Administrative Changes to AFI 91-115, *Safety Rules for Nuclear Logistics Transport by the Prime Nuclear Airlift Force*

OPR: AFSEC/SEWN

Reference in paragraph 13.8.2 which reads, "Jack aircraft for lifting of one set of landing gear (integral jacking) for minor maintenance", is hereby changed to "Jack aircraft, except for lifting of one set of landing gear (integral jacking) for minor maintenance.”  2 February 2017.
This instruction implements Air Force Policy Directive (AFPD) 91-1, Nuclear Weapons and Systems Surety. This publication is consistent with AFPD 13-5, Air Force Nuclear Enterprise. It applies to nuclear logistics transport by the Prime Nuclear Airlift Force (PNAF). This instruction applies to all United States Air Force (USAF) personnel, nuclear certified equipment, and facilities involved with nuclear weapons, nuclear weapon systems, and radioactive materials-related programs. This instruction is applicable to Air Force Reserve Command (AFRC) and Air National Guard (ANG) personnel performing nuclear missions. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of IAW the Air Force Records Disposition Schedule (RDS) in the Air Force Records Information Management System (AFRIMS). The safety rules may only be changed or supplemented using procedures in Air Force Instruction (AFI) 91-102, Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, Recommendation for Change of Publication; route AF Form 847s from the field through the appropriate functional manager’s 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, 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, top the Publication OPR for non-tiered compliance.
SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. It incorporates multiple format changes for ease of use and currency. The C-17 Aircraft does not have external Chaff, this reference has been removed from the instruction. Paragraph 12, Personnel Qualifications and Certification, in its entirety has been deleted. Paragraph 22.2., changed the requirement to now have at least one “qualified” personnel in Command Disable System procedures remaining on the aircraft. Restrictions on aircraft with forward firing ordnance were added to paragraph 16, Airfield and Airspace Requirements.

Section A—Authority and Responsibilities

1. The Secretary of Defense (SECDEF). The SECDEF directs the Secretary of the Air Force to implement these safety rules for logistics transport by the Prime Nuclear Airlift Force.

2. The Secretary of the Air Force (SecAF). The SecAF designates the Chief of Safety (AF/SE) as being responsible for overseeing nuclear surety of nuclear weapons and weapons systems throughout the Air Force. This responsibility includes the authority to implement these safety rules for logistics transport by the Prime Nuclear Airlift Force (PNAF).

3. Temporary Limitations. The Air Force may impose more restrictive guidance/policy than contained in safety rules, but may not unilaterally change the safety rules.


   4.1. The Commander, Air Force Safety Center:
      4.1.1. Ensures safety rules work, providing maximum safety consistent with operational requirements.
      4.1.2. Ensures Major Commands (MAJCOMs) follow the safety rules.
      4.1.3. Is responsible for interpretation/clarification of general and specific guidance in section B and C.

   4.2. Major Commands:
      4.2.1. Ensure their units follow the safety rules.
      4.2.2. Ensure all supplemental guidance and procedures agree with the approved safety rules.
      4.2.3. Inspect for compliance.
      4.2.4. Ensure manuals, checklists, and technical orders do not conflict with the safety rules.

Section B—General Safety Rules

5. General Guidance.

   5.1. The safety rules in this section may only be changed or supplemented using procedures in AFI 91-102.
5.2. Per DoD Manual (DoDM) 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.

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

5.4. 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)

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

5.6. 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)

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

5.8. 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)

5.9. Personnel having physical access to nuclear weapons must be qualified under the Personnel Reliability Assurance Program (PRAP), as specified in DoDM5210.42_AFMAN 13-501, Nuclear Weapons Personnel Reliability Programictect(PRAP) and/or AFI 31-117, Arming and Use of Force by Air Force Personnel. (T-0)

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

5.11. Nuclear weapons will be transported as determined by the Combatant Commander or the Military Department, in accordance with DoD Instruction (DoDI) 4540.05, DoD Transportation of US. Nuclear Weapons. Additionally, the following safety guidance applies:

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

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

5.12. 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 upon by the Department of Defense (DoD) and/or Department of Energy (DOE) before conducting an operational test. (T-0)

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

5.13.1. Nuclear weapons shall not be expended unless a valid, properly authenticated nuclear control order conveying release or expenditure authority is received. (T-0)
Section C—Specific Safety Rules


6.1. These rules, weapon system features, operational controls, and technical procedures, ensure that Prime Nuclear Airlift Force meet the Nuclear Weapon System Surety Standards in DoDD 3150.02, DoD Nuclear Weapons Surety Programs, and AFI 91-101, Air Force Nuclear Weapons Surety Program. (T-0)

6.2. These rules apply to C-17A Prime Nuclear Airlift operations.

6.3. 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)

6.4. Violations of referenced instructions do not constitute Weapons System Safety Rules (WSSR) violations unless specifically identified in this document. (T-0)

6.5. Any changes to the PNAF Operational Plan Data Document that potentially impact nuclear weapon system surety must be reviewed in accordance with (IAW) AFI 91-102. (T-0)


