

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

AIR FORCE INSTRUCTION 91-116

20 DECEMBER 2011



Safety

**SAFETY RULES FOR LONG-TERM
STORAGE AND MAINTENANCE
OPERATIONS FOR NUCLEAR WEAPONS**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 91-1, *Nuclear Weapons and Systems Surety*. This publication is consistent with AFPD 13-5, *Air Force Nuclear Enterprise*. It applies to operations with long-term storage and maintenance operations for nuclear weapons. The safety rules may only be changed or supplemented using procedures in AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*. See **Attachment 1** for abbreviations and acronyms used and forms adopted in this instruction. This instruction does not apply to the Air Force Reserve and Air National Guard. Send major command (MAJCOM) supplements to this Instruction to AFSC/SEW, 9700 G Avenue, Kirtland AFB NM 87117-5670 for review/coordination before publication. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm>. Refer recommended changes and questions about this publication to the office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional's chain of command.

SUMMARY OF CHANGES

Included new safety rule, paragraph 18. "Storage for other agencies must be defined in an MOU/MOA and hazards must be classified per Technical Publication (TP) 20-11, *General Firefighting Guidance*, with a safety review by HQ AFSC/SEWN." Removed paragraph regarding B-53s since the Air Force no longer has a requirement to support the B-53 weapon system and there are no longer any B-53s in Air Force custody.

Section A—Authority and Responsibilities

1. Secretary of Defense (SecDef) Direction. The SecDef directs the Secretary of the Air Force (SECAF) to implement these safety rules for long term storage and maintenance operations for nuclear weapons. The SECAF then directs the Chief of Safety (AF/SE) to provide oversight of the nuclear safety program and ensure compliance with safety rules.

2. Temporary Limitations. The Air Force may impose restrictions that are more strict than those contained in these safety rules, but may not unilaterally change these safety rules.

3. Functional Responsibilities:

3.1. The Commander, Air Force Safety Center:

3.1.1. Ensures that these safety rules work, providing maximum safety consistent with operational requirements.

3.1.2. Ensures the units follow these safety rules.

3.2. Using major commands:

3.2.1. Ensure their units follow these safety rules.

3.2.2. Ensure that all safety standards and procedures are in accordance with these safety rules.

3.2.3. Inspect for compliance with these safety rules and standards.

3.3. Air Force Materiel Command (AFMC) ensures its manuals, checklists, and technical orders do not conflict with these safety rules.

Section B—Safety Rules. The safety rules in this section may only be changed or supplemented using procedures in AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*.

4. General Guidance. Per DoD 3150.02-M, *DoD Nuclear Weapon System Safety Program Manual*, general safety rules apply to all nuclear weapons and nuclear weapon systems. General safety rules primarily apply safety policy and shall be included as part of the military department's safety rules package. Safety rules always apply, even during war.

4.1. Nuclear weapons shall not be intentionally exposed to abnormal environments except in an emergency.

4.2. Nuclear weapons shall not be used for training or for troubleshooting (i.e., 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).

4.3. Nuclear weapons may be used for exercises except when explicitly prohibited by specific safety rules. (See paragraph 15.)

4.4. Only certified procedures, personnel, equipment, facilities, and organizations, authorized by the appropriate level of authority, shall be employed to conduct nuclear weapon system operations.

4.5. The total number of personnel performing nuclear weapon system operations shall be held to the minimum consistent with the operations performed.

4.6. At least two authorized persons must be present during any operation with a nuclear weapon, except when authorized by a specific safety rule; i.e., alert fly. They must be able to detect incorrect or unauthorized procedures in the task being performed. They must also have knowledge of and understand applicable safety and security requirements.

4.7. Personnel that have physical access to nuclear weapons must be qualified under the PRP, in accordance with DoDD 5210.42, *Nuclear Weapon Personnel Reliability Program (PRP)*.

4.8. Physical security will be maintained, in accordance with DoDD S-5210.41, *Security Policy for Protecting Nuclear Weapons*.

4.9. Nuclear weapons will be transported as determined by the Combatant Commander or the Military Department, in accordance with DoDD 4540.5, *Logistic Transportation of Nuclear Weapons*. Additionally, the following safety guidance applies:

4.9.1. Movement(s) will be kept to a minimum consistent with operational requirements.

4.9.2. Custody and accountability transfers during logistic movements shall be by courier receipt system to ensure positive control.

4.10. Permissive Action Link (PAL) operations shall be in accordance with plans and procedures prescribed by the applicable Combatant Command and Technical Publication.

4.11. Verification that a nuclear warhead is not present in a test assembly must be made utilizing nonnuclear assurance procedures at the last practical opportunity agreed on by the Department of Defense and/or Department of Energy before the conduct of an operational test.

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

4.12.1. U.S. custody must be maintained until receipt of a valid nuclear control order that permits transferring U.S. nuclear weapons to non-U.S. delivery forces.

4.12.2. Nuclear weapons shall not be expended unless a valid, properly authenticated nuclear control order conveying release or expenditure authority is received.

5. Specific Guidance.

5.1. These rules, weapon system design and security features, operational and administrative controls, and technical procedures ensure the nuclear weapons meet the Nuclear Weapon System Safety Standards in AFI 91-101, *Air Force Nuclear Weapons Surety Program*, and DoDD 3150.2, *Safety Studies and Reviews of Nuclear Weapon Systems*.

5.2. A commander may deviate from a specific rule in an emergency. DoDD 3150.2 defines an emergency as "an unexpected occurrence or set of circumstances in which personnel or equipment unavailability, due to accident, natural event, or combat, may demand immediate action that may require extraordinary measures to protect, handle, service, transport, jettison, or employ a nuclear weapon."

