BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 91-101

24 FEBRUARY 2000

Safety

AIR FORCE NUCLEAR WEAPONS SURETY PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 91-1, *Nuclear Weapons and System Surety*. It outlines general responsibilities for the Air Force Nuclear Weapons Surety Program and defines implementing requirements. It does not apply to the Air Force Reserve and Air National Guard. Send major command (MAJCOM) supplements to HQ AFSC/SEP, 9700 G Avenue SE, Kirtland AFB NM 87117-5670, for coordination and approval before publication. Attachment 1 contains references, abbreviations, acronyms, and terms used in this instruction. Unless noted otherwise, AF/SE is the waiver authority for provisions in AFI 91-101. For purposes of this instruction, the term MAJCOM includes FOAs and DRUs.

SUMMARY OF REVISIONS

This revision incorporates IC 2000-1, deletes paragraph 2.4.9., and clarifies the review requirements in paragraph 2.11.14. The entire text of IC 2000-1 is at the last attachment. A bar (|) preceding a paragraph indicates changes from the previous editon.

Chapter 1

PROGRAM INFORMATION

1.1. Goal. The goal of the Air Force Nuclear Weapons Surety Program is to incorporate maximum nuclear surety, consistent with operational requirements, from weapon system development to retirement from the inventory.

1.2. Safety Standards. The Air Force Nuclear Weapons Surety Program ensures personnel design and operate nuclear weapons and nuclear weapon systems to satisfy the safety standards in Department of Defense (DoD) Directive 3150.2, DoD Nuclear Weapon System Safety Program, December 23, 1996. The DoD safety standards are:

1.2.1. There shall be positive measures to prevent nuclear weapons involved in accidents or incidents, or jettisoned weapons, from producing a nuclear yield.

1.2.2. There shall be positive measures to prevent DELIBERATE prearming, arming, launching, or releasing of nuclear weapons, except upon execution of emergency war orders or when directed by competent authority.

1.2.3. There shall be positive measures to prevent INADVERTENT prearming, arming, launching, or releasing of nuclear weapons in all normal and credible abnormal environments.

1.2.4. There shall be positive measures to ensure adequate security of nuclear weapons, pursuant to DoD Directive 5210.41, *Security Policy for Protecting Nuclear Weapons,* September 23, 1988.

1.3. Commanders' Emphasis. Commanders at all levels are responsible for the success of the Air Force Nuclear Weapons Surety Program. Commanders must emphasize that safety, security, control, and effectiveness of nuclear weapons are important to the United States. The following is not an all inclusive list of restrictions dealing with nuclear weapons. Commanders should review the Weapon System Safety Rules (WSSR) for their specific weapon system(s).

1.3.1. Do not use nuclear weapons to troubleshoot faults, that is, to confirm a fault exists, to aid in fault isolation, or to verify fault correction. AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapon Systems,* contains specific guidance.

1.3.2. During exercises, do not wear complete chemical ensembles when handling war reserve nuclear weapons. Remove the gas mask (to aid in identification) and cumbersome gloves (to ensure weapons are not inadvertently damaged).

1.3.3. Storing nuclear weapons in one facility and conventional munitions in another facility within the same weapons storage area (WSA) is not considered simultaneous presence and does not require MAJCOM approval. Do not store nuclear weapons and conventional munitions together, except:

1.3.3.1. As part of flightline or hardened aircraft shelter operations conducted according to nuclear weapon system safety rules.

1.3.3.2. The MAJCOM Director of Logistics (or equivalent) may approve the storage of nuclear and conventional munitions within a WSA facility to facilitate the warehousing of these materials. AFMAN 91-201, *Explosive Safety Standards,* and Technical Order (TO) 11N-20-7, *Nuclear Safety*

Criteria, contain specific guidance. Reference AFMAN 91-201 for storage requirements of nuclear weapon components within a weapons storage and security system (WS3) vault.

1.3.4. Implement local procedures to:

1.3.4.1. Prohibit direct overflight of WSAs, weapon movements, nuclear loaded aircraft, and aircraft shelters with nuclear weapons inside and not secured in a locked WS3 vault within that airspace controlled by the base.

1.3.4.2. Ensure aircraft with forward firing ordnance are not parked pointed toward Prime Nuclear Airlift Force (PNAF) flightline operations.

1.3.4.3. Ensure aircraft with forward firing ordnance are limited, to the maximum extent possible, from sweeping across PNAF flightline operations.

1.3.4.4. Prohibit direct overflight of PNAF aircraft during ground operations within that airspace controlled by the base

1.4. Records Disposition. Ensure all records created by this instruction are maintained and disposed of IAW AFMAN 37-139, *Records Disposition Schedule*.

Chapter 2

RESPONSIBILITIES

2.1. Assistant Secretary for Acquisition (SAF/AQ). Acting for SAF/AQ, SAF/AQS:

2.1.1. Issues policy and sets goals and priorities for nuclear surety technology.

2.1.2. Ensures technical support for the Nuclear Weapon System Safety Group (NWSSG).

2.1.3. Ensures program management directives specify program compliance with nuclear safety design certification requirements.

2.1.4. Serves, along with Air Force Materiel Command (AFMC), as the Air Force focal point for the technical aspects of nuclear surety. In conjunction with AFMC:

2.1.4.1. Evaluates the nuclear safety effects of all designs, manufacturing processes and practices, or modifications of nuclear weapon systems or components for which SAF/AQ or AFMC has program management responsibilities.

2.1.4.2. Provides analytical, consultant, and technical services to support the requirements of AFI 91-108, *Air Force Nuclear Weapons Intrinsic Radiation Safety Program.*

2.1.4.3. Publishes data on weapons maintenance, shipping, and storage configurations in the appropriate 11N-series TOs and explosive ordnance disposal (EOD) procedures in the 60N-series TOs.

2.1.4.4. Reviews nuclear mishap reports pertaining to material or technical data deficiencies; takes corrective action, when appropriate; and provides reports and summaries as required by AFI 91-204, *Safety Investigations and Reports.*

2.1.4.5. Assists Major Commands (MAJCOMs) to determine if the design of a nuclear weapon system modification could affect nuclear surety.

2.2. Headquarters United States Air Force (HQ USAF):

2.2.1. Air Force Chief of Safety (HQ USAF/SE) oversees the Air Force Nuclear Weapons Surety Program.

2.2.1.1. Establishes program requirements.

2.2.1.2. Publishes instructions and guidance on the various portions of the program.

2.2.1.3. Maintains liaison for nuclear surety matters with organizations outside the Air Force.

2.2.1.4. Advises SAF/AQ of required nuclear surety technology.

2.2.1.5. Administers the nuclear surety inspection program.

2.2.2. Deputy Chief of Staff/Plans and Operations (HQ USAF/XO) is the single point of contact to the Joint Staff.

2.2.3. Deputy Chief of Staff/Installations and Logistics (HQ USAF/IL) is the single point of contact for nuclear weapon and nuclear weapon system logistic matters.

