BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 91-111

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Safety

SAFETY RULES FOR U.S. STRATEGIC BOMBER AIRCRAFT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 91-1, *Nuclear Weapons and Systems Surety*, and is consistent with AFPD 13-5, *Air Force Nuclear Mission*. This instruction applies to all civilian employees and uniformed members of the Regular Air Force, Air Force Reserve, and nuclear certified equipment, facilities involved with nuclear weapons, nuclear weapon systems, and radioactive materials-related program. This publication does not apply to the United States Space Force. Ensure all records generated as a result of processes prescribed in the publication adhere to Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may not be supplemented or further implemented/extended. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Process and Procedures*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the requestor's commander for non-tiered compliance items. Compliance with the attachment references in this publication is mandatory.

SUMMARY OF CHANGES

This interim change revises AFI 91-111 by identifying changes to aircraft configuration based on completion of Time Compliance Technical Order (TCTO) 1B-52H-1053 which removes the aircraft's pylon jettison capability. A margin bar (|) indicates newly revised material.

Section A—Authority and Responsibilities

1. Additional Limitations. The United States Air Force (USAF) commanders may impose more restrictive guidance or policy than contained in safety rules, but may not unilaterally change the safety rules. **(T-0)**

2. Roles and Responsibilities.

2.1. **The Air Force Chief of Safety (AF/SE):**

2.1.1. Ensures safety rules work, providing maximum safety consistent with operational requirements.

2.1.2. Ensures major commands follow the safety rules.

2.1.3. Is responsible for interpretation and clarification of general and specific guidance in **Section B** and **Section C** of this publication.

2.2. **Major Commands:**

2.2.1. Ensure their units follow the safety rules.

2.2.2. Ensure all supplemental guidance and procedures are consistent with the approved safety rules.

2.2.3. Inspect for compliance.

2.2.4. Ensure manuals, checklists, and technical orders do not conflict with the safety rules.

Section B—General Safety Rules

3. General Guidance.

3.1. General safety rules apply policy to all nuclear weapons and nuclear weapon systems in accordance with Department of Defense Manual (DoDM) 3150.02, *DoD Nuclear Weapon System Safety Program Manual*. **(T-0)**

3.2. Units will not intentionally expose nuclear weapons to abnormal environments except in an emergency. **(T-0)**

3.3. Units will not use nuclear weapons for training or for troubleshooting (e.g., to confirm the existence of a fault, aid in fault isolation, or verify that a fault has been corrected except as explicitly allowed by a specific safety rule). **(T-0)**

3.4. Nuclear weapons may be used for exercises except when explicitly prohibited by specific safety rules listed in **Section C** of this publication.

3.5. Guidance for Personnel Reliability Assurance Program (PRAP) certification of personnel who have physical access to nuclear weapons is provided in DoD Instruction (DoDI) 5210.42, *DoD Nuclear Weapons Personnel Reliability Assurance*.

3.6. To conduct nuclear weapon system operations, commanders will only employ certified procedures, personnel, equipment, facilities, and organizations, authorized by the appropriate level of authority. **(T-0)**

3.7. Commanders will restrict the total number of personnel performing nuclear weapon system operations to the minimum consistent with the operations performed. **(T-0)**

3.8. At least two authorized persons must be present during any operation involving a nuclear weapon, except when authorized by a specific safety rule (e.g., alert fly). **(T-0)** Both authorized individuals must be able to detect incorrect or unauthorized procedures in the task being performed. **(T-0)** Both authorized individuals must also have knowledge of and understand applicable safety and security requirements. **(T-0)**

3.9. Guidance for physical security is provided in DoD Directive (DoDD) 5210.41, *Security Policy for Protecting Nuclear Weapons*.

3.10. Guidance to authorize nuclear weapons transportation is provided in DoDI 4540.05, *DoD Transportation of U.S. Nuclear Weapons*. Additionally, units performing custody and accountability transfers during logistic movements will use a courier receipt system to ensure positive control. **(T-0)**

3.11. Units will perform use control operations in accordance with plans and procedures prescribed by the applicable combatant command and technical procedures. **(T-0)**

3.12. Units will verify that a nuclear warhead is not present in a test assembly using non-nuclear assurance procedures at the last practical opportunity agreed upon by the Department of Defense (DoD) and/or Department of Energy (DOE) before the conduct of an operational test. **(T-0)**

3.13. Deviations from safety rules are permitted in an emergency, except as follows:

3.13.1. United States custody must be maintained until receipt of a valid nuclear control order that permits transferring United States nuclear weapons to non-United States delivery forces. **(T-0)**