6. Troubleshooting and Use of Equipment, Procedures, Checklists, and Modifications. The following items apply to anyone working with or controlling nuclear weapons:

6.1. Do not use nuclear weapons to troubleshoot equipment faults.

6.2. Use only equipment (e.g. hardware, software, etc.), procedures, and checklists that are consistent with US Air Force-approved publications for any operation directly associated with nuclear weapons.

6.3. Approved publications and modifications must conform to the safety rules in this instruction and the DoD Nuclear Weapon System Safety Standards.

7. Security Criteria. AFI 31-101, *Integrated Defense (FOUO)*; DoD S-5210.41-M; and AFMAN 31-108, *Nuclear Weapon Security Manual (U)*, apply.

8. Tamper Control and Detection. AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs*, which defines the Two-Person Concept and sealing requirements, applies.

9. Personnel Reliability. AFMAN 10-3902, *Nuclear Weapons Personnel Reliability Program (PRP)*, and DoDD 5210.42 *Nuclear Weapons Personnel Reliability Program (PRP)*, apply.

10. Nuclear Identification. Establish administrative controls and procedures to provide positive means of distinguishing:

10.1. Nuclear bombs and warheads from test and training shapes.

10.2. Warhead shipping and storage containers that contain nuclear warheads from those containers without nuclear warheads.

11. Approved Weapon Configuration:

11.1. Verify nuclear weapons are safe using applicable technical orders.

11.2. Keep nuclear weapons in their approved configurations.

12. Storage, Maintenance, Testing, and Ground Transportation. As appropriate for the activity:

12.1. Perform all storage, maintenance, testing, and ground transportation according to applicable technical orders.

12.2. Store nuclear weapons in USAF-approved, locked, and secured facilities.

12.3. Lightning Protection. Maintain at least seven feet of free space between the nuclear weapon and the facility structural members (walls, ceiling, columns), metallic attachments and conductive objects during major maintenance (major maintenance is the disassembly or performance of maintenance operations which could result in exposure of the weapons' internal components to electrical energy, reference AFMAN 91-201, *Explosive Safety Standards*) unless:

12.3.1. Weapon electrical/lightning isolation design features are intact IAW the applicable 11N series technical orders, or

12.3.2. Facility design features, combined with specific maintenance procedures, provide appropriate electrical energy isolation as determined by technical evaluation and approval by HQ AFSC.

13. Permissive Action Link (PAL) Procedures. Use PAL codes and PAL devices only as directed by appropriate authority.

14. Airspace Restrictions. Implement local procedures within the airspace controlled by the base to:

14.1. Prohibit overflight of weapons movement, nuclear loaded aircraft, and nuclear weapons storage/maintenance facilities.

14.2. Prohibit direct overflight of primary nuclear airlift force aircraft operations.

15. Exercises. Nuclear weapons will not be used for exercises at long-term storage locations.

16. Logistics Movement of Nuclear Weapons by Cargo Aircraft. AFI 91-115, *Safety Rules for Nuclear Logistics Transport by Prime Nuclear Airlift Force*, applies.

17. Nuclear Weapons and Conventional Weapons Storage. Do not store nuclear weapons and conventional munitions (e.g. bombs, missiles, rockets) together in the same facilities.

18. Storage for other Agencies. Storage for other agencies must be defined in an MOU/MOA and hazards must be classified per TP 20-11, *General Firefighting Guidance*, with a safety review by HQ AFSC/SEWN.

GREGORY A. FEEST, Major General, USAF
Chief of Safety

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

- DoD Directive 3150.2, *DoD Nuclear Weapon System Safety Program*, 23 December 1995
- DoD 3150.2M, *DoD Nuclear Weapons System Safety Program Manual*, 23 December 1995
- DoD S-5210.41M/Air Force Manual 31-108, *Nuclear Weapon Security Manual (U)*, 1 November 2004
- DoD Instruction 5210.42, *Nuclear Weapon Personnel Reliability Program*, 16 October 2006
- DoD Instruction 4540.05, *Movement of Nuclear Weapons by Noncombat Delivery Vehicles*, 23 June 2011
- DoD Instruction 5210.42, AFMAN 10-3902 *Nuclear Weapon Personnel Reliability Program*, 16 October 2006
- DoD S-5210.41M, *Nuclear Weapon Security Manual (U)*, 1 November 2004
- AFI 31-101, *Integrated Defense (FOUO)*, 8 October 2009
- AFPD 91-1, *Nuclear Weapons and Systems Surety*, 13 December 2010
- AFPD 13-5, *Air Force Nuclear Enterprise*, 6 July 2011
- AFI 91-101, *Air Force Nuclear Weapons Surety Program*, 13 October 2010
- AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, And Safety Rules*, 24 June 2010
- AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs*, 10 September 2010
- AFI 91-115, *Safety Rules for Nuclear Logistics Transport by Prime Nuclear Airlift Force*, 8 September 2009
- AFMAN 91-201, *Explosives Safety Standards*, 12 January 2011
- AFMAN 33-363, *Management of Records*, 1 March 2008

Adopted Forms.

AF IMT 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

- AFI**—Air Force Instruction
- AFMAN**—Air Force Manual
- AFMC**—Air Force Materiel Command
- AFRDS**—Air Force Records Disposition Schedule
- DoD**—Department of Defense
- DoDD**—Department of Defense Directive

DOE—Department of Energy

IMF—Integrated Maintenance Facility

JS—Joint Staff

MAJCOM—Major Command

MOU—Memorandum of Understanding

OPR—Office of Primary Responsibility

PAL—Permissive Action Link

PRP—Personnel Reliability Program

RDS—Records Disposition Schedule

SecDef—Secretary of Defense

TP—Technical Publication