2.2.3.1. The Civil Engineer (HQ USAF/ILE) is the single point of contact for nuclear weapon explosive ordnance disposal matters.

2.2.4. Deputy Chief of Staff/Personnel (HQ USAF/DP) and HQ USAF/SE provide coordinated policy and procedures for the Nuclear Weapons Personnel Reliability Program (PRP).

2.2.5. The Surgeon General (HQ USAF/SG) and HQ USAF/SE issue coordinated policy and guidance on radiological health matters.

2.2.6. Air Force Chief of Security Forces (HQ USAF/XOF):

2.2.6.1. Develops and publishes instructions and guidance for the physical security of nuclear weapons and nuclear weapon systems.

2.2.6.2. Provides classification guidance and publishes standards for controlling defense nuclear information.

2.2.6.3. Evaluates nuclear weapon system designs for their impact on nuclear security.

2.3. Major Commands (MAJCOM):

2.3.1. Establish a nuclear surety program and provide guidance to subordinate units.

2.3.2. Ensure compliance with pertinent directives and TOs.

2.3.3. Establish a program to ensure personnel are trained and certified on the following functional tasks:

2.3.3.1. Nuclear weapons handling, storage, and maintenance.

2.3.3.2. Loading and unloading of weapons.

2.3.3.3. Mate and demate of weapons.

2.3.3.4. EOD nuclear procedures: render-safe, continuation, and component recovery tasks.

2.3.3.5. Security procedures.

2.3.3.6. Custody procedures.

2.3.3.7. Operational control.

2.3.3.8. Weapon convoys.

2.3.4. Ensure individuals assigned to nuclear safety positions are trained and hold a rank or grade commensurate with their duties.

2.3.5. Ensure subordinate unit civil engineering staffs:

2.3.5.1. Develop a Disaster Preparedness Operations Plan to include addressing nuclear accidents/ incidents IAW AFI 32-4001, *Disaster Preparedness Planning and Operations*.

2.3.5.2. Civil engineer personnel will assist Disaster Control Group members in the development of checklists, and advise on training and equipping personnel to response to nuclear accidents and incidents.

2.3.5.3. Perform timely inspections, tests, and maintenance on facilities and equipment used with nuclear weapons.

2.3.5.4. Coordinate plans for building or modifying nuclear weapon facilities.

2.3.6. The MAJCOM Chief of Security Forces will ensure unit security instructions and guidance comply with nuclear surety requirements.

2.3.7. Send data on proposed changes to nuclear weapon systems and noncombat delivery vehicles to AFMC or the appropriate program executive office/designated acquisition commander/single manager.

2.3.8. Conduct Nuclear Surety Inspections (NSI) of nuclear-capable units in accordance with AFI 90-201, *Inspector General Activities*.

2.3.9. Support the NWSSG in accordance with AFI 91-102.

2.3.10. Identify a single point of contact for all nuclear issues.

2.4. MAJCOM Weapons Safety Office:

2.4.1. Is the MAJCOM office of primary responsibility (OPR) for nuclear surety matters.

2.4.2. Develops criteria for wing nuclear surety councils.

2.4.3. Advises the MAJCOM staff on nuclear surety issues.

2.4.4. Publishes directives and supplements outlining MAJCOM-unique nuclear surety requirements.

2.4.5. Provides MAJCOM inspection teams with appropriate instructions and guidance.

2.4.6. Reviews plans submitted for storage of conventional and nuclear weapons within the same facility.

2.4.7. Ensures full-time weapon safety officers and weapon safety managers (WSMs) are trained on MAJCOM-unique items and nuclear surety program management within 90 days of assuming their positions.

2.4.8. Ensure host and tenant unit(s) relationships are established and reflected in a host-tenant agreement(s). The host-tenant agreement(s) will be developed in accordance with AFI 25-201, *Support Agreement Procedures*. Host-tenant agreements will specify the support required to implement an effective nuclear surety program. Submit in writing, those areas where mutual agreement cannot be reached to the appropriate MAJCOM(s) for resolution. As a minimum, the agreement must include the following areas:

2.4.8.1. Nuclear surety program management.

2.4.8.2. Inspections (e.g., nuclear surety, annual, spot, etc.)

2.4.8.3. PRP.

2.4.8.4. Review of local procedures in support of nuclear weapon system safety rules.

2.4.8.5. Mishap investigations, boards, and reporting responsibilities.

2.4.8.6. Major accident response procedures.

2.4.9. Deleted.

2.5. Numbered Air Force (NAF) Weapons Safety Managers (WSM):

2.5.1. Advise the NAF Director of Safety and staff on nuclear surety issues.

2.5.2. If delegated by the MAJCOM, assume WSM training responsibilities and conduct it in conjunction with assistance visits.

2.5.3. Visit subordinate units as needed.

2.5.4. Assist the personnel staff on PRP issues.

2.5.5. Check the adequacy and completeness of nuclear mishap reports and the corrective actions for nuclear surety problems found during higher headquarters inspections or assistance visits.

2.5.6. Review all explosive site plans received from subordinate units, obtain NAF coordination and forward comments to MAJCOM/SEW.

2.5.7. Review plans submitted for new or modified weapon storage sites and notify MAJCOM/SEW.

2.6. Installation Commanders:

2.6.1. Ensure WSMs are knowledgeable and qualified.

2.6.2. Ensure senior leadership emphasis on mishap prevention.

2.6.3. Ensure nuclear surety deficiencies are identified, investigated, corrected, and reported.

2.6.4. Ensure plans and procedures support all tasked nuclear missions.

2.6.5. Ensure plans and procedures support Safe Haven requirements.

2.6.6. Ensure nuclear surety plans and procedures are reviewed by affected agencies before implementation.

2.6.7. Organize a nuclear surety council as outlined below.

2.6.8. Ensure full-time WSMs are not assigned additional tasks which detract from their primary safety duties.

2.6.9. Perform PRP responsibilities.

2.6.10. Establish a nuclear accident/incident response organization in accordance with AFI 32-4001, *Disaster Preparedness Planning and Operations*.

2.6.11. Ensure the unit Chief of Security Forces, in conjunction with munitions and EOD personnel, reviews the plans for any movement of nuclear cargo, in accordance with AFI 21-204, *Nuclear Weapon Procedures.*

2.7. Installation Staff Officers:

2.7.1. Wing/Group Commanders:

2.7.1.1. Enforce compliance with nuclear surety requirements.

2.7.1.2. Ensure the WSM reviews all plans, training, and programs that affect nuclear surety.

2.7.1.3. Perform PRP responsibilities.

2.7.1.4. Include applicable nuclear surety tropics in training directives and programs for assigned personnel.

2.7.2. Ensure Military Personnel Flight (MPF) staff provide guidance and monitor the PRP.

2.7.3. Ensure Public Affairs office screens and releases mishap information to the public.

2.7.4. Ensures medical treatment facility ensures medical and dental PRP requirements are followed in accordance with AFI 36-2104, *Nuclear Weapons Personnel Reliability Program*.

