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HEADQUARTERS UNITED STATES AIR FORCE
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MEMORANDUM FOR DISTRIBUTION C
MAJCOMs/FOAs/DRUs

FROM: HQ USAF/SE
1400 Air Force Pentagon
Washington DC 20330-1400

SUBJECT: Air Force Guidance Memorandum to AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews and Safety Rules*

By Order of the Secretary of the Air Force, this is an Air Force Guidance Memorandum (AFGM) immediately implementing changes to AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews and Safety Rules*. Compliance with this Memorandum is mandatory. To the extent its directions are inconsistent with other publications, the information herein prevails in accordance with DAFI 90-160, *Publications and Forms Management*. This publication does not apply to the United States Space Force.

This memorandum becomes void after one-year has elapsed from the date of this memorandum, or upon publication of an Interim Change or rewrite of the affected publication, whichever is earlier.

JEANNIE M. LEAVITT
Major General, USAF
Chief of Safety

Attachment
Guidance Change

Attachment Guidance Change

The changes below to AFI 91-102_AFGM2021-01, dated 18 August 2021, are effective immediately.

3.2.6.2. **(Changed to read)** Project Officer: Officer from AFSEC/SEWN who provides working draft documents for voting member consideration and other support as determined by the Nuclear Weapon System Surety Group (NWSSG) Chair and Executive Officer. The Project Officer also serves as the lead for Periodic System Reviews, in coordination with AFNWC and weapon system Program Offices. The Project Officer does not vote.

5.1 (Changed to read) Types of Studies and Reviews. The AFSEC/SEW must conduct, at a minimum, the types of studies and reviews specified in DoDM 3150.02. DoDM 3150.02 also specifies the minimum review requirements for the Nuclear Weapons System Surety Group. **(T-0)** The Nuclear Weapon System Surety Group Chair determines the scope of studies, schedules Operational Safety Reviews (OSR) and Periodic System Reviews, and determines the need for Initial, Preliminary, Interim, Preoperational or Special Safety Studies. **Figure A2.1 (Attachment 2)** illustrates the recommended Acquisition Phase for each Safety Study.

5.7. (Added) Periodic System Reviews.

5.7.1. **(Added)** Purpose: Periodic System Reviews document progress made between Safety Studies, receive updates on remaining open action items, and issue guidance to correct deficiencies.

5.7.2. **(Added)** Timing: Periodic System Reviews are conducted by the NWSSG Project Officer in coordination with an acquisition program and AFNWC on a quarterly basis, as needed.

5.7.3. **(Added)** Scope: Periodic System Reviews look at the whole system or a targeted portion of the system to document progress made since the last review, any open items and guidance issued to correct deficiencies identified. These reviews are not performed by the NWSSG, but by the NWSSG Project Officer in coordination with AFNWC personnel, and acquisition program action officers.

5.7.4. **(Added)** Reports: The results of the Periodic System Review will be briefed to the NWSSG Chair by the NWSSG Project Officer at the conclusion of the review. The results will then be published in a report or minutes format that can be presented to the NWSSG by the NWSSG Chair at any of their studies.

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

AIR FORCE INSTRUCTION 91-102

22 MAY 2019



**NUCLEAR WEAPON SYSTEM SAFETY
STUDIES, OPERATIONAL SAFETY
REVIEWS AND SAFETY RULES**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at www.e-Publishing.af.mil for downloading or ordering.

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This instruction implements Air Force Policy Directive (AFPD) 91-1, Nuclear Weapons and Systems Surety, and is consistent with AFPD 13-5, Air Force Nuclear Mission. It describes the functions, composition, and membership qualification requirements of the United States Air Force Nuclear Weapon System Surety Group; defines the procedures for conducting safety studies and operational safety reviews; outlines the development, approval, and publication process for Nuclear Weapon System Surety Group Reports and Weapon System Safety Rules (WSSRs); and outlines the responsibilities of participating organizations. This Directive applies to all Regular Air Force, Air National Guard of the United States, Air Force Reserve, Department of the Air Force civilian personnel, and contractors, if included in the applicable contract, tasked with the responsibility to ensure nuclear weapon system surety. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual 33-363, Management of Records, and disposed of in accordance with the Air Force Records Disposition Schedule located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, Recommendation for Change of Publication; route AF Form 847 from the field through the appropriate functional's chain of command. Send major command (MAJCOM) supplements to this Instruction to the Air Force Safety Center at AFSEC/SEW, 9700 G Avenue, Kirtland AFB NM 87117-5670 for review/coordination prior to certification and approval. 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 Air Force Instruction (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 requestor's commander for non-tiered compliance items.

SUMMARY OF CHANGES

This document is substantially revised and needs to be completely reviewed. This revision includes adding the purpose, timing and scope for safety studies. Administrative changes were made throughout.

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Chapter 1

GENERAL INFORMATION

1.1. Terms and Definitions. The terms used in this Instruction are defined in AFI 91-101, *Air Force Nuclear Weapons Surety Program*.

1.2. Department of Defense (DoD) Surety Standards. DoD Directive (DoDD) 3150.02, *DoD Nuclear Weapons Surety Program*, assigns responsibilities for DoD Nuclear Weapons Surety for the oversight of safety, security, and control of United States nuclear weapons and nuclear weapon systems in DoD custody. The DoD Nuclear Weapon System Surety Standards provide positive measures to:

1.2.1. Prevent nuclear weapons involved in accidents or incidents, or jettisoned weapons, from producing a nuclear yield.

1.2.2. Prevent deliberate pre-arming, arming, launching, or releasing of nuclear weapons, except upon execution of emergency war orders or when directed by competent authority.

1.2.3. Prevent inadvertent pre-arming, arming, launching, or releasing of nuclear weapons in all normal and credible abnormal environments.

1.2.4. Ensure adequate security of nuclear weapons, as governed by DoDD 5210.41, *Security Policy for Protecting Nuclear Weapons*.

1.3. Air Force Goals and Requirements.

1.3.1. This instruction codifies the process whereby the Air Force implements DoD Manual (DoDM) 3150.02, *DoD Nuclear Weapon System Safety Program Manual*. The Air Force ensures adherence to safety standards by:

1.3.1.1. Convening the Nuclear Weapon System Surety Group to evaluate nuclear weapon systems.

1.3.1.2. Proposing nuclear WSSRs for Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) approval.

1.3.2. Operational units shall:

1.3.2.1. Not perform any nuclear operations without USD(A&S) approved safety rules. **(T-0)**.

1.3.2.2. Use only equipment, software, facilities, and procedures certified according to AFI 63-125, *Nuclear Certification Program*, and AFI 91-103, *Air Force Nuclear Safety Design Certification Program*. **(T-0)**.

1.3.2.3. Conduct operations with war reserve nuclear weapons according to certified procedures and when authorized by the appropriate level of authority (for exercises, typically the Combatant Commander). **(T-0)**.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Secretary of the Air Force. Per Headquarters Air Force (HAF) Mission Directive (MD) 1-46, *Chief of Safety*, the Secretary of the Air Force delegates to the Chief of Safety authority to formulate safety and surety policy for all nuclear weapons systems for which the Secretary of the Air Force has DoD life-cycle management responsibility.