3.13.2. Nuclear weapons will not be expended unless a valid, properly authenticated nuclear control order conveying release or expenditure authority is received. **(T-0)**

3.13.3. Other permissible deviation from safety rules: Jettisoning of nuclear weapons, for applicable systems, is permitted in the event of an emergency, and must be accomplished according to plans and procedures prescribed for the area of operations. **(T-0)**

3.14. The safety rules may only be changed using procedures in AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews and Safety Rules*. **(T-0)**

Section C—Specific Safety Rules

4. Specific Guidance.

4.1. These safety rules, weapon system features, operational controls, and technical procedures ensure that B-2A and B-52H strategic bomber aircraft and the nuclear weapons dedicated for use with these aircraft meet nuclear weapon system surety standards and requirements in DoDD 3150.02, *DoD Nuclear Weapons Surety Program*, and Department of the Air Force Instruction (DAFI) 91-101, *Air Force Nuclear Weapons Surety Program*.

4.2. Safety rules will always apply, even during war. **(T-0)**

4.3. With the exception of actions outlined in **paragraph 3.13** above, a commander may deviate from a specific safety rule in an emergency and will report the deviation as soon as practical as directed by Air Force Manual (AFMAN) 91-221, *Weapons Safety Investigations and Reports*. **(T-0)**

4.4. Units must investigate and report deficiencies and weapon system safety rule (WSSR) violations. **(T-0)** A violation of referenced instructions does not constitute a WSSR violation unless specifically identified in this document.

4.5. Commander, Air Force Global Strike Command, or designated authority may specifically authorize the use of nuclear weapons for exercises except as restricted elsewhere in this instruction.

4.6. Only the following weapons are authorized:

4.6.1. B-2A: B61-7, B61-11, B61-12 and B83-1. **(T-0)**

4.6.2. B-52H: AGM-86B/W80-1. **(T-0)**

5. Nuclear Identification. Units will establish administrative controls and procedures to provide positive means of distinguishing between:

5.1. Nuclear munitions and non-nuclear devices (e.g., joint test assemblies, tactical ferry payloads, bomb dummy units, and training shapes) intended to resemble nuclear weapons. **(T-0)**

5.2. AGM-86B missiles with a nuclear warhead installed from those without nuclear warheads. **(T-0)**

5.3. Warhead shipping and storage containers that contain nuclear warheads from those containers without nuclear warheads. **(T-0)**

6. Non-nuclear Assurance. Verification that a nuclear warhead is not present in a test assembly must be made using non-nuclear assurance procedures at the last practical opportunity agreed on by the DoD and/or DOE before an operational test. **(T-0)** Non-nuclear assurance procedures will apply to test assemblies which:

6.1. Resemble war reserve assets. **(T-0)**

6.2. Will be flown on a combat delivery aircraft as defined in DAFI 91-101. **(T-0)**

7. Equipment, Procedures, Checklists, and Modifications.

7.1. Units will only use equipment (e.g., hardware, software, etc.) and procedures that comply with United States Air Force approved publications for nuclear weapons or nuclear weapon system operations. **(T-0)**

7.2. Training is prohibited with nuclear weapons-loaded aircraft, including simulation and partial simulation mode training. **(T-0)**

7.3. The OPR for publications must ensure applicable publications conform to WSSRs and meet the DoD nuclear weapon system surety standards. **(T-0)**

7.4. Units will not modify aircraft monitoring and control, stores management system, suspension and release systems, handling and test equipment, or any aircraft system component, including software and procedures, which affects nuclear surety without United States Air Force approval in accordance with AFI 63-125, *Nuclear Certification Program.* **(T-0)**

8. Security Criteria. Security guidance may be found in the following issuances:

8.1. For security policy of nuclear weapons: DoDD 5210.41, *Security Policy for Protecting Nuclear Weapons*.

8.2. For security policy, objectives, concepts, and prescribed minimum security criteria for protecting nuclear weapons on alert, in storage, in maintenance facilities, in-transit, and in regeneration situations are found in the following issuances: DoDM S-5210.41, *Nuclear Weapon Security Manual* and DoD S-5210.41-M_Air Force Manual (AFMAN) 31-108, *The Air Force Nuclear Weapon Security Manual*. Guidance for protecting nuclear weapons in storage and in maintenance facilities is found in DAFI 31-101, *Integrated Defense (ID)*.