2.7.5. Civil Engineering staff:

2.7.5.1. Ensure fire protection personnel are trained to fight fires involving nuclear weapons.

2.7.5.2. Conduct timely inspections, maintenance, and repair of facilities and equipment used to secure and maintain nuclear weapons.

2.7.5.3. Coordinate plans for building or modifying nuclear weapon facilities with the WSM, Chief of Security Forces, and the affected unit.

2.7.5.4. Develop fire fighting checklists for all areas and locations where nuclear weapons or nuclear weapon systems are present.

2.7.5.5. Ensure assigned or host base Disaster Preparedness personnel develop nuclear accident/ incident response procedures and ensure Disaster Control Group and/or Initial Response Element training is accomplished.

2.7.5.6. Ensure EOD personnel develop nuclear accident/incident response procedures and maintain certification on assigned weapon systems and weapon platforms.

2.7.6. Chief of Security Forces:

2.7.6.1. Ensure applicable unit security policies, procedures, and directives comply with nuclear surety requirements, nuclear weapon system safety rules, support Safe Haven requirements, and diversions of nuclear-laden aircraft.

2.7.6.2. Evaluates, in conjunction with munitions personnel, logistical plans for the movement of nuclear cargo during the overall review of plans for nuclear weapon sites.

2.7.6.3. Supports PRP investigation requirements.

2.7.7. Transportation or contractor personnel will submit nuclear safety deficiency reports, when appropriate, on nuclear safety certified equipment which they service or maintain. Coordinate reports with the WSM prior to release.

2.7.8. Family support center personnel perform PRP responsibilities.

2.8. Unit/Squadron Commanders:

2.8.1. Enforce nuclear surety program requirements.

2.8.2. Correct nuclear surety problems identified during Nuclear Surety Inspections (NSIs) and Staff Assistance Visits (SAVs).

2.8.3. Perform PRP responsibilities in accordance with AFI 36-2104.

2.9. Supervisors:

2.9.1. Ensure personnel are properly training and certified.

2.9.2. Include nuclear surety as part of each pretask briefing.

2.9.3. Emphasize reporting of all nuclear deficiencies.

2.9.4. Inform personnel of all changes to the nuclear surety program.

2.9.5. Perform PRP responsibilities.

2.10. Individuals:

2.10.1. Inform supervisors if they are not qualified to perform a particular task.

2.10.2. Report nuclear safety hazards/deficiencies or security problems to supervisors.

2.10.3. Comply with the Two-Person concept.

2.10.4. Identify unreliable personnel to their supervisors.

2.10.5. Report information which could affect their own ability or reliability to perform a task due to medical or other problems.

2.11. Wing Weapon Safety Managers:

2.11.1. Perform annual nuclear surety inspections of each wing or base-level unit with a nuclear mission/capability.

2.11.2. Ensure adequacy and completeness of corrective actions for nuclear surety problems found during WSM inspections, NSIs, and SAVs.

2.11.3. Conduct and/or assist in nuclear safety reporting as prescribed in Chapter 12, AFI 91-204, *Safety Investigations and Reports.*

2.11.4. Review and disseminate information from nuclear mishap and deficiency reports.

2.11.5. Keep the commander, staff, and supervisors informed of issues and changes in the nuclear surety program.

2.11.6. Work with commanders, staff, supervisors, and support personnel to ensure the PRP is properly administered.

2.11.7. Attend base-level PRP meetings.

2.11.8. Check aircraft, munitions, and missile maintenance activities to ensure only authorized or certified equipment and Air Force-approved TOs, checklists, or procedures are being used with nuclear weapons.

2.11.9. Participate in the preparation of Safe Haven and PNAF mission support plans.

2.11.10. Perform spot inspections of areas involved with nuclear surety.

2.11.11. Approve all nuclear surety training lesson plans, if approval authority has been delegated from the MAJCOM, and periodically observe training sessions.

2.11.12. Advise the commander and staff on nuclear surety matters.

2.11.13. Review and coordinate site plans for new or modified nuclear facilities in accordance with AFMAN 91-201, *Explosives Safety Standards*.

2.11.14. Review all locally developed checklists, instructions, operating procedures, and plans that impact nuclear surety. For locally developed workcards, checklists, job guides and page supplements for nuclear munitions follow guidance in T.O. 00-5-1.

2.12. Unit Safety Representatives (USR):

2.12.1. Perform nuclear surety spot inspections. The frequency of these spot inspections will be determined by unit commander.

2.12.2. Ensure nuclear surety training is accomplished.

2.12.3. Coordinate with the WSM on all matters concerning nuclear surety.

2.12.4. Evaluate corrective actions for nuclear surety problems found during inspections, evaluations, and assistance visits.

2.12.5. Use nuclear surety crossfeed reports for unit mishap prevention.

2.12.6. Contact the WSM for training as soon as possible after being appointed a USR.

2.12.7. Ensure unit developed checklists, instructions, operating procedures, and plans that impact nuclear surety are coordinated through the WSM.

2.13. Air Force Materiel Command (AFMC). HQ AFMC is the Air Force focal point for the technical aspects of nuclear surety. In addition to the MAJCOM responsibilities listed above, AFMC:

2.13.1. Compiles a technology base and supports development of nuclear safety design and evaluation criteria for publication in AFI 91-107.

2.13.2. Evaluates the nuclear safety effects of all designs, manufacturing processes and practices, or modification of nuclear weapon systems or components for which AFMC has program management responsibility. This includes compliance with AFI 91-102, *Safety Studies, Operational Safety Reviews, and Safety Rules* and AFI 91-103, *Air Force Nuclear Safety Certification Program.*

2.13.3. Provides consultant and technical services to support the requirements of AFI 91-108.

2.13.4. Publishes data on weapons configurations in the appropriate 11N-series TOs and EOD procedures in the 60-series TOs.

2.13.5. Reviews nuclear mishap reports pertaining to materiel or technical data deficiencies; takes corrective action, when appropriate; and provides reports and summaries as required by AFI 91-204. Provides the single point of contact within the Air Force for the management and coordination of nuclear weapon and associated equipment material defects and deficiency procedures as specified in T.O. 11N-5-1, *Unsatisfactory Reports*.

2.13.6. Verifies Air Logistic Centers have procedures to identify nuclear safety-certified modifications and replacements.

2.13.7. Establishes an engineering liaison office with United States Air Forces in Europe (USAFE).

2.14. United States Air Forces in Europe (USAFE):

2.14.1. In addition to the MAJCOM responsibilities listed above, USAFE:

2.14.1.1. Assists allied personnel in the USAFE area of responsibility with setting up nuclear surety programs for ally-operated systems.