7.1. Use shipping configurations in the applicable weapon -1 Technical Order (T.O.) and the 11N-45-51 series. (T-0)

7.2. Move nuclear weapons by the safest, most secure means and routes consistent with operational requirements. (T-0)

7.3. Custody and transfer of nuclear weapons must be in accordance with T.O. 11N-45-51 series guidance. (T-0)

7.4. The following weapons are authorized to be transported aboard the C17A:

7.4.1. B61-3,-4,-7,-10,-11.

7.4.2. W78. (See limitation in para 7.5)

7.4.3. W80-1.

7.4.4. B83-0, -1.

7.4.5. W87 (See limitation in para 7.6.).

7.5. Do not air transport designated conventional high explosives nuclear weapons (i.e. W78) unless ground transport is not feasible. Refer to DoDI 4540.05 for approval authorities. (T-0)

7.6. Do not air transport the W87 without the H1545 horizontal transport fixture. (T-0)


8.1. Use only equipment, procedures, and checklists that are consistent with US Air Force approved publications for any operation directly associated with nuclear weapons. (T-0)
8.2. Approved publications must conform to the safety rules in this instruction and the DoD Nuclear Weapon System Surety Standards as described in DoDD 3150.02. (T-0)


10. Tamper Control Program.

10.1. AFI 91-104, Nuclear Surety Tamper Control and Detection Programs, which defines the Two-Person Concept, applies. (T-0)


12.1. Commanders at all levels must rigidly control the number of people on nuclear weapon airlift missions. (T-0)

12.2. When a nuclear weapon is aboard, the following individuals may be carried as necessary to accomplish the mission: (T-0)


12.3. Additional crewmembers must have a specific in-flight duty to perform.

12.4. Authorize mission-essential personnel status only for specific individuals who:

12.4.1. Are on a specific mission.

12.4.2. Have a valid requirement to observe, inspect, or participate in the nuclear weapon airlift mission.


13.1. Select the safest, most reliable aircraft available for PNAF missions. (T-0)

13.2. Consider all available safety and structural enhancements when selecting an aircraft. (T-0)

13.3. Do not select aircraft that have a history of uncorrected repeat or recurring system malfunctions on any system identified in the aircraft Mission Essential Subsystem Listing, Airland/Air Refueling (MESL, ALA/AR). (T-0)

13.4. Complete ground fueling, oxygen servicing, and any loading of external flares before loading nuclear weapons. Perform replenishment of external flare dispensers and subsequent
fuel and oxygen servicing of nuclear-laden aircraft only as necessary to support mission requirements. (T-0)

13.4.1. Do not transport replenishment flares. (T-0)

13.5. The aircrew must control all maintenance activities on aircraft with any nuclear weapon aboard. (T-0)

13.6. Do not perform any maintenance that increases the probability of fire on an aircraft with any nuclear weapon aboard. (T-0)

13.7. Concurrent servicing of aircraft is not authorized during weapon loading or unloading. (T-0)

13.8. With any nuclear weapon aboard, do not:

13.8.1. Park aircraft in hangers. (T-0)

13.8.2. Jack aircraft for lifting of one set of landing gear (integral jacking) for minor maintenance. (T-0)


14.1. Fuel PNAF aircraft with the best low-volatility fuel available which is compatible with aircraft engine operation. (T-0).

15. Firefighting Support Requirements.

15.1. Ensure that the required firefighting support is available for:

15.1.1. Weapon loading and offloading. (T-0)

15.1.2. Aircraft engine starts, taxi, takeoff, and landing. (T-0)

15.1.3. Fuel and oxygen servicing of nuclear weapon-laden aircraft. (T-0)

15.1.4. Any replenishment of external flare dispensers on nuclear weapon-laden aircraft. (T-0)

16. Airfield and Airspace Requirements.

16.1. AFI 91-101, which prescribes restrictions on aircraft with forward firing ordnance, applies.

16.2. Prohibit direct overflight of PNAF ground operations within that airspace controlled by the installation. (T-0)

17. Pre-load Requirements.

17.1. Do not load any nuclear weapon on an aircraft unless the aircraft is mission capable and has been serviced and prepared for loading, to include the following: (T-0)

17.1.1. Remove all nonessential personnel and nonmission-related hazardous materials. (T-0)

17.1.2. Search and sanitize the aircraft. (T-0)

17.1.3. Establish Type 1 security. (T-0)
18. **Loading, Tie down, and Unloading.**

18.1. The aircrew members are responsible for the safety and security of each nuclear weapon in their physical possession. Aircrew possession begins after the Courier and loadmaster have inspected, accepted, and taken physical control of the weapon. Possession continues until weapons are offloaded from the aircraft and the loadmaster transfers physical control to munitions personnel. (T-0)

18.2. Unused space on nuclear weapon airlift missions may be used for other cargo only if the cargo is searched, security is maintained before loading it on the aircraft, and the cargo will not cause:

18.2.1. Mission delay.
18.2.2. Mission rerouting.
18.2.3. Extra landings.
18.2.4. Additional handling or movement of nuclear weapons.
18.2.5. Security problems due to aerial port onloading or offloading.