8.3. For operations security: AFI 10-701, *Operations Security (OPSEC)*.

8.4. For aerial transport of nuclear weapons: AFMAN 13-526, *Nuclear Airlift Operations*.

9. Critical Components, Tamper Control and Detection. Major commands, field operating agencies, and direct reporting units will comply with DAFI 91-101. **(T-0)**

9.1. A B-52H aircraft with an operationally coded Code Enable Switch (CES) loaded is a critical component and must be handled in accordance with DAFI 91-101. **(T-0)**

9.2. A B-2A with all preload functions complete and declared ready to receive weapons is a critical component and must be handled in accordance with DAFI 91-101. **(T-0)**

10. Personnel Reliability Assurance Program. All personnel having access to nuclear weapons will comply with DoDM 5210.42_AFMAN 13-501, *Nuclear Weapons Personnel Reliability Program (PRP)*, and AFI 31-117, *Arming and Use of Force by Air Force Personnel*. **(T-0)**

11. Weapon Safety Verification. Using applicable technical orders, units will verify that the AGM-86B/W80-1 is safe. **(T-0)** The proper configuration is:

11.1. Warhead Arming Device safing pin is installed, and the Warhead Arming Device indicates safe (white “S” on green background).

11.2. Rotary (separation) switch detent pin is installed (red band is not visible). Remove only when authorized by applicable technical data.

12. Basic Aircraft Configurations.

12.1. **B-2A.** Retain these configurations for aircraft with Rotary Launcher Assembly (RLA) mated with B61-7, B61-11, B61-12, and/or B83-1 bombs: **Note:** Mixed nuclear loads are authorized.

12.1.1. Weapon Jettison Panel:

12.1.1.1. All enable (ALL ENBL) switch in the OFF position with guard cover down. **(T-0)**

12.1.1.2. Select enable (SEL ENBL) switch in the OFF position with guard cover down. **(T-0)**

12.1.2. Pilots Consent Panel:

12.1.2.1. Nuclear Unlock/Enable (NUC UNLK ENBL) switch in the OFF position with guard cover down, safety wired, and sealed. **(T-0)**

12.1.2.2. Nuclear Prearm Enable (NUC PA ENBL) switch in the OFF position with guard cover down, safety wired, and sealed. **(T-0)**

12.1.3. Mission Commanders Consent Panel:

12.1.3.1. Nuclear Unlock/Enable (NUC UNLK ENBL) switch in the OFF position with guard cover down, safety wired, and sealed. **(T-0)**

12.1.3.2. Nuclear Prearm Enable (NUC PA ENBL) switch in the OFF position with guard cover down, safety wired, and sealed. **(T-0)**

12.2. **B-52H.** Retain these configurations:

12.2.1. Install operationally coded code enable switch (CES) and disenable the Interconnecting Box prior to electrically connecting air launched cruise missile to the B-52H. **(T-0)**

12.2.2. Aircraft with Common Strategic Rotary Launcher mated with AGM-86B/W80-1 missiles:

12.2.2.1. Pilot Munitions Consent Panel:

12.2.2.1.1. Off/Prearm switch in the OFF position with the cover down, safety wired, and sealed. **(T-0)**

12.2.2.1.2. Lock/Unlock switch in the LOCK position with the cover down, safety wired, and sealed. **(T-0)**

12.2.2.2. Weapon Control Panel:

12.2.2.2.1. Nuclear Lock/Unlock switch in the LOCK position with the cover down, safety wired, and sealed. **(T-0)**

12.2.2.2.2. Nuclear Prearm Enable/Off (PA ENBL/OFF) switch in the OFF position with the cover down, safety wired, and sealed. **(T-0)**

12.2.2.2.3. Weapon Jettison Select/Normal (SEL/NORM) switch in the Normal (NORM) position with cover down, safety wired, and sealed. **(T-0)**

12.2.3. Aircraft with Pylon-Carried AGM-86B/W80-1 (with or without Common Strategic Rotary Launcher):

12.2.3.1. On aircraft with pylon jettison release capability (before TCTO 1B-52H-1053C): Release Circuits Disconnect disconnected with the cover closed, safety wired, and sealed. **(T-0)**

12.2.3.2. On aircraft with pylon jettison release capability (before TCTO 1B-52H-1053C): the guards on the left and right Pylon Jettison Consent switches down, safety wired, and sealed. **(T-0)**

12.2.3.3. On aircraft with pylon jettison release capability (before TCTO 1B-52H-1053C): pylon jettison control indicators show PYLON LOCKED. **(T-0)**