2.14.1.2. Verifies allied personnel comply with the nuclear weapon system safety rules for ally-operated systems.

2.14.1.3. Verifies allied personnel accomplish time-compliance technical orders (TCTOs) that apply to their nuclear support equipment and notifies the TCTO-issuing agency and HQ AFSC/SEW when TCTOs do not apply.

2.14.1.4. Verifies, through the Air Force custodial unit, that allied combat delivery vehicles meet approved standards for nuclear loading and delivery.

2.14.1.5. Verifies units report and investigate nuclear mishaps involving ally-operated systems.

2.14.2. With the AFMC Engineering Liaison Office:

2.14.2.1. Provides support for nuclear surety programs for ally-operated systems.

2.14.2.2. Provides pertinent nuclear weapon system safety rules to allied nations.

2.14.3. Ensures the design of ally-operated systems meet Air Force nuclear safety design criteria when allied nations have engineering responsibility.

2.14.4. Evaluates efforts for which USAFE has engineering responsibility; including support equipment, hardware, software, firmware, and procedures; against AFI 91-102, AFI 91-103, and AFI 91-107 requirements.

2.15. Air Education and Training Command (AETC). HQ AETC does not have a direct nuclear mission, but its training role is important to the Air Force Nuclear Weapons Surety Program's success. In addition to the applicable MAJCOM responsibilities listed above, AETC must:

2.15.1. Meet those training requirements directed by higher authority or requested by other MAJCOMs.

2.15.2. Establish a nuclear surety program tailored to AETC's unique role.

2.15.3. Include nuclear surety as an integral part of all training involving nuclear weapons, nuclear weapon systems, or critical components and in courses in which a significant percentage of the students will perform PRP-related duties.

2.15.4. Develop inspection standards and inspect the nuclear surety training program, as appropriate, during NAF SAVs.

2.16. Training:

2.16.1. Commanders and supervisors at all levels must ensure individuals receive initial nuclear surety training and annual nuclear surety refresher training before they work with nuclear weapons, nuclear weapon systems, or certified critical components; perform nuclear-related duties; or control entry into no-lone zones. At a minimum these individuals must receive initial training prior to performing duties and annual refresher training thereafter, not later than the end of the month in which the initial training was conducted. The MAJCOM will determine the appropriate level for approval of lesson plans used to conduct nuclear surety training. Individuals must complete a closed-book test with a minimum score of at least 80 percent. A test score of less than 80 percent requires retraining

and retesting, with a different test, before that person may perform nuclear-related duties. Document annual nuclear surety training. Initial and annual training will include the following:

2.16.1.1. Importance of, and need for, a US nuclear capability.

2.16.1.2. Nuclear mishap prevention responsibilities of those personnel who work with nuclear weapons and components.

2.16.1.3. Possible adverse impact on US nuclear capability in the event of a serious nuclear mishap.

2.16.1.4. Security requirements.

2.16.1.5. Two-Person Concept and associated requirements and procedures.

2.16.1.6. PRP requirements.

2.16.1.7. Mishap and hazard reporting.

2.16.2. Additional topics commensurate with the unit's nuclear duties will also be trained (i.e., Safe Haven procedures, sealing of nuclear components, local situations that increase the risk of nuclear mishaps, nuclear weapon system safety rules, etc.).

2.16.3. Ensure nuclear surety training is provided to all PRP certifying officials.

2.17. Nuclear Surety Council:

2.17.1. As a minimum, the council must:

2.17.1.1. Be chaired by the wing/group commander or the vice wing/group commander.

2.17.1.2. Include all members who are PRP certifying officials and the Base PRP Monitor.

2.17.1.3. Include, as advisors, functional experts who support the nuclear surety program.

2.17.1.4. Develop and implement a unit nuclear surety program.

2.17.2. As requested, the host or tenant units will provide attendees at unit nuclear surety councils.

2.18. Nuclear Surety Awards. Use the awards program to recognize deserving individuals and provide incentive for integrating nuclear surety practices into daily activities. Nomination procedures and selection criteria for nuclear surety awards are found in AFI 36-2833, *Safety Awards*.

FRANCIS C. GIDEON, JR., Major General, USAF
Chief of Safety

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DoDD 5210.41, *Security Policy for Protecting Nuclear Weapons*

AFPD 91-1, *Nuclear Weapons and Systems Surety*

AFMAN 91-201, *Explosive Safety Standards*

AFI 21-204, *Nuclear Weapon Procedures*

AFI 25-201, *Support Agreement Procedures*

AFI 32-4001, *Disaster Preparedness Planning and Operations*

AFI 36-2104, *Nuclear Weapons Personnel Reliability Program*

AFI 36-2833, *Safety Awards*

AFI 37-139, *Records Disposition Schedule*

AFI 90-201, *Inspector General Activities*

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

AFI 91-103, *Air Force Nuclear Safety Certification Program*

AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapon Systems*

AFI 91-108, *Air Force Nuclear Weapons Intrinsic Radiation Safety Program*

AFI 91-204, *Safety Investigations and Reports*

T.O. 11N-5-1, *Unsatisfactory Reports*

T.O. 11N-20-7, *Nuclear Safety Criteria*

Abbreviations and Acronyms

AETC—Air Education and Training Command

AFMC—Air Force Materiel Command

AFSC—Air Force Safety Center

AFSC/SEP—Air Force Safety Center, Policy, Plans, and Programs Division

AFSC/SEW—Air Force Safety Center, Weapons, Space, and Nuclear Safety Division

DoD—Department of Defense

DRU—direct reporting unit

EOD—explosive ordnance disposal

FOA—forward operating agency

HQ USAF/IL—Headquarters US Air Force, Deputy Chief of Staff for Installations and Logistics

HQ USAF/SE—Headquarters US Air Force, Chief of Safety

HQ USAF/SG—Headquarters US Air Force, Surgeon General

HQ USAF/XO—Headquarters US Air Force, Deputy Chief of Staff, Plans and Operations

HQ USAF/XOF—Headquarters US Air Force, Chief of Security of Security Forces

MAJCOM—Major Command

MPF—Military Personnel Flight

NAF—Numbered Air Force

NSAP—Nuclear Surety Augmentation Program

NSI—nuclear surety inspection

NWSSG—Nuclear Weapon System Safety Group

OPDD—Operational Plan Data Document

OPR—office of primary responsibility

PAL—permissive action link

PNAF—Prime Nuclear Airlift Force

PRP—Personnel Reliability Program

RSO—Radiation Safety Officer

RSP—render safe procedure

SAF/AQ—Office of the Secretary of the Air Force, Office of the Assistant Secretary

(Acquisition)

SAF/AQS—Office of the Secretary of the Air Force, Office of the Assistant Secretary (Acquisition), Director, Long-Range Power Projection