2.2. Air Force Chief of Safety (AF/SE).

- 2.2.1. Oversees the Air Force Nuclear Weapons Surety Program.
- 2.2.2. Manages the safety evaluation process.
- 2.2.3. Appoints the Nuclear Weapon System Surety Group Chair.
- 2.2.4. Approves the Air Force Nuclear Weapon System Surety Group Report.
- 2.2.5. Approves the Air Force Safety Rules Packages.
- 2.2.6. Resolves disagreements between Nuclear Weapon System Surety Group and HAF.
- 2.2.7. Signs and publishes as an AFI, the USD(A&S) approved WSSRs.

2.3. Deputy Chief of Staff, Strategic Deterrence and Nuclear Integration (AF/A10).

- 2.3.1. Approves or disapproves the Operational Plan Data Documents after consulting with appropriate HAF offices.
- 2.3.2. Designates a Nuclear Weapon System Surety Group voting member to represent AF/A10 interest during studies as determined by the Nuclear Weapon System Surety Group Chair.

2.4. Air Force Director of Security Forces (AF/A4S).

- 2.4.1. Oversees the Air Force Nuclear Weapons Security Program per DoD S 5210.41-M_AFMAN 31-108 V1-S, *Nuclear Weapon Security Manual*.
- 2.4.2. Designates a Nuclear Weapon System Surety Group voting member to represent Directorate of Security Forces (AF/A4S) interest during studies as determined by the Nuclear Weapon System Surety Group Chair.

2.5. Air Force Safety Center (AFSEC) Chief of Weapons Safety (AFSEC/SEW).

- 2.5.1. Serves as the Nuclear Weapon System Surety Group Chair and represents Nuclear Weapon System Surety Group interests when the group is not convened.
- 2.5.2. Provides Nuclear Weapon System Surety Group Executive Support Staff.
 - 2.5.2.1. Serves as the point of contact for Nuclear Weapon System Surety Group members regarding the timing and conduct of the scheduled studies and reviews.
 - 2.5.2.2. Schedules Nuclear Weapon System Surety Group evaluations and coordinates support with appropriate agencies, and publishes a semiannual Nuclear Weapon System Surety Group schedule and a five-year forecast annually.

2.5.2.3. Prepares and distributes the Air Force Data Package to Nuclear Weapon System Surety Group voting members.

2.5.2.4. Prepares the Nuclear Weapon System Surety Group Report for Nuclear Weapon System Surety Group review and signature prior to adjournment of Phase III of the study or review.

2.5.2.5. Identifies, as necessary through an in-house health physicist, potential Surgeon General/Medical issues.

2.5.2.6. Manages and tracks the status of the Nuclear Weapon System Surety Group Report, Air Force Nuclear Weapons System Surety Report, and Safety Rules Package. (**Note:** The Nuclear Weapon System Surety Group Report and the Air Force Nuclear Weapons System Surety Report are separate and distinct documents.).

2.5.2.7. Reviews weapon system modifications, changes in operational procedures, or proposed tests to determine if nuclear surety is affected.

2.5.3. Serves as the Air Force focal point for Department of Energy (DOE) field reviews of nuclear WSSRs.

2.5.4. Assigns an Air Force member to nuclear surety studies or operational safety reviews conducted by other military services if the Air Force also uses the weapon system under evaluation.

2.6. MAJCOM Commanders.

2.6.1. Ensure that MAJCOM-developed procedures comply with approved nuclear WSSRs and follow Air Force-approved operational and technical procedures.

2.6.2. Evaluate proposed modifications, procedural changes, tests, or other activities involving nuclear weapon systems and coordinates appropriate nuclear certification with Air Force Nuclear Weapons Center (AFNWC).

2.6.3. Review or revises the MAJCOM's Operational Plan Data Document and Concept of Operations; additionally requests a Special Safety Study when appropriate.

2.6.4. Coordinate the "Need Date" the safety rules are required with the Nuclear Weapon System Surety Group Executive Support Staff to facilitate Nuclear Weapon System Surety Group scheduling.

2.6.5. Designate an individual to serve as a Nuclear Weapon System Surety Group member consistent with guidance in this Instruction.

2.6.6. Provide AFNWC the technical support and data needed to prepare the Technical Nuclear Safety Analysis.

2.6.7. Provide required support to the Nuclear Weapon System Surety Group Executive Support Staff and the MAJCOM's Nuclear Weapon System Surety Group voting member.

2.6.8. Host and arrange Nuclear Weapon System Surety Group field demonstrations to MAJCOM facilities and supports Nuclear Weapon System Surety Group Executive Support Staff on DOE field reviews.

2.6.9. Implement recommendations included in the approved Air Force Nuclear Weapons System Surety Report.

Chapter 3

NUCLEAR WEAPON SYSTEM SURETY GROUP FUNCTIONS AND COMPOSITION

3.1. Functions.

3.1.1. Reviews nuclear weapon system designs and operations, including the Operational Plan Data Document and Concept of Operations (CONOPS) to determine if they meet the DoD Nuclear Weapon System Surety Standards in accordance with DoDD 3150.02. (**Note:** A Nuclear Weapon System Surety Group Study/Review is part of the overall nuclear certification process and includes review/ recommendation of hardware and software items for nuclear critical component status; however, it does not constitute nuclear safety design certification of nuclear hardware, software, facilities, or procedures studied by the Nuclear Weapon System Surety Group. Reference AFI 91-103 for details regarding the Air Force Nuclear Safety Design Certification Program.

3.1.2. Conducts safety studies and reviews as scheduled by the Nuclear Weapon System Surety Group Chair.

3.1.3. Proposes new WSSRs and recommends changes to existing USD(A&S)-approved WSSRs to maximize nuclear weapon system surety commensurate with operational requirements.

3.1.4. Convenes and remains in session until the Nuclear Weapon System Surety Group Report for the weapons system under review is approved by the voting members.

3.1.5. Reviews Unauthorized Launch Studies prepared for the weapon system under study, if applicable. Considers recommended corrective actions and ways to mitigate credible unauthorized launch scenarios.

3.2. Composition.

3.2.1. MAJCOMs and agencies appointing permanent members may select a voting member from any organization within their agency in order to best represent their needs. However, the voting member appointed should be a permanent representative of the MAJCOM/agency for all applicable Nuclear Weapon System Surety Group proceedings.

3.2.2. Permanent Voting Membership:

3.2.2.1. Attending members must be authorized to speak on behalf of their agency, vote and sign Nuclear Weapon System Surety Group reports (**T-1**).

3.2.2.2. Chair from AFSEC/ SEW (votes only to break a tie).

3.2.2.3. Agencies appoint permanent members to serve in the Nuclear Weapon System Surety Group.

3.2.2.4. One member each from each of the following organizations: Air Force Materiel Command; AF Global Strike Command; Defense Threat Reduction Agency; DOE; Directorate of Security Forces (AF/A4S); and AF/A10.

3.2.3. Additional Voting Membership:

3.2.3.1. One member from each of the following organizations: Air Mobility Command, Air Combat Command, European Command, United States Air Forces Europe, Supreme Headquarters Allied Powers Europe, United States Strategic Command, United States Navy and the National Security Agency when the group address topics in their organization's area of responsibility.

3.2.3.2. A member(s) from another Air Force organization or other military service operating or maintaining the weapon system under study or review.

3.2.3.3. The Chair identifies or approves the additional voting members needed for each study/review.

3.2.4. Voting by Proxy. Voting members arrange for a proxy anytime they are unable to attend a Nuclear Weapon System Surety Group study. Proxy members are authorized to speak on behalf of the agency they represent, vote and sign Nuclear Weapon System Surety Group reports.