12.2.3.4. Pilot Munitions Consent Panel:

12.2.3.4.1. Off/Prearm switch in the OFF position with the cover down, safety wired, and sealed. **(T-0)**

12.2.3.4.2. Lock/Unlock switch in the LOCK position with the cover down, safety wired, and sealed. **(T-0)**

12.2.3.5. Weapon Control Panel:

12.2.3.5.1. Nuclear Lock/Unlock switch in the LOCK position with the cover down, safety wired, and sealed. **(T-0)**

12.2.3.5.2. Nuclear Prearm Enable/Off (PA ENBL/OFF) switch in the OFF position with the cover down, safety wired, and sealed. **(T-0)**

12.2.3.5.3. On aircraft with pylon jettison release capability (before TCTO 1B-52H-1053C): Pylon Lock/Unlock switch in the LOCK position with the cover down, safety wired, and sealed. **(T-0)**

12.2.3.5.4. Weapon Jettison Select/Normal (SEL/NORM) switch in the Normal (NORM) position with cover down, safety wired, and sealed. **(T-0)**

13. Cruise Missile Operations.

13.1. Mission Planning.

13.1.1. Units will develop mission profiles so that the required g-maneuver occurs as late in the mission as practical. **(T-0)**

13.1.2. Mission planning system operations must ensure that all missions terminate at a valid target in accordance with Chairman of the Joint Chiefs of Staff requirements and/or United States Strategic Command mission constraints. **(T-0)**

13.2. **Fueling.** Fuel and defuel room doors will remain closed during fuel and defuel operations and with fuel in the fuel set. **(T-0) Exceptions:** The automatic fire door may remain open. Personnel access doors may be opened to allow entry and exit. Fuel room blast doors may be opened momentarily to allow the movement of air launched cruise missile bodies while fuel is in the fuel set; however, the fuel and defuel set will be isolated from missile bodies. **(T-0)**

14. Storage, Maintenance, Testing, Ground Transportation, Mating, Demating, Loading and Unloading.

14.1. Units will use applicable technical data to verify weapon configuration prior to handling (**paragraph 11**). **(T-0)**

14.2. Units will not load nuclear and conventional weapons on the same aircraft. **(T-0)**

14.3. Units will store nuclear weapons in United States Air Force-approved, locked, and secured facilities. **(T-0)**

14.4. When missiles are loaded on a pylon, install the ejector safing pin. **(T-0)** On aircraft with pylon jettison release capability (before TCTO 1B-52H-1053C): when pylons are installed on the aircraft, ensure pylon jettison safing pins are installed. **(T-0)** Remove safing pins only when authorized by applicable technical data. **(T-0)**

14.5. For rotary launchers, verify ejector safing mechanism lock pin is engaged and ejector safing mechanism levers indicate locked. **(T-0)**

14.6. Fuel aircraft for the assigned mission before loading nuclear weapons. **(T-0)**

14.7. Do not load an aircraft unless it is capable of performing its assigned mission. **(T-0)**

14.8. Ensure a minimum unimpeded line-of-sight separation distance of 850 feet between nuclear weapons and conventional weapons identified with bomb live unit nomenclature in the item technical order and joint hazard classification system. **(T-0)** Munitions in transit are exempt. If a separation of 850 feet cannot be maintained, place significant barricades (such as massive modular blocks) to prevent free-field fragment impact to nuclear weapon(s). **(T-0)**

14.9. Units will comply with Defense Explosives Safety Regulation (DESR) 6055.09_AFMAN 91-201, *Explosives Safety Standards*, side flash protection for nuclear weapons guidance. **(T-0)**

15. Logistics Movement of Nuclear Weapons by Cargo Aircraft. Units will comply with AFI 91-115, *Safety Rules for Nuclear Airlift Operations*. **(T-0)**

16. Ground Operations Involving Nuclear Weapon-Loaded Aircraft.

16.1. Qualified personnel will maintain aircraft in their basic configuration (**paragraph 12**). **(T-0)**

16.2. Electrically verify safe status of the weapons with the applicable aircraft stores management system after weapons upload.

16.3. After completing the upload and postload functions, apply power to an uploaded nuclear weapon only for authorized permissive action link operations, command disable operations, or to monitor the weapon. **(T-0) Note:** Keep power applications to a minimum.