SAV—staff assistance visit

TCTO—Time Compliance Technical Order

TNSA—Technical Nuclear Safety Analysis

TO—technical order

UL—unauthorized launch

USAFE—US Air Forces in Europe

WSA—weapons storage area

WSM—weapons safety manager

WS3—weapons storage and security system

Terms

Abnormal Environment—An environment outside the levels specified for the normal environment described in the stockpile-to-target document. In an abnormal environment, the nuclear weapon or nuclear weapon system is not expected to retain full operational reliability. (USAF)

Accident—An unexpected event involving destruction of, or serious damage to, nuclear weapons, nuclear weapon systems, or nuclear components that result in an actual or potential threat to national security or to life and property. (USAF)

Accidental Motor Ignition —The unplanned initiation of propulsive burning of a missile stage motor, including the post-boost vehicle, from causes other than the propagation of a launch sequence. (USAF)

Air Force Nuclear Weapons Surety Program—Air Force policies, procedures, and safeguards used to comply with DoD Nuclear Weapon System Safety Standards. (USAF)

Aircraft Monitoring and Control—Equipment installed in aircraft to permit monitoring and control of safing, arming, and fuzing functions of nuclear weapon systems. (JP 1-02)

Ally-Operated Nuclear Weapon System—A nuclear weapon system used by an allied nation with US nuclear weapons that are in US Air Force custody. (USAF)

Arm/Disarm Device—A mechanical or electromechanical device that provides a positive interruption of the firing circuit to prevent initiation of an explosive or pyrotechnic train before the device's commanded closure. (USAF)

Arming—Operations that configure a nuclear weapon or nuclear weapon system so application of a single signal will start the action required for obtaining a nuclear detonation. (DoD)

As applied to explosives, weapons, and ammunition, the changing from a safe condition to a state of readiness for initiation. (JP 1-02)

As Low As Reasonably Achievable—A major philosophy of current radiation protection practice which requires that every reasonable effort be made to keep radiation exposures as far below the dose limits as practical when technical, economic, and social factors are taken into account. (USAF)

Authorization—The critical function that prevents unauthorized use of a nuclear weapon system. This function is executed by the weapon system operator's transmission of secure codes (released by National Command Authority direction) to the nuclear weapon system's authorization device or devices to allow prearming, arming, or launching of a nuclear weapon. (USAF)

Automata—Electronic machines, control devices, etc., capable of performing logical, computational, or repetitive routines designed to operate automatically in response to a predetermined set of instructions. (USAF)

Certification—A determination by appropriate government agencies that a nuclear weapon system is safe for use with nuclear weapons; that the nuclear weapons are compatible with the nuclear weapon system; and whether any operational restrictions will be placed on the nuclear weapon system to ensure safety and compatibility. This determination is required before the nuclear weapon system achieves operational status. (USAF)

The process through which all nuclear weapon-related requirements pertaining to the broad areas of safety, compatibility, and unit readiness are accomplished. (DoD)

Certification Effort (Software and Firmware)—The means for verifying that a component (hardware

or software) complies with AFI 91-107. (USAF)

Certified Critical Component—A critical component that has successfully completed operational certification according to approved technical order procedures. (USAF)

Code Component—Any device, assembly material, software, or information so designated by the National Security Agency. (USAF)

Cognizant Agent—A clandestine agent, with authorized access to a classified system, who conducts or supports an attack against the system. Also, a person whose normal duties afford the knowledge and opportunity to tamper with certified critical components, codes, or the nuclear command and control system of a nuclear weapon system. (USAF)

Combat Delivery Vehicle—A vehicle, with its installed equipment and components, used to deliver a nuclear weapon to a target. (USAF)

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. (USAF)

Contribute To—This term is applied when an unauthorized launch (UL) study team determines a component would play an important part in an UL scenario but could not alone cause a launch. (USAF)

Credible Abnormal Environment—An abnormal environment that has a plausible and reasonable probability of occurrence under a given set of circumstances. (USAF)

Credible Threat or Scenario—A threat or scenario, fitting the assumptions and ground rules in AFI 91-106, *Unauthorized Launch and Launch Action Studies*, that a federal agency responsible for establishing policy with regard to the type vulnerability identified in the threat or scenario (i.e., National Security Agency when addressing code components) has determined to be credible. (USAF)

Critical—A term describing a function, circuit, or activity that directly controls the authorizing, prearming, arming, or launching or releasing of a nuclear weapon, or the targeting of a ground-launched nuclear weapon system. (USAF)

Critical Component—A component of a nuclear weapon system that if bypassed, activated, or tampered with could result in or contribute to deliberate or inadvertent authorizing, prearming, arming, or launch of a combat delivery vehicle carrying a nuclear weapon, or the targeting of a nuclear weapon to other than its planned target. HQ AFSC/SEW designates critical components. (USAF)

Critical Fault—Any nuclear weapon system malfunction that results in inadvertent application of control signals or power to the bomb, warhead, or missile propulsion system; degradation in the integrity of prearm, launch, or release primary safety features; unintentional issuance of critical function command signals; or inability to determine weapon system safe status. (USAF)

Current Limited—Monitor or test currents limited so that the maximum current which can be delivered to a nuclear weapon for monitoring or testing purposes will be less than required to operate the most sensitive component in the arming and fuzing sequence. (USAF)

Custody—The responsibility for the control of, transfer and movement of, and access to nuclear weapons and components. Custody also includes the maintenance of accountability for nuclear weapons and components. (DoD)

Design Decertification—Action by proper authority to remove a system or component from design certification. (USAF)

Direct Supporintg EOD Unit—Units directly supporting nuclear weapon storage areas or a consolidated support base storing these systems, or an AMC primary divert-location. Unit personnel are assigned in PRP positions and are trained to perform all necessary EOD actions from site stabilization to site recovery.

Dynamic Load—An external force or combination of forces (i.e., g-loads, vibration loads, shock loads, and centrifugal loads) that result in acceleration of an object. (USAF)

Electrical Isolation—Separation of electrical circuits, signals, or data by physical isolation or the use of any property (i.e., time, phase, amplitude, or frequency) that distinguishes one electrical signal from all others to preclude ambiguity, interference, or altered information. (USAF)

Electro-explosive Device —An explosive or pyrotechnic component that initiates an explosive, burning, electrical, or mechanical train and is activated by the application of electrical energy. (JP 1-02)

Electromagnetic Compatibility—The ability of systems, equipment, and devices that utilize the electromagnetic spectrum to operate in their intended operational environments without suffering unacceptable degradation or causing unintentional degradation because of electromagnetic radiation or response. It involves the application of sound electromagnetic spectrum management; system, equipment, and device design configuration that ensures interference-free operation; and clear concepts and doctrines that maximize operational effectiveness. See also electromagnetic spectrum; electronic warfare; spectrum management. (JP 1-02)