3.2.4.1. If a voting member is unable to attend a study/review due to an unexpected circumstance, they may proxy their vote to an existing voting member with approval from the appointing agency and Nuclear Weapon System Surety Group Chair.

3.2.4.2. If a voting member is unable to attend a study/review due to another commitment that cannot be rescheduled, the appointing agency may proxy their vote to an existing voting member or designate a replacement voting member to act as their proxy. If they choose to designate a replacement voting member, the appointing agency submits a memorandum designating the replacement voting member to the Nuclear Weapon System Surety Group Chair no later than 30 calendar days prior to the start of a study.

3.2.5. Non-voting Technical Advisors. Engineers, technical experts, and contractors may attend any phase of the Nuclear Weapon System Surety Group study or review when requested by the Chair, the Nuclear Weapon System Surety Group Executive Officer, or a voting member. The Chair limits how many technical advisors attend Phase II demonstrations. Limitations are identified as early as possible.

3.2.6. Nuclear Weapon System Surety Group Support Staff. The support staff includes the Nuclear Weapon System Surety Group Executive Officer and project officers.

3.2.6.1. Executive Officer: Officer from AFSEC/SEWN who provides administrative support to the Nuclear Weapon System Surety Group. The Executive Officer does not vote.

3.2.6.2. Project Officer: Officer from AFSEC/SEWN who provides working draft documents for voting member consideration and other support as determined by the Nuclear Weapon System Surety Group Chair and Executive Officer. The Project Officer does not vote.

Chapter 4

QUALIFICATIONS AND DUTIES OF NUCLEAR WEAPON SYSTEM SURETY GROUP MEMBERS

4.1. Nuclear Weapon System Surety Group Voting Member General Qualifications.

4.1.1. Subject to the exception below, DoD military and DoD civilian members must be a minimum grade O-5 or civilian equivalent. (**Note:** DOE and other non-DoD agencies appoint voting members who meet this qualification as closely as possible). (**T-1**).

4.1.1.1. Organizations unable to provide a voting member meeting grade qualifications must submit a waiver stating the inability to meet grade qualifications and provide the stand-in member's experience level in memorandum format. The memorandum identifies the reason why the organization cannot send someone who meets the grade requirements. The Nuclear Weapon System Surety Group Chair is the waiver approval authority. (**T-1**).

4.1.1.2. Waivers will not be accepted for grades less than O-4, GS-13 or equivalent.

4.1.1.3. If an organization has a member that meets the requirements but chooses to send someone who does not, they must submit a waiver request for each event that member will be attending. (**T-1**).

4.1.1.4. If an organization does not have a member of sufficient grade to fulfill this requirement, they submit a one time, permanent waiver. Once they have a member that meets grade requirements, they send that member or submit a waiver.

4.1.2. Military and civilian members must have extensive operational or technical expertise with nuclear weapons or nuclear weapon systems to include experience or training in evaluation techniques applicable to the DoD Nuclear Weapon System Surety Standards. (**T-0**).

4.1.3. Military and civilian members must be knowledgeable of nuclear safety policies and procedures. (**T-1**).

4.1.4. Military and civilian members must have no direct responsibility for designing, developing, or producing the nuclear weapon system being reviewed. (**T-0**).

4.2. Voting Member Responsibilities. With regard to issues before the Nuclear Weapon System Surety Group, Air Force MAJCOM members represent the interests of their MAJCOMs and individual agencies but need to be consistent to Air Force policies. Other members represent the perspective of their individual agencies. To make sure Nuclear Weapon System Surety Group responsibilities are carried out, individual voting members:

4.2.1. Evaluate whether nuclear weapon systems for which the Air Force has responsibility meet the four DoD Nuclear Weapon System Surety Standards. Beyond this requirement, the members also strive to gain maximum nuclear surety consistent with operational requirements.

4.2.2. Independently formulate their judgements when assessing whether the nuclear weapon system under review meets the nuclear weapon system safety policies and standards.

4.2.3. Identify, analyze, and provide independent assessments of pertinent nuclear weapon system safety-related information and operations.

4.2.4. Have full understanding of their agency's plans and responsibilities for the nuclear weapon system being reviewed and be able to convey to the Nuclear Weapon System Surety Group the unique operational requirements and responsibilities of their organization.

4.2.5. Are the focal point for exchanging information between their agencies and the Nuclear Weapon System Surety Group.

4.2.6. Act as representatives for their agencies in setting up Nuclear Weapon System Surety Group field trips and briefings in support of safety studies and operational safety reviews.

4.2.7. Prepare for all safety studies and operational safety reviews by reviewing background material (Technical Nuclear Safety Analysis, Operational Plan Data Document and other documents) before the meetings.

4.2.8. Attend all Nuclear Weapon System Surety Group study/review phases, actively and knowledgeably participate in Nuclear Weapon System Surety Group studies and reviews, vote during Nuclear Weapon System Surety Group meetings, and sign the Nuclear Weapon System Surety Group report. If an agency sends a representative that is not authorized to vote/sign the report during the Nuclear Weapon System Surety Group, the agency forfeits their vote. Member(s) with a minority view must inform the Nuclear Weapon System Surety Group Chair of a minority opinion before the Nuclear Weapon System Surety Group study or review is concluded. **(T-1)**. Members submit signed minority opinions to the Nuclear Weapon System Surety Group Executive Officer within five workdays after the study or review is concluded. This is the approved method for an agency to disagree with a Nuclear Weapon System Surety Group decision as opposed to providing critical comments during the staffing process.

4.2.9. Request advisory support from their agencies (to include essential contractor representatives) as required to support Nuclear Weapon System Surety Group activities.

4.2.10. Provide a list of their advisors, including contractor representatives, to the Nuclear Weapon System Surety Group Executive Officer not less than five working days before the Nuclear Weapon System Surety Group study or review commences. The list contains identification and security clearance information. Submit clearances via the Joint Personnel Adjudication System.

4.2.11. Participate in all scheduled Nuclear Weapon System Surety Group activities on a full-time basis.

4.2.12. Provide security clearance information to AFSEC/SEWN. The member updates their information annually or as required.

4.2.13. Implement, report status, and seek closure on HAF-approved recommendations.

4.3. Participation in Nuclear Weapon System Surety Group Proceedings. In addition to the voting members and supporting staff, specific advisors and certain visitors may participate in safety studies and operational safety reviews as follows:

4.3.1. Technical advisors: Technical advisors are representatives of headquarters, development, engineering, using, or support agencies (and their contractors) when requested by the Nuclear Weapon System Surety Group Chair, Executive Officer, or a voting member to advise and support the Nuclear Weapon System Surety Group.

4.3.1.1. Regularly attending technical advisors provide security clearance information to the Nuclear Weapon System Surety Group Executive Support Staff and update their information annually or as required.

4.3.1.2. Provide security clearance information for specially requested advisors to the Nuclear Weapon System Surety Group Executive Support Staff at least five working days prior to the requested date of visit to permit validation of security clearance information.

4.3.1.3. Technical advisors must have relevant technical knowledge of nuclear weapon systems or specific technical knowledge or operational experience with the design, development, production or operation of the nuclear weapon system. **(T-0)**.

4.3.1.4. Technical advisors must support the sponsoring member through expert contributions to briefings, discussions and deliberations concerning issues raised in Nuclear Weapon System Surety Group discussions. **(T-1)**.

4.3.2. All members submit security clearance verification documentation to the Nuclear Weapon System Surety Group Executive Support Staff at least five days prior to the start of the study or review.