16.4. Qualified personnel will apply power to a nuclear weapon-loaded aircraft only to:

16.4.1. Perform authorized maintenance or preflight operations. **(T-0)**

16.4.2. Monitor the weapons or ejector rack locks. **(T-0)**

16.4.3. Start or run the engines. **(T-0)**

16.4.4. Monitor the radio. **(T-0)**

16.4.5. Perform authorized permissive action link, command disable, or coded switch operations. **(T-0)**

16.5. Qualified personnel will start or run the engine(s) only if necessary to:

16.5.1. Check aircraft status. **(T-0)**

16.5.2. Perform minor aircraft maintenance as defined in DAFI 91-101. **(T-0)**

16.5.3. Conduct practice alerts, exercises, inspections, evaluations, taxiing, and flying operations. **(T-0)**

16.6. Engine starts and engine runs must:

16.6.1. Be kept to a minimum. **(T-0)**

16.6.2. Be done by at least two authorized and qualified aircrew members (two-person concept applies). **(T-0)**

16.7. Aircraft towing.

16.7.1. Units will keep aircraft towing to a minimum. **(T-0)**

16.7.2. Two authorized and qualified individuals must be in the cockpit during towing (two-person concept applies). **(T-0)**

16.8. Taxi.

16.8.1. Keep aircraft taxi to a minimum consistent with operational requirements. **(T-0)**

16.8.2. At least two authorized and qualified aircrew members must be in the aircraft during taxiing (i.e., two-person concept applies). **(T-0)**

16.9. Perform fuel management actions on loaded aircraft only as necessary to support a particular aircraft's assigned mission. **(T-0)**

17. Flying Operations Involving Carriage of Nuclear Weapons in a Non-strike Configuration.

17.1. Conduct only when:

17.1.1. Directed by appropriate authority. **(T-0)**

17.1.2. Permissive action link is locked. **(T-0)**

17.1.3. The aircraft is in its basic configuration (**paragraph 12**). **(T-0)**

17.2. Units will plan flight routes to avoid populated areas to the maximum extent possible. **(T-0)**

17.3. If loss of the aircraft is anticipated, command disable the weapons if the aircraft is capable and time and conditions permit. **(T-0)**

17.4. **B-2A:**

17.4.1. Retain command disable capability. **(T-0)**

17.4.2. When authorized to jettison weapons, aircrew will break the locking and release system safety wires and seals and operate the controls by following applicable technical orders. **(T-0)** Command disable weapons if time and conditions permit. **(T-0)**

17.5. **B-52H:**

17.5.1. With cruise missiles loaded, disconnect the CES and attach the connector to the storage receptacle. **(T-0)**

17.5.2. When authorized to jettison weapons, aircrew will break the locking and release system safety wires and seals and operate the controls by following applicable technical orders. **(T-0)**

17.5.3. Do not apply missile power. Keep application of missile interface unit power to a minimum. **(T-0)**

18. Flying Operations Involving Carriage of Nuclear Weapons in a Strike Configuration.

18.1. Conduct only when:

18.1.1. Directed by appropriate authority. **(T-0)**

18.1.2. Ordered to launch for survival under positive threat of imminent attack. **(T-0)**

18.1.3. Authorized to fly in a strike configuration as part of a deployment or dispersal. **(T-0)**

18.2. Units will keep nuclear weapons in a safe configuration until authorized to prearm. **(T-0)**

18.3. Qualified personnel will keep the aircraft in its basic configuration (**paragraph 12**) until authorized to prepare weapons for release. **(T-0)**

18.4. If loss of aircraft is anticipated or jettison of weapons is required, safe the weapon, if time and conditions permit. **(T-0)** If the aircraft is capable and time and conditions permit, permissive action link lock and command disable the weapons. **(T-0)**

18.5. Units will plan flight routes to avoid populated areas to the maximum extent possible. **(T-0)**

19. Permissive Action Link Procedures.

19.1. Units will use permissive action link codes and controllers only as directed by appropriate authority. **(T-0)**

19.2. For aircraft with cockpit permissive action link control, aircrew will re-lock permissive action link as soon as practical:

19.2.1. When in receipt of a termination or recall message. **(T-0)**

19.2.2. After the failed-safe point. **(T-0)**

19.2.3. Post-strike on retained weapons. **(T-0)**

20. Command Disable Procedures. Units will command disable weapons as directed by appropriate authority and in accordance with appropriate guidance. **(T-0)**

21. Dispersal.

21.1. All planned dispersal operations will comply with WSSR. **(T-0)** If a situation arises where dispersal operations conflict with the WSSR, then those operations must be approved by the Secretary of Defense prior to execution. **(T-0)**

