

**BY ORDER OF THE COMMANDER
AIR FORCE MATERIEL COMMAND**



AIR FORCE INSTRUCTION 91-101

AIR FORCE MATERIEL COMMAND

Supplement 1

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Safety

**AIR FORCE NUCLEAR WEAPONS
SURETY PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This supplement applies to all AFMC organizations and Air Force associate units with safety staffs or personnel located on AFMC or non-AFMC installations. Send suggested changes to this supplement to the Weapons Safety Division, HQ AFMC/SEW, Bldg 262, S154, 4375 Chidlaw Road, Wright-Patterson AFB OH 45433-5006. This supplement does not apply to the Air National Guard or US Air Force Reserve units and members.

SUMMARY OF REVISIONS

This revision aligns the AFMC supplement with the Air Force Instruction. Several paragraphs have been rearranged, rewritten, and added for clarification and improved readability. It adds a description of the AFMC Nuclear Council (para **2.3.1.1. (Added)**); it describes how Nuclear Surety Staff Assistance Visits (NSSAVs) and Nuclear Surety Inspections (NSIs) are conducted for AFMC units with a nuclear surety program. It also describes how a Nuclear Surety Surveillance Assessment (NSSA), a NSI-like inspection, is conducted for contractor-operated organizations with a nuclear surety program (para **2.3.1.2. (Added)**); it identifies that AFMC membership to the NWSSG is delegated to the Nuclear Weapons Directorate (AAC/NW) (para **2.3.9.**); it also describes the responsibilities of the COS (para **2.7.9. (Added)**) and the WSM at HQ AFMC, Wing, and Squadron/Unit levels (para **2.8.4. (Added)** and **2.11.**); Numerous changes and additions for AFMC specific nuclear surety program mandates a complete review of this supplement.

AFI 91-101, 24 February 2000, is supplemented as follows:

1.2.1. The Air Force Nuclear Weapon Surety Program ensures the design, operation, transportation, and storage of nuclear weapons and nuclear weapons systems satisfy the four DoD safety standards. AFMC is committed to ensuring the highest nuclear surety standards are maintained and the safety, security, control, and effectiveness of nuclear weapons are always paramount. Each center/wing with a nuclear mission must ensure nuclear weapons and nuclear weapons systems receive special consideration because of

their military importance, destructive power, and potential consequences of an accident or unauthorized act.

1.3.1. Weapon systems designers and operators must use extreme caution when troubleshooting on nuclear loaded weapon systems. Troubleshooting policy and criteria are reflected in AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapon Systems*.

1.3.3.2. HQ AFMC/LGMW is approval authority for all requests to collocate nuclear weapons and conventional munitions. HQ AFMC/SEW will review for compliance with explosives safety standards.

2.3.1. A nuclear surety program will be implemented within AFMC. HQ AFMC/SEW has primary responsibility for all nuclear surety matters. The center/wing will establish a nuclear surety program commensurate with the nuclear mission of the organization at that installation and according to guidance provided herein.

2.3.1.1. (Added) AFMC established an AFMC Nuclear Council (ANC) as an oversight function and a corporate venue for all nuclear matters within the command. The ANC is chaired by Director of Logistics (HQ AFMC/LG) to assess the status of institutionalized support for nuclear surety throughout the MAJ-COM. The Director of Logistics is also the HQ AFMC member to the Air Force Nuclear General Officer Steering Group (AFNGOSG). AAC/NW AND ESC/FD are also AFMC members to the AFNGOSG. The AFNGOSG is the support arm to HQ USAF/XON which is the single focal point to the Joint Staff. The ANC also supports the Director of Logistics as the member to the AFNGOSG for all nuclear matters affecting AFMC.