4.4. Member Training. Nuclear Weapon System Surety Group members are encouraged to complete training on nuclear weapons provided by agencies such as Joint Service Nuclear Weapons School, Sandia National Laboratories, and DOE. Contact Nuclear Weapon System Surety Group Support Staff for a list of recommended courses and their availability.

4.5. Observer Participation. Visitors to Nuclear Weapon System Surety Group proceedings should be kept to a minimum. Observers coordinate their attendance with the voting member representing their agency prior to seeking approval from the Nuclear Weapon System Surety Group Chair or Executive Officer. The Chair or the Nuclear Weapon System Surety Group Executive Officer may also invite official observers from non-member agencies, if deemed necessary. Observers send telephone number (Defense Switched Network number, if available), mailing address, e-mail address and visit requests to AFSEC/SEW at least 30 days prior to the meeting.

4.5.1. For DoD personnel, send visit requests via Joint Personnel Adjudication System. Contact the Nuclear Weapon System Surety Group Executive Officer for additional information, as needed.

4.5.2. For non-DoD personnel, send visit requests via DOE Form 5631.20, *Request for Visit or Access Approval* (or similar organization-specific visit request), to AFSEC/SEW. Include the following information:

4.5.2.1. Full name and rank or civilian grade.

4.5.2.2. Organization.

4.5.2.3. Security clearance access level and any special access, such as North Atlantic Treaty Organization (NATO), Restricted Data, Formerly Restricted Data or Critical Nuclear Weapon Design Information.

4.5.2.4. Visit dates and specific Nuclear Weapon System Surety Group activities.

4.5.2.5. Justification for visit.

4.5.2.6. Telephone number (Defense Switched Network, if available) of the office that can verify the security clearance and special access.

4.5.3. Foreign Visitors shall provide visit requests through their Embassy to Air Force International Affairs (SAF/IAPD) and shall also provide the following information to the Nuclear Weapon System Surety Group Executive Support Staff. **(T-1)**:

4.5.3.1. Full name, rank or civilian grade.

4.5.3.2. Organization.

4.5.3.3. Security clearance access level and any special access, such as NATO or Cosmic Top Secret Atomal.

4.5.3.4. Justification for visit.

Chapter 5

SCHEDULING THE STUDY/REVIEW AND PROCESSING REPORTS

5.1. Types of Studies and Reviews. DoDM 3150.02 describes the types of studies and reviews the Air Force must conduct at a minimum, as well as provides the minimum requirements as to what will be reviewed by the Nuclear Weapons System Surety Group. (T-0). The Nuclear Weapon System Surety Group Chair determines the scope of studies, schedules Operational Safety Reviews (OSR), and determines the need for Initial, Preliminary, Interim, Preoperational or Special Safety Studies. Figure A2.1 (Attachment 2) illustrates the recommended Acquisition Phase for each Safety Study.

5.1.1. Initial Safety Study.

5.1.1.1. Purpose: The Initial Safety Study examines design features and aspects of the proposed CONOPS (if available) that will affect the safety of the nuclear weapon system. The Initial Safety Study addresses the safety themes and identifies safety-related concerns so that changes, if necessary, can be made to the nuclear weapon system in a timely and cost-efficient manner.

5.1.1.2. Timing: The need and timing for this study is determined by the Nuclear Weapon System Surety Group Chair and is coordinated with the MAJCOM and Program Office. The Initial Safety Study is typically conducted during the Technology Maturation and Risk Reduction phase of the acquisition process, when the design concept is firm and the Capability Development Document and System Requirements Documents are complete. It is usually near Milestone B.

5.1.1.3. Scope: The Initial Safety Study consists of an evaluation of the design concept to give as much nuclear surety guidance to the developer as early in the development cycle as possible. A site visit may be included in this phase of the study (at the discretion of the Nuclear Weapon System Surety Group Executive Support Staff) to allow the Nuclear Weapon System Surety Group to examine available prototype hardware. The developer provides detailed briefings on the design concept. The Nuclear Weapon System Surety Group Chair, through Air Force Nuclear Weapons Center's Nuclear Technology and Interagency Directorate (AFNWC/NTS), provides a preliminary Technical Nuclear Safety Analysis based on available data to support the Nuclear Weapon System Surety Group study. These Nuclear Weapon System Surety Group recommendations do not require Air Force Staff approval.

5.2. Preliminary Safety Study.

5.2.1. Purpose: The Preliminary Safety Study examines design features, hardware, software, firmware, procedures, and aspects of the CONOPS that affect the safety of the nuclear weapon system. It identifies safety related concerns and deficiencies in the nuclear weapon and nuclear weapon system so that corrections may be made in a timely and cost-efficient manner.

5.2.2. Timing: The need and timing for this study is determined by the Nuclear Weapon System Surety Group Chair and is coordinated with the MAJCOM and Program Office. In the acquisition timeline, the Preliminary Safety Study is conducted during the Engineering, Manufacturing and Development (EMD) phase when the system design is ready for a critical design review, but before it actually occurs.

5.2.3. Scope: This Preliminary Safety Study evaluates the system design and operational concept. A site visit is included in this phase of the study to allow the Nuclear Weapon System Surety Group to examine available hardware (whether preproduction or final design). The developer provides detailed briefings on the actual design. The using command prepares a preliminary Operational Plan Data Document and gives a briefing on the concepts and procedures addressed in the Operational Data Plan Document. The Nuclear Weapon System Surety Group Chair, through AFNWC/NTS, provides a Preliminary Technical Nuclear Safety Analysis based on available data to support the Nuclear Weapon System Surety Group study. Nuclear Weapon System Surety Group recommendations are documented in a report and forwarded for Air Staff approval.

5.3. Interim Safety Study.

5.3.1. Purpose: The Interim Safety Study reviews any changes to the design features, hardware, procedures and aspects of the CONOPS since the Preliminary Safety Study that affect the safety of the nuclear weapon system to determine if the DoD nuclear weapon system surety standards are attainable.

5.3.2. Timing: The need and timing for this study is determined by the Nuclear Weapon System Surety Group Chair and is coordinated with the MAJCOM and Program Office. During the acquisition process, the Interim Safety Study is typically conducted during Engineering, Manufacturing and Development phase around the time of the Production Readiness Review.

5.3.3. Scope: The Interim Safety Study identifies safety-related concerns and deficiencies in the nuclear weapon and nuclear weapon system, so that corrections may be made early in the development process in a timely and cost-efficient manner. If required, the Nuclear Weapon System Surety Group Chair through AFNWC/NTS, provides an updated Technical Nuclear Safety Analysis.

5.4. Pre-Operational Safety Study.

5.4.1. Purpose: A Pre-Operational Safety Study is conducted for two purposes: first, to determine if the nuclear weapon system design safety features, security features, and operational procedures comply with the DoD Nuclear Weapon System Surety Standards; secondly, to prepare proposed new nuclear WSSRs for the new nuclear weapon system.

5.4.2. Timing: The study is scheduled for completion approximately 225 days before the approved rules need date of the new nuclear weapons system. The MAJCOM provides the approved rules need date in writing to the Nuclear Weapon System Surety Group Executive Support Staff at least 12 months in advance of the need date to permit timely scheduling of the study and to accomplish preparatory actions. In some cases, the Nuclear Weapon System Surety Group schedules a preoperational safety study based on information from other sources, such as the operational MAJCOM or system program office. The Preoperational Safety Study is typically conducted during the Production and Deployment phase of the acquisition process, and usually lines up prior to Low Rate Initial Production.