21.2. Ensure a minimum unimpeded line-of-sight separation distance of 850 feet between nuclear weapons and conventional weapons identified with bomb live unit nomenclature in the

item technical order and joint hazard classification system. **(T-0)** Munitions in transit are exempt. If a separation of 850 feet cannot be maintained, place significant barricades (such as massive modular blocks) to prevent free-field fragment impact to nuclear weapon(s). **(T-0)**

SEAN M. CHOQUETTE,
Brigadier General, USAF
Chief of Safety

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DESR 6055.09_AFMAN 91-201, *Explosives Safety Standards*, 28 May 2020

DoDD 3150.02, *DoD Nuclear Weapons Surety Program*, 24 April 2013

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Prescribed Forms

None

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

ALL ENBL—All Enable

CES—Code Enable Switch

DAF—Department of the Air Force

DAFI—Department of the Air Force Instruction

DAFMAN—Department of the Air Force Manual

DESR—Defense Explosives Safety Regulation

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDI—Department of Defense Instruction

DoDM—Department of Defense Manual

DOE—Department of Energy

ID—Integrated Defense

NORM—Normal

NUC PA ENBL—Nuclear Prearm Enable

NUC UNLK ENBL—Nuclear Unlock/Enable

OPR—Office of Primary Responsibility

OPSEC—Operations Security

PA ENBL/OFF—Prearm Enable/Off

PRAP—Personnel Reliability Assurance Program

RLA—Rotary Launcher Assembly

SEL ENBL—Select Enable

SEL/NORM—Select/Normal

USAF—United States Air Force

WSSR—Weapon System Safety Rules

Office Symbols

AF/SE—Department of the Air Force Chief of Safety

AF/SEI—Department of the Air Force Safety Center, Safety Issues Division

AFSEC—Department of the Air Force Safety Center

AFSEC/SEW—Department of the Air Force Safety Center, Weapons Safety Division

Terms

Access—Close physical proximity to a nuclear weapon in such a manner as to allow the opportunity to tamper with or damage a nuclear weapon.

Abnormal Environment—Environments as defined in a weapon's stockpile-to-target sequence and military characteristics in which a nuclear weapon or a nuclear weapon system is not expected to retain full operational reliability.

Command Disable—A feature which allows manual activation of the nonviolent disablement of critical weapon components. The command disable system may be internal or external to the weapon.

Custody—Responsibility for the control of, transfer and movement of, and access to nuclear weapons and components. Custody may include accountability.

Emergency—An unexpected occurrence or set of circumstances in which personnel or equipment unavailability, due to accident, natural event, hostile act, or combat, may demand immediate actions that may require extraordinary measure to protect, handle, service, secure, transport, jettison, or to employ nuclear weapons.

Jettison—The intentional separation of an unarmed weapon from its delivery system or transport carrier in response to an emergency.

Maintenance—Work and oversight necessary to ensure a system is in proper working order and will operate, act, or protect in accordance with its intended purpose.

Nuclear Weapon—A complete assembly (i.e., implosion type, gun type, or thermonuclear type), in its intended ultimate configuration which, upon completion of the prescribed arming, fusing, and firing sequence, is capable of producing the intended nuclear reaction and release of energy.

Nuclear Weapon System—A nuclear weapon and a means of delivering it to the target, with associated support equipment, facilities, procedures, personnel, and any vehicles peculiar to the system used for weapon transport.

Security—Protect against loss of custody, theft, or diversion of a nuclear weapon system; protection against unauthorized access; or protection against unauthorized actions, vandalism, sabotage, and malevolent damage.

Side Flash—The phenomenon where lightning current will arc through a non-conductive medium in order to attach to other objects. An electrical arc caused by differences of potential that occur between conductive metal bodies or between such metal bodies and a component of the lightning protection system or earth electrode system.

Stockpile-to-Target Sequence—The order of events involved in removing a nuclear weapon from storage and assembling, testing, transporting, and delivering it on the target. A document that defines the logistic and employment concepts and related physical environments involved in the delivery of a nuclear weapon from the stockpile to the target. It may also define the logical flow involved in moving nuclear weapons to and from the stockpile for quality assurance testing, modification and retrofit, and the recycling of limited life components.

Use Control—The positive measures that allow the authorized use and prevent or delay unauthorized use of nuclear weapons, and is accomplished through a combination of weapon system design features, operational procedures, security, and system safety rules.