

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

AIR FORCE INSTRUCTION 91-116

8 DECEMBER 2015



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 AFSEC/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 in the Air Force Records Information Management System (AFRIMS). 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 chain of command. 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 AFI 33-360, *Publications and Forms Management*, Table 1.1 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 Publication OPR for non-tiered compliance items.

SUMMARY OF CHANGES

Major changes include adding verbiage requiring compliance with AFI 91-102 for any changes to the weapon system; allowing nuclear weapons to be used for exercises when specifically approved by HQ AFMC/CC or designated authority; and removing defunct airspace restriction requirements. Administrative comments include updating applicable references.

Section A—Authority and Responsibilities

1. Secretary of Defense (SECDEF) Direction.

1.1. 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 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 Major Commands (MAJCOMs) follow these safety rules.

3.1.3. Is responsible for interpretation/clarification of general and specific guidance in Section B.

3.2. Using MAJCOMs:

3.2.1. Ensure their units follow these safety rules.

3.2.2. Ensure all safety standards and procedures agree with the approved safety rules.

3.2.3. Inspect for compliance.

3.2.4. Ensures its manuals, checklists, and technical orders do not conflict with these safety rules.

Section B—Safety Rules.

4. General Guidance.

4.1. 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*.

4.2. Per DoD Manual 3150.02, *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.

4.3. Nuclear weapons shall not be intentionally exposed to abnormal environments except in an emergency. (T-0)

4.4. 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). (T-0)

4.5. Nuclear weapons may be used for exercises except when explicitly prohibited by specific safety rules. (T-0)

4.6. Only certified procedures, personnel, equipment, facilities, and organizations, authorized by the appropriate level of authority, shall be employed to conduct nuclear weapon system operations. (T-0)

4.7. The total number of personnel performing nuclear weapon system operations shall be held to the minimum consistent with the operations performed. (T-0)

4.8. 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. (T-0)

4.9. Personnel that have physical access to nuclear weapons must be qualified under the PRP, in accordance with DoD Instruction 5210.42, *Nuclear Weapon Personnel Reliability Program (PRP)*. (T-0)

4.10. Physical security will be maintained, in accordance with DoDD 5210.41, *Security Policy for Protecting Nuclear Weapons*. (T-0)

4.10.1. Nuclear weapons will be transported as determined by the Combatant Commander or the Military Department, in accordance with DoD Instruction 4540.05, *DoD Transportation of U.S. Nuclear Weapons*. Additionally, the following safety guidance applies:

4.10.2. Movement(s) will be kept to a minimum consistent with operational requirements. (T-0)

4.10.3. Custody and accountability transfers during logistic movements shall be by courier receipt system to ensure positive control. (T-0)

4.11. Permissive Action Link (PAL) operations shall be in accordance with plans and procedures prescribed by the applicable Combatant Command and Technical Publication. (T-0)

4.12. 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. (T-0)

4.13. Deviations from safety rules are permitted in an emergency, except as follows: (T-0)

4.13.1. 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. (T-0)

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

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 3150.02, *DoD Nuclear Weapons Surety Program*. (T-0)

5.2. A commander may deviate from a specific rule in an emergency. DoDD 3150.02 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." (T-0)

5.3. Any changes that potentially impact nuclear weapon system surety must meet requirements identified in AFI 91-102. (T-0)

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. (T-0)

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. (T-0)

6.3. Approved publications and modifications must conform to the safety rules in this instruction and the DoD Nuclear Weapon System Safety Standards. (T-0)

7. Security Criteria. DoD S-5210.41M_AFMAN 31-108, *Nuclear Weapon Security Manual (S)* and AFI 31-101, *Integrated Defense (FOUO)*, apply. (T-0)

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. (T-0)

9. Personnel Reliability. AFMAN 13-501, *Nuclear Weapons Personnel Reliability Program (PRP)*, and DoD Instruction 5210.42, apply. (T-0)