2.3.1.2. (Added) AFMC established a Nuclear Surety Staff Assistance Visit (NSSAV) program to assist AFMC units and contractor-operated organizations to maintain credible nuclear surety programs. It is not an inspection program, but it is a process to identify and incorporate "best practices" and enable the units to successfully accomplish their mission. The NSSAV program ensures and improves safety, security, and reliability of nuclear weapons and is conducted by headquarter's functional staff. The NSI and Nuclear Surety Surveillance Assessment (NSSA) are conducted by the AFMC Inspector General (HQ AFMC/IG). The NSSAVs, NSIs and NSSAs are tools to assess the quality of nuclear surety programs at AFMC units and contractor-operated organizations. NSSA is a NSI-like inspection conducted at contractor-operated facilities with a nuclear surety program.

2.3.1.3. (Added) Scheduling: HQ AFMC/LGMW typically schedules unit NSSAVs six to nine months prior to each unit's scheduled NSI. HQ AFMC/LGMW coordinates NSSAV activities with other MAJ-COM agencies. HQ AFMC/SEW coordinates and conducts NSSAV activities for the Boeing Guidance and Repair Center (BGRC)--a contracted depot maintenance capability for ICBM guidance systems. Nuclear Surety Program oversight by applicable Headquarters functional staff, i.e. safety, security, personnel, medical, etc., was mandated by AFMC/CC as a result of support recommendations in Joint HQ AFMC/IG, Air Force Safety Center (AFSC), Defense Contract Management Command (DCMC), and OO-ALC ICBM System Program Office Report, 25-27 January 2000. Checklists are developed by the applicable headquarters functional staff and are placed on contract by the ICBM System Program Office (OO-ALC/LM). The checklists will be used during NSSAVs, NSIs, and NSSAs. HQ AFMC/SEW coordinates BGRC NSSAVs with other MAJCOMs and agencies, e.g. HQ AFSC, HQ AFSPC.

2.3.1.4. (Added) Funding: HQ AFMC/LGMW submits an annual budget estimate to facilitate funding for the units NSSAV program. Funding for the BGRC NSSAVs will be borne by the participating functional staff organization's TDY budget. Ultimate responsibility for funding BGRC NSSAVs lies with AFSC/

SEW if staff organizations cannot provide funding support. Funding for the BGRC NSSA will be borne by the AFMC/IG.

2.3.1.5. (Added) Team Composition: A typical NSSAV team to support a NSSA may include Safety (SE), Security Forces (SF), Personnel (DP), Medical (SG), Communications (Intrusions Detection System), IT and Contract Medical Authority representatives. NSSAV representatives must not serve as member/aug-mentee on the NSI/NSSA team. A typical NSSAV to support a NSI may include Safety (SE), Maintenance (LGMW), Security Forces (SF), Personnel (DP), Medical (SG), Communications (Intrusion Detection System (IT), Facilities (CE), Transportation (LGRV) representatives.

2.3.1.6. (Added) NSI/NSSA team members must not have access to NSSAV reports prior to scheduled NSI/NSSA. NSSAV and NSSA reports will be provided to OO-ALC/LM; not to BGRC. An outbriefing may be provided by the NSSAV/NSSA team to BGRC. However, OO-ALC/LM will provide reports via contractual channels. The IG will provide NSI reports to AFMC units upon completion of NSI.

2.3.2. HQ AFMC/SEW will evaluate the nuclear surety program of AFMC centers/wings to determine integrity and health of nuclear surety programs and ensure compliance with pertinent directives and technical orders.

2.3.3. Centers/wings will establish training program to train and certify personnel in the functional tasks requirements and nuclear operations of the organization.

2.3.4. The center/wing must assign a full-time center/wing weapons safety manager (WSM) to ensure nuclear surety program is implemented and advise the center/wing commander on all nuclear surety issues. Centers/wings with no nuclear mission but have some nuclear surety responsibilities may use part-time, additional duty, or designated personnel, e.g., Chief of Safety (COS), to implement their nuclear surety program.

2.3.4.1. (Added) . The center/wing WSM may be a senior NCO or civilian fully qualified in AFSC's 2WO, 2W1, 2W2, or 2MO, or equivalent weapons experience.

2.3.4.2. (Added) . The commander, at the center/wing, squadron level, may appoint a qualified full-time, additional duty, or part-time WSM. The center/wing WSM will provide training to the squadron WSM or Unit Safety Representative (USR). This training will include a review of pertinent areas, specific activities, and responsibilities of the unit WSM or USR.