18.3. Do not load materials that are incompatible with nuclear weapons. (T-0)

18.4. Load aircraft in a way that permits the aircrew to offload, or jettison in flight, any opportune cargo without moving any nuclear weapon. (T-0)

19. **Flight Restrictions.**

19.1. The DoD Foreign Clearance Guide Special Weapons Overflight Guide Supplement (DoD FCG SWOG Supplement) applies. (T-0)

19.2. Aircraft transporting any nuclear weapon must not fly within an unsafe distance of unfriendly borders as defined in the DoD FCG SWOG Supplement. (T-0)

19.3. Positive measures are required to prevent overflight or landing in unfriendly territories or countries where such actions are prohibited. (T-0)

19.4. Aircraft with any nuclear weapon aboard must not take off until all destinations and planned divert stations acknowledge that they are capable of meeting security requirements. (T-0)

20. **Air Refueling.**

20.1. Minimize air refueling; however, air refueling can be planned when feasible to reduce ground exposure to the nuclear weapons. (T-0)

20.2. Do not delay missions for air-refueling considerations. If the mission is delayed, manage the mission in the most effective manner possible without degrading nuclear surety. (T-0)

20.3. Air refuel over open ocean at least 12 nautical miles offshore. (T-0)

20.4. Maneuver the aircraft only as needed to transfer fuel. (T-0)

20.5. Do not conduct air-refueling training when any nuclear weapon is aboard. (T-0)
21. **Contingency Transfer.**

21.1. PNAF crews are authorized to perform PNAF aircraft crossloads. (T-0)

21.2. Park the two aircraft as close together as possible in a single Protection Level 1 restricted area. (T-0)

22. **Command Disable/Jettison.**

22.1. When applicable, activate the Command Disable System (CDS), if available, before crash landing, jettisoning a nuclear weapon, or if capture of the weapon is imminent. (Refer to the DoD FCG SWOG Supplement for jettison restrictions.) (T-0)

22.2. CDS codes and at least one individual qualified in CDS procedures must remain on the aircraft: (T-0)

   22.2.1. Until Type I security is established after arrival. (T-0)

   22.2.2. When ropes and stanchions are removed for taxi and departure. (T-0)

22.3. Aircrews must not use emergency destruct procedures on nuclear weapons. (T-0)

23. **Emergency Nuclear Airlift Operations (ENAO).**

23.1. ENAO will comply with these weapon system safety rules to the maximum extent possible. (T-0).

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Chief of Safety
Glossary of References and Supporting Information

References
DoD Instruction 4540.5, Incorporating Change 2, DoD Transportation of U.S. Nuclear Weapons, 12 Feb 2015
AFI 10-701, Operations Security, 8 Jun 2011
AFPD 13-5, Air Force Nuclear Enterprise, 6 Jul 2011
AFI 13-526V1, Prime Nuclear Airlift Force Operations, 14 Jun 2013
AFI 33-360, Publications and Form Management, 1 Dec 2015
AFMAN 33-363, Management of Records, 1 Mar 2008
AFPD 91-1, Nuclear Weapons and Systems Surety, 13 Dec 2010
AFI 91-102, Incorporating Change 1,ictectNuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules, 4 Nov 2015
AFI 91-104, Incorporating Change 4, Nuclear Surety Tamper Control and Detection Programs, 26 May 2016
T.O. 11N-45-51, Transportation of Nuclear Weapons Material, 22 Mar 2006
T.O. 1 C-17A-16-1, Loading and Air Transport of Nuclear Weapon Cargo
Adopted Forms

AF Form 847, Recommendation for Change of Publication

Abbreviations and Acronyms

ACO—Allied Command Operation
AFI—Air Force Instruction
AFMAN—Air Force Manual
AFPD—Air Force Policy Directive
AFRC—Air Force Reserve Command
AFRIMS—Air Force Records Information Management System
ANG—Air National Guard
CDS—Command Disable System
DoD—Department of Defense
DoDI—Department of Defense Instruction
DoDD—Department of Defense Directive
DoDM—Department of Defense Manual
DoD FCG SWOG Supplement—Department of Defense Foreign Clearance Guide Special Weapons Overflight Guide Supplement
DOE—Department of Energy
ECI—European Command Instruction
ENAO—Emergency Nuclear Airlift Operations
IAW—In Accordance With
MAJCOM—Major Command
MESL, ALA/AR—Mission Essential Subsystem Listing, Airland/Air Refueling
OPR—Office of Primary Responsibility
OPSEC—Operations Security
PNAF—Prime Nuclear Airlift Force
PRAP—Personnel Reliability Assurance Program
RDS—Records Disposition Schedule
SECAF—Secretary of the Air Force
SECDEF—Secretary of Defense
T.O—Technical Order
WSSR—Weapon System Safety Rules
USAF—United States Air Force
USEUCOM—United States European Command