Electromagnetic Interference—Any electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics and electrical equipment. It can be induced intentionally, as in some forms of electronic warfare, or unintentionally, as a result of spurious emissions and responses, intermodulation products, and the like. (JP 1-02)

Electromagnetic Pulse—The electromagnetic radiation from a nuclear explosion caused by Compton-recoil electrons and photoelectrons from photons scattered in the materials of the nuclear device or in the surrounding medium. The resulting electric and magnetic fields may couple with electrical and electronic systems to produce damaging current and voltage surges. May also be caused by nonnuclear means. (JP 1-02)

Electromagnetic Radiation—Radiation made up of oscillating electric and magnetic fields and propagated with the speed of light. Includes gamma radiation, X-rays, ultraviolet, visible, and infrared radiation, and radar and radio waves. (JP 1-02)

Emergency—An unexpected occurrence or set of unexpected 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, or employ a nuclear weapon. (DoD)

Engineering Review—A review of the nuclear safety engineering evaluation and program documentation by an Air Force engineering agency independent of the organization performing the engineering evaluation. (USAF)

Explosive Ordnance Disposal Procedures—Those particular courses or modes of action taken by EOD personnel for access to, diagnosis, rendering safe, recovery, and final disposal of explosive ordnance or any hazardous material associated with an EOD incident. (JP 1-02)

Access Procedures—Those actions taken to locate exactly and to gain access to unexploded explosive

ordnance. (DoD)

Diagnostic Procedures—Those actions taken to identify and evaluate unexploded explosive ordnance. (DoD)

Render-Safe Procedures—The portion of the EOD procedures involving the application of special EOD methods and tools to provide for the interruption of functions or separation of essential components of unexploded explosive ordnance to prevent an unacceptable detonation. (DoD)

Recovery Procedures—Those actions taken to recover unexploded explosive ordnance. (DoD)

Final Disposal Procedures—The final disposal of explosive ordnance that may include demolition or burning in place, removal to a disposal area, or other appropriate means. (DoD)

Facility Lifting and Suspension Systems—Equipment (i.e., a hoist, crane, or suspended load frame) installed in a facility and used to lift or support nuclear weapons. (USAF)

Fail-Safe—A characteristic of a fuze system, or part thereof, designed to result in a dud round when one or more safety features malfunction. A design feature of a nuclear weapon system or component that ensures a critical function or weapon damage will not occur because of a failure in the system or component. (USAF)

Firmware—Combination or executable computer programs and data (software) stored in any form of read-only memory that will be unalterable during program execution. (USAF)

First-Level Interface Software—Software that controls the critical functions of a nuclear weapon system. (USAF)

Hardware—Generic term dealing with physical items as distinguished from its capability or function such as tools, implements, instruments, devices, sets, fittings, trimmings, assemblies, subassemblies, components, and parts. The term is often used in regard to the stage of development, as in the passage of a device or component from the design stage into the hardware stage as the finished object. (JP 1-02)

In data automation, the physical equipment or devices forming computer and peripheral components. See also “Software”. (JP 1-02)

Hardwire—A dedicated discrete electrical circuit. (USAF)

Inadvertent Programmed Launch—The inadvertent entry into terminal countdown or launch countdown and the resultant launch of a missile to a predetermined target. (USAF)

Incident—An unexpected event, not constituting an accident, that involves a nuclear weapon, nuclear weapon system, or nuclear component and results in:

An increase in the risk of nuclear or high-explosion or radioactive contamination. (USAF)

Errors committed in the assembly, testing, loading, or transporting of equipment, or the malfunctioning of equipment and material that may lead to unintentional operation of any part of the weapon arming and firing sequence. (USAF)

Significant damage to nuclear weapons or nuclear components caused by any natural occurrence, unfavorable environment, or other conditions. (USAF)

Independent Verification and Validation—The analysis and test of computer software by an organization that is separate from the development contractor or organization. (USAF)

Indirect Supporting EOD Unit—Units that are not defined as Direct Supporting Units. Unit personnel maintain technical data and are trained to perform those actions necessary to stabilize an incident site. Unit personnel can perform an initial evaluation of the accident or incident, and perform emergency render safe procedures.

Informational Storage Media—Documents, tapes, disks, cards, plugs, memories, and other devices used to store information. (USAF)

Intrinsic Radiation—Ionizing radiation emitted through the weapon surface or directly from exposed components of nuclear weapons. (USAF)

Ionizing Radiation—Electromagnetic or particulate radiation capable of causing ionization in its passage through matter. Alpha, beta, gamma, X-rays, and neutrons are examples of ionizing radiation. (USAF)

Jettison—The selective release of stores from an aircraft other than for normal attack. (JP 1-02)

Launch—The transition from static repose to dynamic flight of a missile. (JP 1-02)

Launch Action Study—An analysis of a specific weapon system component to determine the actions necessary to cause the component to contribute to an unauthorized launch. (USAF)

Launch Action Threat—A description of how an individual component can be tampered with to achieve a specific unauthorized result. (USAF)

Launch Activation Path—The path by which information and energy flow to effect a missile launch. (USAF)

Launch Control Point—The control center from which system operators control, monitor, and launch a ground-launched missile. (USAF)

Launch Point—The geographical area or facility from which a ground-launched missile is launched. (USAF)

Military Characteristics—Those characteristics of equipment upon which depends its ability to perform desired military functions. Military characteristics include physical and operational characteristics but not technical characteristics. (JP 1-02)

Modifications—Physical or functional configuration changes to equipment or software. (USAF)

Monitor Current—A limited current introduced into a nuclear weapon to determine the functional state of selected components. (USAF)

Multiplexed System—A signal transmission system in which two or more signals share one transmission path. (USAF)

No-Lone Zone—An area where the Two-Person Concept must be enforced because it contains a nuclear weapon, nuclear weapon system, or certified critical component. (USAF)

Noncombat Delivery Vehicle—Any vehicle, other than combat vehicles, used to move nuclear weapons. (USAF)

Nonsensitive Task—Any Nuclear Safety Cross-Check Analysis (NSCCA) activity in which no opportunity exists for an individual to affect the outcome of the NSCCA, or where a subsequent review or analysis exists that would reveal any act of omission or commission affecting the NSCCA outcome. (USAF)

Nonspecialized Equipment—Equipment used with nuclear weapons but not specifically designed for that purpose. (USAF)

Normal Environment—The expected logistical and operational environments defined in the stockpile-to-target sequence document that the nuclear weapon system is required to survive without degrading operational reliability. (USAF)

Nuclear Cargo—A nuclear weapon or nuclear component (except limited life components) prepared for nuclear logistics movement. (USAF)

Nuclear Command and Control System—Hardware, software, and firmware components required for proper authorization-to-launch sequence. (USAF)

Nuclear Component—Weapon component composed of fissionable or fusionable materials that contribute substantially to nuclear energy released during detonation. (USAF)

Nuclear Consent Function—A function implemented by a deliberate act that provides two-person control over the release system unlock and nuclear weapon prearm functions. (USAF)

