorporate maximum nuclear weapons surety, consistent with operational requirements, from weapon system development to target or dismantlement" (Air Force Instruction [AFI] 91-101, *Air Force Nuclear Weapons Surety Program*). This program applies to materiel, personnel, and procedures that contribute to the safety, security, and control of nuclear weapons, thus assuring no nuclear accidents, incidents, loss, or unauthorized or accidental use. The Air Force continues to pursue safer, more secure, and more reliable nuclear weapons consistent with operational requirements.

Adversaries as well as allies and partners should be highly confident of the Air Force's ability to secure nuclear weapons from accidents, theft, loss, and accidental or unauthorized use. This commitment to precise and reliable nuclear operations is a cornerstone to the credibility of deterrence.

Per Department of Defense (DoD) Directive 3150.02, *DoD Nuclear Weapons Surety Program*, "Four DoD nuclear weapon system surety standards provide positive measures to:

- Prevent nuclear weapons involved in accidents or incidents, or jettisoned weapons, from producing a nuclear yield.
- Prevent **deliberate** pre-arming, arming, launching, or releasing of nuclear weapons, except upon execution of emergency war orders or when directed by competent authority.

- ✪ Prevent **inadvertent** pre-arming, arming, launching, or releasing of nuclear weapons in all normal and credible abnormal environments.

- ✪ Ensure adequate security of nuclear weapons."

Whether working with continental US (CONUS)-based nuclear forces or conducting theater nuclear operations, commanders must ensure the safety, security, and reliability of their weapons and associated components. While the appropriate infrastructure already exists at CONUS bases with nuclear forces, combatant commanders should consider the additional needs incurred if nuclear weapons are deployed into their areas of responsibility.

Nuclear surety is the capstone construct that contains nuclear safety, security, and reliability programs, each of which is summarized below.

Safety

All individuals involved with nuclear weapons are responsible for the safety of those devices. Because of the destructive potential of these weapons, and the possibility that their unauthorized or accidental use might lead to war, safety is paramount. See Department of Defense Manual (DoDM) 3150.02, *DoD Nuclear Weapon System Safety Program Manual*, for responsibilities and procedures.

The four previously mentioned standards include inherent warhead design features that prevent accidental or unauthorized nuclear yields, delivery platform design features, and operational procedures that prevent accidental or unauthorized use. These positive measures may take the form of mechanical systems, such as permissive action links that do not allow the arming or firing of a weapon until an authorized code has been entered. They may also involve personnel monitoring systems, such as the Personnel Reliability Assurance Program (PRAP), or the two-person concept. Commanders are responsible for ensuring that appropriate systems are in place, as described by appropriate Air Force policies. To track the implementation of these positive measures, the Air Force certifies its nuclear weapons systems. The Air Force's Nuclear Certification Program includes safety design, weapon compatibility, personnel reliability, technical guidance, specific job qualifications, inspections, and Weapons System Safety Rules (WSSR). Refer to AFI 63-125, *Nuclear Certification Program*; AFI 91-101, *Air Force Nuclear Weapons Surety Program*; AFI 31-117, *Arming and Use of Force by Air Force Personnel*; DoDM 5210.42, *Nuclear Weapons Personnel Reliability Program*, and AFMAN 13-501, *Nuclear Weapons Personnel Reliability Program (PRP)*; for more specific guidance.

Weapon System Safety Rules

WSSR ensure that nuclear weapons are not detonated, intentionally or otherwise, unless authorized. Safety rules apply even in wartime. While commanders may deviate from a specific rule in an emergency, they may not expend a nuclear weapon until an

authentic execution order has been received. This has led to the so-called “usability paradox.” Nuclear weapons must be “usable enough” so an enemy is convinced they may be rapidly employed in the event of an attack. They must not be so “usable,” however, as to allow for the unauthorized use due to individual action or mechanical error.

WSSR are implemented through a combination of mechanical means, security procedures, flying rules, and personnel programs. Different weapon systems will have different rules based on their characteristics. Storage and movement of weapons must also be consistent with WSSR. Commanders and operators must follow applicable Air Force policies for their weapon system and must ensure that non-US personnel adhere to applicable Air Force and multinational requirements. One key component of WSSR is that, while preventing the unauthorized use of nuclear weapons, they allow for timely employment when ordered. To this end, all personnel involved in the command, control, and support of nuclear weapons must be familiar with WSSR for their system.