5.4.3. Scope: The Nuclear Weapon System Surety Group evaluates the adequacy of the design safety and security features of the nuclear weapon system during all operations in the stockpile-to-target sequence to ensure the system meets the DoD Nuclear Weapon System Surety Standards. It examines all applicable material, manuals, procedures, recurring test, and

operational concepts to include demilitarization concepts for nuclear surety related components existing at the time of the study that could affect nuclear surety.

5.4.3.1. The Nuclear Weapon System Surety Group Chair, through AFNWC/NTS, provides a final Technical Nuclear Safety Analysis based on available data to support the Nuclear Weapon System Surety Group study.

5.4.3.2. The group conducts a site visit to assess storage, convoy procedures (including unit support of logistics movements), maintenance activities, contingency plans, loading, and operations crew procedures using training weapons with actual delivery and support equipment. Observations include unit-level command post/crew operations and unit-level command and control procedures (as trained at the unit) to ensure nuclear control orders and emergency action messages are processed properly and translated into appropriate authorized actions. Facsimile training materials (in lieu of actual command and control documents, authenticators, etc.) may be used for demonstration purposes during this assessment. However, the actual sequence of events and unit responses to higher headquarters' directions must be adequately demonstrated in the proper sequences. **(T-1)**. Nuclear delivery procedures used by aircrews are addressed for aircraft units.

5.5. Operational Safety Review.

5.5.1. Purpose: The Nuclear Weapon System Surety Group conducts Operational Safety Reviews to reexamine the adequacy and suitability of the nuclear weapon system's design safety and security features; nuclear WSSRs; and technical and operational procedures based on the experience gained from actual operations. As part of the Operational Safety Review, problems identified by field units and other agencies are analyzed. Safety rules and/or operational procedures may be changed as a result of the review. **(Note: An Operational Safety Review is not an inspection.)**

5.5.2. Timing: An Operational Safety Review is conducted during the second year after a new weapon system is operational. Reviews are repeated, as needed, based on design or procedural changes and operational experience with the nuclear weapon system. After the first review, the Nuclear Weapon System Surety Group reviews the nuclear weapon system at least once every five years. If a Special Safety Study is scheduled at the approximate time as an operational safety review would normally be required, the Nuclear Weapon System Surety Group Executive Support Staff expands the scope of the study to include the requirements of an Operational Safety Review. MAJCOMs recommend dates for an Operational Safety Reviews, but the Nuclear Weapon System Surety Group Executive Support Staff determines the exact dates.

5.5.3. Scope: Generally Operational Safety Reviews consist of three phases.

5.5.3.1. Phase I of the study or review includes:

5.5.3.2. Review the Air Force Data Package.

5.5.3.3. Review the status of relevant findings, recommendations, and open corrective actions from previous AF Nuclear Weapons System Surety Reports.

5.5.3.4. Technical and operational briefings on the weapon system under study.

5.5.3.5. Results and recommendations of available inadvertent and unauthorized launch analyses in accordance with AFI 91-106, *Unauthorized Launch, Threat Mitigation, and Launch Action Studies* and related software and physical security analyses.

5.5.4. Phase II of the study or review includes technical briefings and demonstrations of nuclear weapon-related operations with applicable support equipment in a representative sample of operational environments and in substantially unique operational environments. Demonstrations are normally conducted in the actual work areas/facilities. Areas of interest with respect to the weapons stockpile-to-target sequence include, but are not limited to:

5.5.4.1. Storage, maintenance, transportation (to include convoy operations), and employment operations.

5.5.4.2. Potential hazards in normal and abnormal environments for impact on safety.

5.5.4.3. Authentication and execution procedures of nuclear control orders at the delivery unit level.

5.5.4.4. Surety-related use control matters in the context of the second DoD safety standards.

5.5.4.5. Surety-related aspects of authoritative nuclear security guidance as outlined by DoDD 3150.02 and the fourth nuclear surety standard.

5.5.5. Phase III of the study or review determines if the nuclear weapon system is being operated in a manner that meets the DoD nuclear weapon system surety policy and standards. Phase III includes:

5.5.5.1. Discussions and deliberations on findings and items of interest raised during Phase I or Phase II.

5.5.5.2. Preparing safety rules for new weapon systems or recommending changes to existing safety rules that ensure the weapon system meets the DoD nuclear weapon system surety standards or recommends improvements to operations in accordance with DoDM 3150.02.

5.5.5.3. Nuclear Weapon System Surety Group Executive Support Staff mandates the systems that have to be observed for the safety review. The applicable MAJCOM/SEW makes every effort to vary the Phase II locations of studies for multi- unit weapon systems, based upon operational availability.

5.5.5.4. Nuclear Weapon System Surety Group Chair formally tasks the MAJCOM appointed point of contact with the requirements for the specific safety study.

5.5.5.5. The Nuclear Weapon System Surety Group is disbanded when the Chair accepts and signs the Nuclear Weapon System Surety Group Report.

5.6. Special Safety Studies.

5.6.1. Purpose: The Special Safety Study is conducted to evaluate one or more of the following:

5.6.1.1. Potentially unsafe or insecure conditions revealed through operational experience.

5.6.1.2. Modifications (including software), alterations, retrofits, or the addition of weapon system capabilities affecting nuclear surety.

5.6.1.3. Tests affecting nuclear surety.

5.6.1.4. Significant changes in the operational concept affecting nuclear surety (e.g. any significant change to planned operations with nuclear weapon).

5.6.1.5. Proposed changes to approved nuclear WSSRs.

5.6.1.6. Significant changes to procedures which current nuclear WSSRs are based upon or which affect nuclear surety.

5.6.1.7. Accidents and/or incidents.

5.6.1.8. Storage of inactive nuclear weapons.

5.6.1.9. Any condition which the Nuclear Weapon System Surety Group Chair determines could adversely affect nuclear surety.

5.6.2. Timing/Scope: Any Nuclear Weapon System Surety Group voting member/organization may request a Special Safety Study at any time. The member shall provide the request in writing to the Nuclear Weapon System Surety Group Chair for final determination and scheduling. **(T-1)**. The request shall contain the rationale and scope, urgency, and specific issue the Special Safety Study is being requested to investigate for compliance with the four DoD Surety Standards. **(T-1)**.

5.6.3. MAJCOMs must provide any planned changes to approved operational CONOPS to the Nuclear Weapon System Surety Group Chair for determination if the MAJCOM Voting Member needs to request a Special Safety Study. **(T-1)**.

Chapter 6

NUCLEAR WEAPON SYSTEM SURETY GROUP STUDY/REVIEW PROCESS

6.1. General Information. The Nuclear Weapon System Surety Group Executive Support Staff publishes the approved Nuclear Weapons System Surety Group Schedule which includes the five-year Operational Safety Reviews and forecasted/planned safety studies. This approved schedule is forwarded to the Office of the Assistant Secretary of Defense for Nuclear, Chemical and Biological/Nuclear Matters (OASD(NCB/NM)).

6.2. Pre- Nuclear Weapon System Surety Group Study/Review Time Lines.

6.2.1. Nine-months prior to the study (12-months for United States Air Forces Europe), the Nuclear Weapons System Surety Group Chair formally tasks the necessary Nuclear Weapons System Surety Group Voting Member(s) with necessary actions required for the scheduled safety study.