10. Nuclear Identification. Establish administrative controls and procedures to provide positive means of distinguishing: (T-0)

10.1. Nuclear bombs and warheads from test and training shapes. (T-0)

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

11. Approved Weapon Configuration:

11.1. Verify nuclear weapons are safe using applicable technical orders. (T-0)

11.2. Keep nuclear weapons in their approved configurations. (T-0)

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. (T-0)

12.2. Store nuclear weapons in USAF-approved, locked, and secured facilities. (T-0)

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: (T-0)

12.3.1. Weapon electrical/lightning isolation design features are intact IAW the applicable 11N series technical orders, or (T-0)

12.3.2. Facility design features, combined with specific maintenance procedures, provide appropriate electrical energy isolation as determined by technical evaluation and approval by HQAFSEC. (T-0)

13. Permissive Action Link (PAL) Procedures. Use PAL codes and PAL devices only as directed by appropriate authority. (T-0)

14. Exercises. Nuclear weapons may be used for exercises when their use is specifically authorized by Commander, Air Force Materiel Command or designated authority. If an exercise is conducted with Prime Nuclear Airlift Force (PNAF) aircrew and aircraft, coordinate with Commander, Air Mobility Command or designated authority. (T-0)

15. Logistics Movement of Nuclear Weapons by Cargo Aircraft. AFI 91-115, *Safety Rules for Nuclear Logistics Transport by Prime Nuclear Airlift Force*, applies. (T-0)

16. Nuclear Weapons and Conventional Weapons Storage. Do not store nuclear weapons and conventional munitions (e.g. bombs, missiles, rockets) together in the same facilities. (T-0)

17. Storage for other Agencies or Services. Storage for other agencies or services must be defined in an MOU/MOA IAW DoD Instruction 4000.19, *Support Agreements*, and hazards must be identified in TP 20-11, *General Firefighting Guidance General*, with a safety review by HQ AFSEC/SEWN. (T-0)

ANDREW M. MUELLER, Major General, USAF
Chief of Safety

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DoD Directive 3150.02, *DoD Nuclear Weapon System Safety Program*, 24 April 2013

DoD Manual 3150.02, *DoD Nuclear Weapons System Safety Program Manual*, 31 January 2014

DoD Instruction 4540.05, *DoD Transportation of U.S. Nuclear Weapons*, 23 June 2011

DoD Instruction 4000.19, *Support Agreements*, 25 April 2013

DoD Directive 5210.41, *Security Policy for Protecting Nuclear Weapons*, 22 January 2015

DoD S-5210.41M_Air Force Manual 31-108, *Nuclear Weapon Security Manual*, 7 March 2013

DoD Instruction 5210.42, *Nuclear Weapon Personnel Reliability Program*, 16 July 2012

DoD Manual 5210.42, *Nuclear Weapon Personnel Reliability Program*, 12 January 2015

AFPD 13-5, *Air Force Nuclear Enterprise*, 6 July 2011

AFPD 91-1, *Nuclear Weapons and Systems Surety*, 13 December 2010

AFI 31-101, *Integrated Defense (FOUO)*, 8 October 2009

AFI 91-101, *Air Force Nuclear Weapons Surety Program*, 15 August 2014

AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*, 25 February 2014

AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs*, 23 April 2013

AFI 91-115, *Safety Rules for Nuclear Logistics Transport by Prime Nuclear Airlift Force*, 19 June 2014

AFMAN 13-501, *Nuclear Weapon Personnel Reliability Program*, 26 February 2014

AFMAN 91-201, *Explosives Safety Standards*, 12 January 2011

AFMAN 33-363, *Management of Records*, 1 March 2008

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AMC—Air Mobility Command

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDM—Department of Defense Manual

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

PNAF—Prime Nuclear Airlift Force

PRP—Personnel Reliability Program

RDS—Records Disposition Schedule

SECDEF—Secretary of Defense

TP—Technical Publication