Nuclear Cross-Check Identified Software—Includes all first-level interface software and certain second-level interface software identified by HQ AFSC/SEW (the Nuclear Weapon System Safety Group may recommend software) as cross-check identified software. (USAF)

Nuclear Logistic Movement—The transport of nuclear weapons in connection with supply or maintenance operations. Under certain specified conditions, combat aircraft may be used for such movements. (JP 1-02)

Nuclear Operating Command—The major command responsible for operating, maintaining, and providing security for the nuclear weapon system. (USAF)

Nuclear Safety-Certified Procedures—Procedures approved for use with nuclear weapons, nuclear safety-certified equipment, or nuclear weapon systems and published in Air Force technical orders or technical publications. (USAF)

Nuclear Safety Certified Software—Software that has received nuclear safety design certification by HQ AFSC/SEW. (USAF)

Nuclear Safety Criteria—Design and evaluation criteria for ensuring nuclear safety is a basic system engineering and procedural requirement in nuclear weapon and logistics systems. (USAF)

Nuclear Safety Cross-Check Analysis—An analysis by an organization that is independent of the software developer to ensure critical software does not contain improper design, programming, fabrication, or application that could contribute to:

Unauthorized or inadvertent authorization, prearming, arming, or launching or releasing of a nuclear weapon or nuclear weapon system. (USAF)

Premature or unsafe operation of a nuclear weapon system. (USAF)

Delivery of a nuclear weapon outside the specified boundary of the planned target. (USAF)

Unauthorized, improper, or erroneous display of status or classified information that could degrade nuclear surety. (USAF)

Improper handling of classified cryptographic codes, invalid verification, or the retrieval of such codes by unauthorized persons in a manner that could degrade nuclear surety. (USAF)

Nuclear Safety Design Certification—A determination by HQ AFSC/SEW that all applicable nuclear safety criteria for a given hardware or software design have been met and the design is authorized for use with nuclear weapons. Also referred to as "nuclear safety certification" or "design certification." (USAF)

Nuclear Safety Discrepancy Report—A discrepancy report that references the program material or output in which the discrepancy was detected and provides a detailed description of the problem with reference to the nuclear safety objective violated. (USAF)

Nuclear Surety Impact Statement—A description and evaluation of the potential nuclear surety impact a proposed modification or test program may have on an assembled weapon system or its subsystems. (USAF)

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. (JP 1-02)

Nuclear Weapon System—A combat delivery vehicle with its nuclear weapon or weapons and associated support equipment, noncombat delivery vehicles, facilities, and services. (USAF)

Nuclear Weapon System Safety Group—The NWSSG is composed of representatives from applicable Air Force major commands, Combatant Commands, Air Force Security Forces Center, Department of Energy, and Defense Threat Reduction Agency and is chaired by an appointee from HQ AFSC/SEW. It conducts all nuclear weapon system safety studies and operational safety reviews to evaluate Air Force nuclear weapon systems and ensure the DoD Nuclear Weapon System Safety Standards are met in weapon system design and operations. (USAF)

Nuclear Weapon System Safety Rules—Secretary of Defense-approved procedural safeguards governing all operations with nuclear weapons or nuclear weapon systems. (USAF)

Nuclear Weapons Surety—Materiel, personnel, and procedures which contribute to the security, safety, and reliability of nuclear weapons and to the assurance that there will be no nuclear weapon accidents, incidents, unauthorized weapon detonations, or degradation in performance at the target. (DoD)

Operational Certification—The process of verifying a system or critical component is functioning as design certified and all credible threats and scenarios are mitigated. (USAF)

Operational Decertification—Action by proper authority to remove a system or component from operational use. (USAF)

Operational Plan Data Document—A document that describes normal nuclear weapon system operations in the stockpile-to-target sequence during peacetime and periods of increased tension. The OPDD serves as a source document for the nuclear weapon system safety rules. (USAF)

Opportunity The time and physical proximity needed to tamper with or damage a nuclear weapon, nuclear weapon system, or certified critical component. (USAF)

Permissive Action Link—A family of devices and subsystems designed to reduce the possibility of obtaining nuclear detonation from a nuclear warhead without the use (insertion) of a controlled numerical code. (DoD)

Personal Dosimeter—A device used to monitor the ionizing radiation exposure of an individual. (USAF)

Physical Isolation—The physical separation of wiring, parts, modules, assemblies, and similar items to

preclude physical contact or interaction so as to prevent common malfunctions and activation of critical functions in all environments. (USAF)

Positive Measure—A design feature, procedure, safety rule, or accident prevention or mitigation measure that works to reduce the likelihood, severity, or consequence of an accidental or deliberate threat involving a nuclear weapon or nuclear weapon system. An example of a specific positive measure would be a permissive action link designed to prohibit the arming of the weapon, except when properly authorized. An example of a general positive measure would be the presence of a certified firefighting capability at an operational air base. (USAF)

Prearm Command Signal—A signal to the weapon that the personnel controlling the weapon want it to function and produce a nuclear detonation. (USAF)

Prearming—Operations that configure a nuclear weapon system so that arming, firing, launching, or releasing will start the sequence necessary to produce a nuclear detonation. (DoD)

Prime Nuclear Airlift Force—Those aircrews, aircraft, and other functions provided for peacetime support of logistical airlift of nuclear weapons and nuclear components. (USAF)

Radiation Safety Officer—The functional title assigned to an individual designated by the commander to manage a radiation safety program and provide advice on the hazards associated with radiation and the effectiveness of measures to control these hazards. The following functional titles are not intended to denote either a commissioned status or a job classification within the Air Force:

Base RSO—A person designated by the installation commander to conduct the base-wide radiation safety program and assist the unit RSO in maintaining a comprehensive radiation safety program. This individual will usually be the base bioenvironmental engineer or health physicist, if assigned, but may be a senior bioenvironmental engineering technician. (USAF)

Unit RSO —A person designated by the unit commander to act as the single focal point for unit radiation safety matters and coordinate radiation protection activities with the base RSO. Each operational unit that maintains or stores nuclear weapons must have a unit RSO. (USAF)

Radioactive Material—Any material or combination of materials that spontaneously emit alpha, beta, gamma, X-ray, or neutron radiation. (USAF)

Release—In air armament, release is the intentional separation of a free-fall aircraft store from its suspension equipment for purposes of employment of the store. (JP 1-02)

Separation of a missile from a carrier aircraft with the intended result being programmed flight to target. (USAF)

Reliability —The ability of a system and system parts to perform their mission without failure, degradation, or demand on the support system. (USAF)

Reversion—The process or event of returning to the original state, phase, or condition. (USAF)

Safe and Arm Device—A device that provides electrical and mechanical interruption of the firing circuits or mechanical interruption between the initiator and the subsequent explosive or pyrotechnic train. (USAF)