6.2.2. Six months prior to the study/review, the operational MAJCOM submits its Operational Plan Data Document to the Nuclear Weapon System Surety Group Executive Support Staff. The Nuclear Weapon System Surety Group Chair determines if a Technical Nuclear Safety Analysis is required. The Program Office provides required design documentation.

6.2.3. Four months prior to the study/review (18 months for NATO operations), the Nuclear Weapon System Surety Group Executive Support Staff notifies Nuclear Weapon System Surety Group members of dates and location(s) of the study/review.

6.2.4. Three months prior to the study/review (12 months for NATO operations), the Nuclear Weapon System Surety Group Executive Support Staff presents the draft agenda to the MAJCOM and the Nuclear Weapon System Surety Group Voting Members, and requests briefings/demonstrations for Phase I and Phase II. This includes tasking AFNWC to write a Technical Nuclear Safety Analysis, if required.

6.2.5. Six weeks prior to the study/review, the Nuclear Weapon System Surety Group Support Staff submits country clearance for NATO visits.

6.2.6. Thirty days prior to study, AFNWC/NTS provides the Technical Nuclear Safety Analysis to Nuclear Weapon System Surety Group Chair (as required). The Nuclear Weapon System Surety Group Executive Support Staff distributes an Air Force Data Package to Nuclear Weapon System Surety Group members and confirms clearances/installation access of all attendees. The MAJCOM provides approved briefings electronically to the Nuclear Weapon System Surety Group Executive Support Staff.

6.2.7. Two weeks prior to the study/review, the Nuclear Weapon System Surety Group Executive Support Staff distributes final agenda to Nuclear Weapon System Surety Group members.

6.2.8. One week prior to the study/review, the Nuclear Weapon System Surety Group Executive Support Staff confirms clearances and installation access of Nuclear Weapon System Surety Group members and technical advisors.

Chapter 7

SAFETY RULES PROCESSING

7.1. DoDM Guidance. DoDM 3150.02 requires prompt report processing. See DoDM 3150.02 for actual timelines.

7.2. Nuclear Weapon System Surety Group Report.

7.2.1. Nuclear Weapon System Surety Executive Group Executive Support Staff creates a Nuclear Weapon System Surety Group Report. If a voting member disagrees with the findings/recommendations, he/she submits a Minority Opinion. A Minority Opinion is included in the Nuclear Weapon System Surety Group Report as an Addendum to the report before the report is staffed. Once all Nuclear Weapon System Surety Group members sign this report and all outstanding issues for the study are resolved, the Nuclear Weapon System Surety Group report cannot be changed except to correct minor administrative errors. At this point, the Nuclear Weapon System Surety Group Chair considers the study complete.

7.2.2. If the Nuclear Weapon System Surety Group Report includes proposed rules for new systems or proposed changes to current rules, AF/SE prepares a separate Air Force Safety Rules Package and draft AFI to implement the proposed rules. AF/SE submits the Nuclear Weapon System Surety Group Report, and if required, the draft Rules Package for HAF 2-letter coordination and notifies OASD(NCB/NM) of completion of the study/review. Additionally, the draft AFI is submitted to any additional offices as required by AFI 33-360 for coordination. If there is a “Critical Comment” during the staffing process, the voting member notifies the Nuclear Weapon System Surety Group Chair as soon as possible and submits a Minority Opinion to the Nuclear Weapon System Surety Group Chair within the suspense timeframe.

7.2.3. AFSEC/SEW adjudicates all comments and drafts the AF Nuclear Weapons System Surety Report within 4 weeks of receipt of the HAF 2-letter coordination.

7.3. Air Force Nuclear Weapons System Surety Report.

7.3.1. AF/SE distributes the Air Force Nuclear Weapons System Surety Report and, if required, the Air Force Rules Safety Package to appropriate agencies.

7.3.2. If no Safety Rules Package is required, AF/SE distributes the AF Nuclear Weapons System Surety Report along with a memorandum to OASD(NCB/NM) certifying the current rules are sufficient. A courtesy copy of the memorandum is also sent to Chairman of the Joint Chiefs of Staff.

7.3.3. If a Safety Rules Package is required, AF/SE distributes the AF Nuclear Weapons System Surety Report and Rules Package to OASD(NCB/NM), voting members, OPRs for approved recommendations, and the Nuclear Weapon System Surety Group technical advisors. OASD(NCB/NM) coordinates with Defense Threat Reduction, Chairman of the Joint Chiefs of Staff, and DOE/National Nuclear Security Administration, as described in DoDM 3150.02.

7.4. Weapons System Safety Rule Publication.

7.4.1. Upon notification of safety rules approval by the USD(A&S), AFSEC/SEW includes the safety rules in the appropriate 91-11X series AFI. Unless otherwise specified, safety rules

and revisions to approved safety rules in the AFI shall be implemented by appropriate agencies within 30 days of approval (T-1). If the AFI only contains administrative changes, AFSEC/SEW can use an Air Force Guidance Memorandum to quickly distribute the changes.

7.4.2. AF/SE publishes the approved rules following AFI 33-360 guidance for publication and forwards to all appropriate agencies (responsible MAJCOM safety offices and system program offices) directing immediate implementation.

7.4.3. If circumstances necessitate approval of proposed safety rules before completion of the formal coordination process, AF/SE requests interim approval from the USD(A&S) according to the procedures in DoDM 3150.02.

7.4.4. Interim approval of the safety rules is effective for six months and does not negate the requirement for final processing of the Safety Rules Package.

7.4.5. If final staffing of the safety rules is not completed within the six month period that interim safety rules are in effect, AFSEC/SEW requests an extension from OASD(NCB/NM).

Chapter 8

SUPPORTING DOCUMENTS AND BRIEFINGS

8.1. Air Force Data Package.

8.1.1. The Air Force Data package consists of the materials provided to Nuclear Weapon System Surety Group voting members prior to the Nuclear Weapon System Surety Group study/review for their preparation and use during the study or review. Package includes:

8.1.2. Operational Plan Data Document (MAJCOM).

8.1.3. Technical Nuclear Safety Analysis for studies and certain reviews (AFNWC).

8.1.4. Technical description of the weapon system and its system safety features, when not included in the Technical Nuclear Safety Analysis (Air Force Materiel Command/MAJCOM).

8.1.5. Draft or current safety rules located in the appropriate weapon system 91-series AFI (AFSEC/SEW).

8.2. Nuclear Weapon System Surety Group Report.

8.2.1. A Nuclear Weapon System Surety Group Report is a summary of Nuclear Weapon System Surety Group proceedings. It is not a technical or engineering source document. The report follows the format contained in DoDM 3150.02, Appendix 1 to Enclosure 3 and contains the following:

8.2.2. An Executive Summary summarizing the study results and includes an appraisal statement as to whether the system meets DoD nuclear weapon system surety policy and standards.

8.2.3. A Study Overview summarizing the study's scope, background, purpose, and comments on the impact of safety on the system's CONOPS.

8.2.4. Findings, Recommendations and Corrective Actions Section stating facts or conclusions regarding the nuclear safety of the weapon system and recommendations to enhance safety following the requirements within DoDM 3150.02.

8.2.4.1. A finding or recommendation must be approved by a majority of the Nuclear Weapon System Surety Group voting members. **(T-1)**.