Security

Nuclear weapons and their components must not be allowed to become vulnerable to loss, theft, sabotage, damage, or unauthorized use. Nuclear units must ensure measures are in place to provide the greatest possible deterrent against hostile acts. Should this fail, security should ensure detection, interception, and defeat of the hostile force before it is able to seize, damage, or destroy a nuclear weapon, delivery system, or critical components.

Commanders are accountable for the safety, security, and maintenance of nuclear weapons and delivery systems, and reliability of personnel at all times. Whether on a logistics movement or during an airlift mission, commanders should limit the exposure of nuclear weapons outside dedicated protection facilities consistent with operational requirements. Commanders must ensure that nuclear weapons and nuclear delivery systems are maintained according to approved procedures. Commanders are responsible for considering the additional needs incurred if nuclear capabilities are deployed into their operational area.

A security infrastructure exists at bases that routinely handle nuclear weapons. However, weapons and their delivery systems may be moved to other bases to enhance survivability or may be deployed into a theater. Commanders at such locations must ensure appropriate storage facilities are established and proper security measures are in place. The storage of nuclear weapons on a base not only requires a secure location and additional security personnel, but also impacts other areas such as driving routes, local flying area restrictions, aircraft parking areas, the use of host-nation or contract personnel, and other aspects of operations. Nuclear weapons are most vulnerable in transit or when deployed for use, so special care must be taken at those times. Air Force policies that outline security requirements for nuclear operations must be understood by all appropriate personnel.

Normally, Airmen should neither confirm nor deny the presence or absence of nuclear weapons at any general or specific location. This US policy applies even if a particular location may reasonably be assumed to contain nuclear weapons, such as a missile launch facility or a bomber base. The goal of this policy is “to deny militarily useful information to potential or actual enemies, enhance the effectiveness of nuclear deterrence, and contribute to the security of nuclear weapons, especially against the threats of sabotage and terrorism” (DoD Instruction 5230.16, *Nuclear-Radiological Incident Public Affairs Guidance (PA)*). Only two exceptions exist: (1) The DoD Incident Commander (IC) is “required to confirm the presence of US nuclear weapons or radioactive nuclear components in the interest of public safety if the public is, or may be, in danger of radiation exposure or other danger posed by the weapon” and (2) The DoD IC “may confirm or deny the presence of US nuclear weapons to reduce or prevent widespread public alarm” (DoDM 3150.08, *Nuclear Weapon Accident Response Procedures*).

Reliability

The Air Force employs positive measures to ensure the reliability of its nuclear weapons systems and personnel to accomplish the mission. Reliability is also a product of the system’s safety features, including safety design, weapon compatibility, personnel reliability, technical guidance, specific job qualifications, and nuclear technical inspections. Independent inspections and staff assistance visits are also an integral part of maintaining nuclear surety.

Weapon System Reliability

Through sustainment, testing, and modernization, the Air Force ensures the reliability of nuclear weapon systems. The Air Force engages the Department of Energy’s National Nuclear Security Administration and other government agencies to ensure nuclear warheads and related interfaces continue to meet Air Force warfighting requirements. The Air Force continues to provide essential leadership of interagency reliability groups to include test planning, interface requirements and performance, and warhead design reviews.

Individual Reliability

Commanders ensure that only trained, certified, and reliable people have access to nuclear weapons, delivery systems, and command and control systems. PRAP is used to initially qualify, certify, and then monitor personnel assigned to nuclear operations tasks throughout their assignment. Commanders and PRAP ensure only those persons whose behavior demonstrates integrity, reliability, trustworthiness, allegiance, and loyalty to the US are allowed to perform duties associated with nuclear weapons. The Air Force also employs techniques such as the two-person concept in all nuclear operations to ensure compliance with established procedures. The two person concept requires the presence at all times of at least two authorized persons, each certified under PRAP, knowledgeable in the task to be performed, familiar with applicable safety

and security requirements, and each capable of promptly detecting an incorrect act or improper procedure with respect to the task to be performed.