Safe Haven—Designated areas to which noncombatants of the US Government's responsibility, and commercial vehicles and materiel, may be evacuated during a domestic or other valid emergency. (JP 1-02)

Temporary storage provided Department of Energy classified shipment transporters at Department of Defense facilities in order to ensure safety and security of nuclear material and nonnuclear classified material. Also includes parking for commercial vehicles containing Class A or Class B explosives. (JP 1-02)

Scrolling—In a multifunction control and display system, the replacement of the active nuclear weapon system function with a nonnuclear function. (USAF)

Second-Level Interface Software—Software that may interact with first-level interface software but does not control any critical functions of a nuclear weapon system. (USAF)

Security (Internal)—Design features internal to the nuclear weapon system or nuclear weapon that prevent unauthorized use (i.e., use control). (USAF)

Security (Physical)—The part of security concerned with physical measures designed to safeguard personnel; to prevent unauthorized access to equipment, installations, material and documents; and to safeguard them against espionage, sabotage, damage, and theft. (DoD)

Sensitive Task—Nuclear Safety Cross-Check Analysis activity in which an individual could cause or allow unauthorized programming to be introduced into a nuclear weapon system. (USAF)

Significant Nuclear Yield—The energy released through nuclear fission or fusion that is equivalent to or greater than the energy released by detonation of four pounds of TNT. (USAF)

Software—A set of computer programs, procedures, and associated documentation concerned with the operation of a data processing system; e.g., compilers, library routines, manuals, and circuit diagrams. (JP 1-02)

Software Advisory Group—A forum of interested parties to discuss the software nuclear safety design certification effort and provide a consensus of resolutions on nuclear safety concerns. (USAF)

Specialized Equipment—Equipment designed specifically for use with nuclear weapons. (USAF)

Split-Handling—A stringent procedure used to maintain a launch function separation that was intentionally designed into two or more different critical components. This procedure prevents a single individual or Two-Person Concept team from having access to the entire launch function. (USAF)

Split-Knowledge—The separation of information contained in the complete certified critical component so an individual or Two-Person Concept team is denied knowledge of the total information. (USAF)

Static Load—A load imposed during normal operations (in normal environments) in a static state. (USAF)

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. (JP 1-02)

A document that defines the logistical 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 logistical 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. (JP 1-02)

Stores Management System—The portion of the aircraft system that provides weapon control, release, and monitor functions. (USAF)

Support Equipment—Includes all equipment required to perform the support function, except that

which is an integral part of the mission equipment. It does not include any of the equipment required to perform mission operation functions. Support equipment should be interpreted as tools; test equipment; automatic test equipment (when used in a support function); organizational, field, and depot support equipment; and related computer programs and software. (USAF)

Tamper—To knowingly perform an incorrect act or unauthorized procedure involving a nuclear weapon, nuclear weapon system, or certified critical component. (USAF)

Tamper Detection Indicators—A sealing method that provides evidence in the event a critical component has been tampered with or inadvertently activated. (USAF)

Targeting—Operations that involve identifying specific target sets, transferring target data to a guidance computer, and following the programmed flight path to the specified target. (USAF)

Technical Nuclear Safety Analysis—An independent technical analysis of a nuclear weapon system and its associated operational procedures. The TNSA provides the Nuclear Weapon System Safety Group with an independent opinion as to whether the weapon system's design safety and security features, in conjunction with its operational procedures, satisfy the DoD Nuclear Weapon System Safety Standards. (USAF)

Third-Party Agent—Any individual who does not meet the criteria of a cognizant agent. (USAF)

Time-Division Multiplexing—The transmission of information from several signal channels through one communication system with different channel samples staggered in time to form a composite pulse train. (USAF)

Two-Person Concept—Designed to ensure that a lone individual is denied access to nuclear weapons, nuclear weapon systems or critical components, never allowing the opportunity for tampering, damage or an unauthorized act to go undetected. The Two-Person concept requires the presence at all times of at least two authorized persons, each certified under the Personnel Reliability Program (PRP), 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. Both members must have completed annual nuclear surety and PRP training. ***NOTE:*** Also known as Two-Person Rule. (JP 1-02)

Unauthorized Launch—A deliberate unauthorized act that causes any movement (resulting from the direct impulse of a propulsion subsystem) of a nuclear weapon mated to a missile. The UL categories are:

Type 0 Launch—Ignition of a propulsive stage or engine that results in missile movement but without the missile exiting the launch platform due to physical restraints. (USAF)

Type 1 Launch—Ignition of a propulsive stage or engine that results in missile launch from the launch platform but with an inactive guidance system. (USAF)

Type 2 Launch—Missile launch with an active guidance system that results in powered flight to a preprogrammed target but without a nuclear yield. (USAF)

Type 3 Launch—Missile launch with an active guidance system that results in powered flight to a preprogrammed target with a nuclear yield. (USAF)

Unauthorized Launch Report—A documented analysis of a nuclear weapon system's susceptibility to unauthorized launch. (USAF)

Unauthorized Launch Scenario—A complete account of how an unauthorized launch can be achieved

by using specific launch action threats. The scenario may include one or more launch action threats. It will describe the procedures the agent needs to follow; the tools needed for each step of the procedure; and the normal operating conditions that must be overcome. (USAF)

Unique Signal—A digital or analog signal that operates only one specific and corresponding critical function by allowing the receiver to discriminate this signal from all other signals in the nuclear weapon system and from those signals that may be generated accidentally or applied from outside the nuclear weapon system. (USAF)

Use Control—The control of unauthorized use or detonation of a nuclear weapon. Includes passive and active protection, and disablement systems.

Volatile Memory—A storage medium that loses information when power is removed from the system. (USAF)

Weapons Safety Manager—An individual who manages a base, wing, or equivalent safety program consisting of explosives safety, missile safety, nuclear surety, or any combination of these. (USAF)

Attachment 2

NUCLEAR SURETY AUGMENTATION PROGRAM

A2.1. Purpose and Scope. HQ AFSC/SEW provides assistance to the MAJCOM/SE on request. AFSC personnel may augment MAJCOM inspections, staff assistance efforts, or special interest evaluations relating to nuclear surety at any level within the command.

A2.2. Coordination. The MAJCOM safety office will forward requests to HQ AFSC/SEW. Include a proposed schedule and locations to be visited. HQ AFSC/SEW will respond with the level of support that can be provided and proposed team composition. The MAJCOM is responsible for making any other required notifications.

Attachment 3

ENTIRE TEXT OF IC 2000-1

SUMMARY OF REVISIONS

This change deletes paragraph 2.4.9., and clarifies the review requirements in paragraph 2.11.14.

2.4.9. Delete

2.11.14. Review all locally developed checklists, instructions, operating procedures, and plans that impact nuclear surety. For locally developed workcards, checklists, job guides and page supplements for nuclear munitions follow guidance in T.O. 00-5-1.