2.3.5. HQ AFMC/CE ensures civil engineering units at centers/wings satisfy requirements stated herein.

2.3.5.1. Centers/wings will have a nuclear Safe Haven Plan according to AFI 32-4001, *Disaster Preparedness Planning and Operations*; AFI 31-101, *The Physical Security Program* ; and T.O. 11N-45-51, *Transportation of Nuclear Weapons Material*.

2.3.5.2. Ensures center/wing CE unit is trained and equipped to perform firefighting activities and respond to nuclear accidents and incidents.

2.3.5.3. Ensures timely inspections of hoists, lightning protection system (LPS), and static ground of the facilities. Coordinate all plans, tests reports, etc., with the Wing WSM.

2.3.5.4. Coordinate all plans for construction and modifications of nuclear weapon facilities etc.with the Wing WSM.

2.3.5.4.1. (Added) Coordinates all construction plans and modifications for nuclear weapons facilities with program management office, HQ AFMC/SEW, AAC/NW, and HQ AFSC/SEW.

2.3.6. HQ AFMC/SF has primary responsibility for all unit security instructions, policy guidance etc., to comply with nuclear surety requirements. Coordinates security guidance with HQ AFMC/SEW nuclear surety, explosives safety requirements and standards contained in this supplement.

2.3.7. Send any proposed changes to nuclear weapon systems and noncombat delivery vehicles to AAC/NW, HQ AFMC/SEW, HQ AFSC/SEW, the appropriate program executive office, and single manager(s).

2.3.8. HQ AFMC/SEW will augment AFMC Inspector General to evaluate nuclear surety program of AFMC centers/wings/munition squadrons/contractor.

2.3.9. HQ AFMC/SEW will provide membership to the NWSSG. AAC/NW will serve as the AFMC member on behalf of HQ AFMC/SEW. HQ AFMC/SEW will provide delegation of authority/responsibilities, in writing, to AAC/NW when there is a change in membership designation.

2.3.10. HQ AFMC/SEW is the single point of contact for all nuclear surety and certification issues.

2.4.1. HQ AFMC/SEW has primary responsibility for all nuclear surety matters within the command. Also, HQ AFMC/LGMW has primary responsibility for all munitions (nuclear weapons, conventional weapons, etc.) matters.

2.4.2. Centers/wings with a nuclear mission will establish nuclear surety councils. HQ AFMC/SEW will review criteria and ensure councils are established IAW paragraph 2.17. below.

2.4.5. HQ AFMC/SEW will develop appropriate nuclear surety criteria for NSIs. HQ AFMC/SEW will update AFMC IG checklist, instructions, and guidance for NSIs.

2.4.6. Review and coordinate on plans for new buildings, nuclear weapons facilities, and site plans submitted according to AFMAN 91-201, *Explosives Safety Standards*.

2.4.7. WSMs will attend the Weapons Safety Manager Course (L30ZR21A3X 001) as reflected in AFI 91-202, *The US Air Force Mishap Prevention Program*, preferably before they assume their position or within 90 days after assignment to the position.

2.4.8. Host and tenant at AFMC centers/wings will develop agreements according to AFI 25-201, *Support Agreements Procedures*. Nuclear surety responsibilities must not be delegated from the host to the tenant.

2.4.8.1. The host-tenant agreement will specify the support provided to the tenant by the host. Submit in writing those areas where mutual agreement cannot be reached to HQ AFMC/SEW for possible resolution.

2.4.8.1.1. (Added) The AFMC Nuclear Surety Program will be administered and implemented by the host AFMC center/wing and will not assume responsibility for another command's nuclear surety program requirements. Host AFMC centers/wings will assist non-AFMC tenants in complying with USAF nuclear surety requirements as specified in host-tenant agreement.

2.5. AFMC Centers (logistics, products, tests) are equivalent to NAFs. Center WSMs will review plans and notify HQ AFMC/SEW for storage of nuclear tests assets, etc., in new or modified storage sites at identified center.