8.2.4.2. Priority assignments for Nuclear Weapon System Surety Group recommendations:

8.2.4.2.1. Immediate Action. (USE OF THE NUCLEAR WEAPON SYSTEM IS IMMEDIATELY RESTRICTED UNTIL RECOMMENDED ACTIONS ARE COMPLETED.) Reserved for recommendations made to correct deficiencies that prevent the weapon system from meeting one or more of the DoD Nuclear Weapon System Surety Standards. It either restricts certain operations of the nuclear weapon system or completely prohibits use of the system until approved recommendations are complied with.

8.2.4.2.2. Urgent Action. (USE OF THE NUCLEAR WEAPON SYSTEM MAY BE RESTRICTED IF APPROVED RECOMMENDATIONS ARE NOT COMPLIED WITH BY THE SUSPENSE DATE.) Reserved for those recommendations which

conclude that, while the system currently meets required surety standards, prompt corrective actions are required to ensure no violation of any of the DoD nuclear weapon system surety standards occurs in the future. Peacetime restriction of the weapon system may be warranted, if approved recommendations are not complied with by the suspense date or if an approved extension to the suspense date is not granted.

8.2.4.2.3. Time Compliance. (USE OF THE WEAPON SYSTEM IS NOT RESTRICTED.) Reserved for recommendations that simply enhance nuclear surety. These recommendations are intended to make the system better and do not imply any failure to meet existing safety standards. The weapon system may be operated while action is being taken to comply with an approved recommendation. Failure to comply by the stated suspense date will not restrict use of the weapon system.

8.2.5. Reiterate applicable recommendations for the weapon system made during previous studies or reviews for which corrective actions have not been completed.

8.2.6. Draft Safety Rules for new systems or proposed changes to existing rules. These are Nuclear Weapon System Surety Group recommendations for safe operations of the weapon system, based upon Nuclear Weapon System Surety Group findings during the study/review.

8.2.7. A safety rule must be approved by a majority of the Nuclear Weapon System Surety Group voting members. (T-1).

8.2.8. An Addendum of Minority Opinions may be included. It shall be appended to the Nuclear Weapon System Surety Group Report if agreement is not reached by the Nuclear Weapon System Surety Group through discussion and deliberation and those in the minority deem such an addendum is appropriate. (T-0). The format is the same as the findings and recommendations of the basic report and signed by each member supporting the minority position. The Minority Opinion shall be submitted for inclusion into the Nuclear Weapon System Surety Group Report prior to adjourning the Phase III meeting and shall be made available for all members to review. (T-0).

8.3. Air Force Nuclear Weapons System Surety Report.

8.3.1. The Nuclear Weapons System Surety Report presents the Air Force assessment of whether the weapon system meets the four DoD surety standards. The Nuclear Weapons System Surety Group Report is the basis for the Air Force Nuclear Weapons System Surety Report; once voting members sign the Nuclear Weapons System Surety Group Report, and it completes Headquarters Air Force 2-letter coordination, it is signed by AFSEC/SE. The Nuclear Weapons System Surety Group Report then becomes the Air Force Nuclear Weapons System Surety Report and consists of the following:

8.3.2. The Executive Summary summarizes the Air Force position on the study results and includes an appraisal statement that assesses whether or not the weapon system meets DoD nuclear weapon system surety policy and standards. If there are differences in any portion of the Air Force Nuclear Weapons System Surety Report and the Nuclear Weapon System Surety Group Report, the Executive Summary notes the differences and rationale for disagreement.

8.3.3. The Assessment Section includes evaluations and analyses to support the Air Force appraisal statement in the Executive Summary.

8.3.4. The Findings, Recommendations, and Corrective Actions Section:

8.3.5. Lists Nuclear Weapon System Surety Group findings, recommendations, and Minority Opinions, and indicate approval or disapproval of each recommendation with rationale.

8.3.6. Lists corrective actions with a timeline that the Air Force will implement approved recommendations.

8.3.7. Provides recommendations on the retention, modification, or retirement of the system.

8.3.8. Includes the Nuclear Weapon System Surety Group Report as an enclosure to the Air Force Nuclear Weapons System Surety Report.

8.4. Air Force Safety Rules Package.

8.4.1. Parts A and B are consistent with that provided in the Air Force Data Package. The Air Force Safety Rules Package includes:

8.4.1.1. Executive Summary: An appraisal of whether or not the weapon system meets the DoD weapon system safety policy and standards; differences between the Nuclear Weapon System Surety Group Report and the Air Force Nuclear Weapons System Surety Report; and a synopsis of the proposed safety rules or changes to current rules.

8.4.1.2. Part A: Technical Description of the weapon system and CONOPS.

8.4.1.3. Part B: Safety Features incorporated in the weapon system.

8.4.1.4. Part C: Proposed Safety Rules.

8.4.2. DoDM 3150.02 contains the Safety Rules coordination process and staffing time standards.

8.5. Operational Plan Data Document.

8.5.1. The Operational Plan Data Document is the operating command's statement of how the command operates and maintains (or, if applicable, for a new or significantly modified weapon system, how the command plans to operate and maintain) the nuclear weapon system being studied by the Nuclear Weapon System Surety Group. In addition, the Operational Plan Data Document serves as a source document for the Technical Nuclear Safety Analysis or abbreviated Technical Nuclear Safety Analysis when required.

8.5.2. The Operational Plan Data Document describes:

8.5.2.1. The nuclear weapon system's current or proposed (for new or significantly modified weapons systems) CONOPS.

8.5.2.2. CONOPS: General operations commonly performed regardless of geographical location.

8.5.2.3. Significant variations of the general operations.

8.5.2.4. Normal operations in the stockpile-to-target sequence during peacetime, wartime, and periods of increased hostilities.

8.5.2.5. Operations conducted under contingency plans.

8.5.3. The lead/using MAJCOM provides an Operational Plan Data Document to the Nuclear Weapon System Surety Group. The Operational Plan Data Document is due to the Nuclear Weapon System Surety Group Executive Support Staff six months prior to the Nuclear

Weapon System Surety Group study or review. New or modified Operational Plan Data Documents must be reviewed by the Nuclear Weapon System Surety Group prior to implementation. **(T-1)**.

8.5.4. The MAJCOM summarizes operations, refer to applicable source documents for greater detail, and include all desired operational and system capabilities in the Operational Plan Data Document. Operations not included in the Operational Plan Data Document are not authorized until reviewed/approved by the Nuclear Weapon System Surety Group. MAJCOMs CANNOT add/significantly change operational capabilities/plans after the USD(A&S) approves the safety rules without a Nuclear Weapon System Surety Group study/review.

8.6. Technical Nuclear Safety Analysis.

8.6.1. The Technical Nuclear Safety Analysis is prepared by AFNWC in accordance with AFI 63-125, and serves as an independent technical analysis of the nuclear weapon system.

8.6.2. Personnel who prepare the Technical Nuclear Safety Analysis shall maintain independence from organizations directly responsible for designing, developing, producing, maintaining, operating, or providing logistics for the weapon system under evaluation. **(T-1)**.

8.6.3. The Technical Nuclear Safety Analysis:

8.6.3.1. Describes the weapon system in depth.

8.6.3.2. Has a safety and security compliance matrix that shows how weapon system features meet the DoD Nuclear Weapon System Surety Standards.

8.6.3.3. Contains a comprehensive engineering analysis of the weapon system design.

8.6.3.4. States how the weapon system does or does not meet the DoD Nuclear Weapon System Surety Standards in both normal and credible abnormal environments.