2.7.9. (Added) The Wing COS will:

2.7.9.1. (Added) Coordinate on all center/wing operations, exercises, and publications bearing on nuclear surety matters.

2.7.9.2. (Added) Staff and forward recommended changes to nuclear weapon system safety rules (WSSRs) to HQ AFMC/SEW and AAC/NW.

2.7.9.3. (Added) Evaluate the adequacy of corrective action taken by units in response to discrepancies noted on nuclear surety matters.

2.7.9.4. (Added) Generate and forward articles for possible publication in AFRP 91-3, *Weapons Journal*, to HQ AFSC/SEW.

2.7.9.5. (Added) Perform nuclear surety spot inspections.

2.7.9.6. (Added) Accompany the WSM on at least one formal unit NSI each year.

2.7.9.7. (Added) Attend and be the focal point for nuclear surety council meetings. The WSM may plan, schedule, provide minutes, etc., for wing council meetings.

2.7.9.8. (Added) Ensure the center/wing nuclear surety program is effectively managed during the absence of the WSM

2.8. The Squadron Commander will appoint a USR, additional duty WSM to perform the WSM duties at the unit level. Provide appointment letters to the wing/center WSM. Center/wing WSM will provide training, tailored to the unit's mission, to the Squadron USR. USR may train Squadron personnel on the Nuclear Surety Program.

2.8.4. (Added) Squadron WSM or USR will:

2.8.4.1. (Added) Perform spot inspections of applicable areas as required. The Squadron Commander, along with the WSM, will establish the frequency and documentation required for spot inspections.

2.8.4.2. (Added) Ensure nuclear training is accomplished according to approved lesson plans.

2.8.4.3. (Added) Coordinate with center/wing WSM on all nuclear surety matters.

2.8.4.4. (Added) Evaluate adequacy and completeness of corrective actions for nuclear surety problems found during inspections, evaluations, reviews, and SAVs.

2.8.4.5. (Added) Conduct or assist in nuclear mishap investigations and reporting.

2.8.4.6. (Added) Review nuclear mishap reports sent to the unit from the WSM. Verify adequacy of corrective action to prevent recurrence of deficiency identified.

2.8.4.7. (Added) Assist the center/wing WSM in checking the squadron's PRP.

2.11. The WSM is the commander's personal representative and the point of contact for all nuclear surety matters. The WSM's primary objective and responsibility of mishap prevention mandate proactive and aggressive involvement in the daily operations of the center/wing. The WSM is the "ombudsman" and advocate to assure nuclear weapons are safely operated and maintained and that such valuable, national resources are protected and preserved for operational utility.

2.11.1. Perform annual inspections of each wing or base-level unit that has a nuclear mission/capability to determine the health of its nuclear surety program. Annual inspections may minimally include elements identified in Chapter 4 of AFI 90-201, *Inspector General Activities*.

2.11.2. Track the corrective actions of nuclear surety discrepancies found during NSIs, IG SAV's, etc.

2.11.3. WSM will be responsible for mishap reporting. The WSM determines if a deficiency qualifies as a DULL SWORD and assures timely submission of the report. Investigate and report nuclear mishaps

according to AFI 91-204, *Investigating and Reporting US Air Force Mishaps* . Review mishap reports from higher headquarters and other centers/wings/units for crossfeed, training, and corrective actions.

2.11.4. Keep COS, commander, and staff abreast on pertinent DULL SWORDS, changes to applicable WSSRs, and other related nuclear surety matters. Disseminate WSSRs and interim changes to appropriate wing agencies.

2.11.5. WSM advises the COS and staff agencies on nuclear surety issues and concerns.

2.11.6. Provide support to other functional areas to ensure PRP is properly administered.

2.11.7. Accompany the center/wing/unit PRP monitor on periodic SAVs.

2.11.8. Ensure center/squadron WSMs check national stock numbers of equipment/software designated for use with nuclear weapons against T.O. 00-110N-16, *USAF Nuclear Certified Equipment and Software*. Check Computer Program Identification Number (CPIN) of software against T.O. 00-110N-16. Report the use of uncertified equipment or software to appropriate commander(s).