8.6.3.5. Identifies deficiencies and recommended corrective actions for the weapon system to comply with AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapon Systems*, AFMAN 91-118, *Safety Design and Evaluation Criteria for Nuclear Weapon Systems*, AFMAN 91-119, *Safety Design and Evaluation Criteria for Nuclear Weapon Systems Software*, and DoD S 5210.41-M_AFMAN 31-108 V1-S.

8.6.3.6. Assesses physical security features planned for the weapon system. If appropriate, include an examination of security measures for non-fixed site operations, identify security deficiencies, and propose necessary corrective actions.

8.6.3.7. Includes a qualitative risk assessment of the weapon's likelihood of violating any of the DoD nuclear weapon system surety standards or causing plutonium scatter.

8.6.4. Prepare a preliminary Technical Nuclear Safety Analysis for an Initial Safety Study. Prepare a final Technical Nuclear Safety Analysis for a Pre-Operational safety study. Note: An abbreviated Technical Nuclear Safety Analysis may be used for a Special Safety Study, an Interim Safety Study, a Preliminary safety study or as required by the Nuclear Weapon System Surety Group Chair. It is limited in scope and only covers the specific study topic.

8.6.5. Provide a Technical Nuclear Safety Analysis, as required or per the Nuclear Weapon System Surety Group Chair's tasking, no later than 30 days before the first Nuclear Weapon System Surety Group meeting.

8.7. Support Briefings.

8.7.1. The operational command, development agency, Technical Nuclear Safety Analysis authors, subject matter experts, and contractors brief the Nuclear Weapon System Surety Group.

8.7.2. Nuclear Weapon System Surety Group Executive Support Staff tells the agencies what topics they must cover in the briefing. **(T-1)**.

8.7.3. Topics should include, but are not limited to:

8.7.3.1. History of Safety Studies, Operational Safety Reviews, and Safety Rules.

8.7.3.2. Nuclear Weapon System Surety Group recommendations disapproved by HAF.

8.7.3.3. Deficiency report history.

8.7.3.4. Nuclear surety inspection findings since last review.

8.7.3.5. Weapons system safety assessments and/or Technical Nuclear Safety Analysis.

8.7.3.6. Unauthorized Launch/Access Analysis.

8.7.3.7. Weapon safety data applicable to the weapon system.

8.7.3.8. Status of nuclear certification actions.

8.7.3.9. Nuclear certified configuration issues.

8.7.3.10. Weapon modifications.

8.7.3.11. Use control.

8.7.3.12. Pending changes to nuclear surety features and procedures affecting nuclear surety.

8.7.3.13. Review of Current Technical Data (including review of any problems with compatibility of technical data with nuclear WSSRs).

8.7.3.14. Nuclear Surety Concerns.

8.7.3.14.1. Review of any unresolved problems relating to nuclear surety.

8.7.3.14.2. Demilitarization concepts for nuclear surety related components.

8.7.3.15. Weapon System Safety Features Technical Description, Function, and Purpose.

8.7.3.16. Weapon System Support Equipment Technical Description, Function, Purpose, and History.

8.7.3.17. Weapon System Modification Program and Pending Logistical Factors Affecting Nuclear Surety.

8.7.3.18. A summary of relevant mishaps and incidents that could adversely affect nuclear surety.

8.7.3.19. Weapon System Operations Briefings.

8.7.3.19.1. Operational Capabilities.

8.7.3.19.2. Safety Features.

8.7.3.19.3. Special Preparations for Nuclear Missions.

8.7.3.19.4. Unit Locations, Capabilities, Command and Control.

8.7.3.19.5. Security Procedures.

8.7.3.19.6. Explosive Ordnance Disposal Procedures

8.7.3.19.7. Accident History.

8.7.3.19.8. Personnel Certification.

8.7.3.19.9. Unique Country and Service Requirements.

8.7.3.19.10. Contingency and Emergency Plan.

8.7.3.19.11. Configurations and Load Limits.

8.7.3.19.12. Nuclear Surety Concerns.

8.7.3.19.13. Flying Restrictions.

8.7.3.19.14. Maintenance Requirements.

8.7.3.19.15. All deviations to nuclear safety/security instructions and directives currently in effect for the weapon system.

Chapter 9

ACTIONS REQUIRED ON NUCLEAR WEAPON SYSTEM SURETY GROUP RECOMMENDATIONS APPROVED BY HAF

9.1. Implementing HAF-Approved Recommendations. Designated action agencies must implement all safety recommendations approved by the HAF. **(T-1)**.

9.1.1. Each action agency:

9.1.1.1. Notifies AFSEC/SEW of the agency's office of primary responsibility, telephone number (Defense Switched Network, if available), and point of contact. **(T-1)**.

9.1.1.2. Sends AFSEC/SEW a status report of Nuclear Weapon System Surety Group Studies and Reviews, Recommendations, and Safety Rules by 15 May and 15 November of each year. The agency will begin reporting after receiving the Air Force Nuclear Weapons System Surety Report and include a schedule for completing each action item identified in each recommendation. **(T-1)**.

9.1.1.3. Requests Nuclear Weapon System Surety Group voting member approval, through AFSEC/SEW, to close the recommendation with justification for closure. All corrective actions must be approved by a Nuclear Weapon System Surety Group majority vote before closure can be granted by the Nuclear Weapon System Surety Group Chair. **(T-1)**. A recommendation is not closed until AFSEC/SEW notifies the action agency by signing the closure request letter.

9.1.1.3.1. During the study, agencies can request Nuclear Weapon System Surety Group voting member approval for closure by a majority vote, but must provide AFSEC/SEW with substantiating information prior to meeting. **(T-1)**.

9.1.2. AFSEC/SEW monitors agency actions (through semiannual status reports) and publishes a semiannual status of recommendations. Additionally, AFSEC/SEW at the discretion of the Chair can conduct semiannual Nuclear Weapon System Surety Group meetings to review the status of recommendations and receive updates from OPRs. An annual status report is due to OASD(NCB/NM) with informal copies provided to Joint Staff and DOE by 1 July. **(T-1)**.

JOHN T. RAUCH
Major General, United States Air Force
Chief of Safety

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

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

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

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

HAF MD 1-46, *Chief of Safety*, 10 December 2013

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Abbreviations and Acronyms

AF—Air Force

AFNWC—Air Force Nuclear Weapons Center

AFPD—Air Force Policy Directive

AFSEC—Air Force Safety Center

AFPD—Air Force Policy Directive

CONOPS—Concept of Operations

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDM—Department of Defense Manual

DOE—Department of Energy

HAF—Headquarters Air Force

EMD—Engineering, Manufacturing and Development

MAJCOM—Major Command

MD—Mission Directive

NATO—North American Treaty Organization

OASD(NCB/NM)—Office of the Assistant Secretary of Defense for Nuclear, Chemical and Biological/Nuclear Matters

OPR—Office of Primary Responsibility

USD(A&S)—Under Secretary of Defense for Acquisition and Sustainment

WSSR—Weapon System Safety Rule

Attachment 2

**SUGGESTED SCHEDULING MATRIX FOR SAFETY STUDIES IN THE
ACQUISITION PROCESS**

Figure A2.1. Recommended Acquisition Phase for Each Safety Study.

Acquisition Phase	Type of Safety Study			
	Initial	Preliminary	Interim	Preoperational
Technical Maturation and Risk Reduction: Design Concept Firm (Capability Development Document and System Requirements Documents Complete)	X			
EMD: When design is ready for critical design review, but before it actually occurs		X		
EMD: Around the Production Readiness Review			X	
Production and Deployment: Around Low Rate Initial Production				X