2.11.9. Participate in the preparation of nuclear Safe Haven and Prime Nuclear Airlift Force (PNAF) mission support plans. Periodically observe all phases of PNAF missions according to AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Materials* .

2.11.10. Perform spot and annual inspections of areas/organizations with nuclear surety activities as deemed necessary.

2.11.11. Develop nuclear surety lesson plans and tests. Review and approve all lesson plans, tests, etc., before use. Lesson plans, etc., should be reviewed for adequacy during NSIs, staff assistance visits (SAV), etc. A copy of the approved lesson plans and tests must be forwarded to HQ AFMC/SEW.

2.11.12. Serve as the OPR on all nuclear surety matters within the center/wing.

2.11.13. Review and coordinate on plans for new or modified buildings, nuclear weapons facilities, and site plans according to AFMAN 91-201.

2.11.14. Ensure unit develops and maintains local nuclear surety checklists, operating instructions, procedures, plans, etc., to determine health of unit nuclear surety program. Send checklists, etc., to center/wing agencies for approval and to HQ AFMC/SEW for review.

2.11.15. (Added) Publish directive publications (including supplements when necessary) outlining center/wing unique nuclear surety requirements.

2.11.16. (Added) Schedule personnel for Nuclear Weapons and Weapons Safety Courses as reflected in AFI 91-202.

2.11.17. (Added) Train additional duty WSMs on AFMC unique requirements and program management philosophy within 90 days after they assume their positions.

2.11.18. (Added) Conduct nuclear surety education and publicity programs. Use pertinent nuclear mishap reports and other mishap prevention information for use in center/wing/unit nuclear surety education programs.

2.11.19. (Added) Coordinate with the Base Fire Chief to review firefighting techniques for nuclear weapons, including pre-identification of occupied storage structures, and compliance with T.O. 11N-20-11, *General Fire Fighting Guidance*. Coordinate procedures involving emergency entry into priority A areas with the Chief of Security Police.

2.11.20. (Added) Develop local notification procedures to inform the WSM of any occurrence that could degrade nuclear surety.

2.11.21. (Added) Review summaries of quality assurance and standardization activity findings related to nuclear surety trends and problem areas. Work with center/wing/unit WSMs and commanders to correct problems discovered and to reverse unfavorable trends.

2.11.22. (Added) Review Deficiency Reports and AFTO Form 22, **Technical Order Improvement Report and Reply**, for nuclear surety implications.

2.13. HQ AFMC/SEW is responsible for policy development and direction for nuclear surety. AAC/NW is responsible for the technical aspects of nuclear surety.

2.13.1. AAC/NW is the "center of expertise" for nuclear surety design and evaluation criteria in AFI 91-107, *Design, Evaluation, Troubleshooting and Maintenance*; AFMAN 91-118, *Safety Design and Evaluation Criteria for Nuclear Weapons System Hardware*; and AFMAN 91-119, *Safety Design and Evaluation Criteria for Nuclear Weapon System Software*.

2.13.2. AAC/NW evaluates the nuclear safety effects of all design, manufacturing processes and practices, or modifications of nuclear weapon systems, or components for which AFMC has program management responsibility. This includes compliance with AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Review, and Safety Rules* and AFI 91-103, *Air Force Nuclear Safety Certification Program*. The engineering organization, safety office, etc., within the program office/center is responsible for conducting nuclear surety impact statements (NSIS), nuclear certification plans (NCP), and nuclear surety evaluations (NSE) as defined in AFI 91-103. These products may be performed by engineering, safety, technical, etc., personnel within the contractor organization for program office/center requirements. Copies of these products will be provided to HQ AFMC/SEW.

2.13.3. AAC/NW provides consultation support and technical services for AFMC on requirements reflected in AFI 91-108, *Air Force Nuclear Weapons Intrinsic Radiation Safety Program*.

2.13.4. All Joint Nuclear Weapons Publication System (JNWPS) manuals that apply to the Air Force are included in the Air Force 11N and 60N series technical orders as authorized by the Secretary of the Air Force. AAC/NW is the Air Force executive agent for JNWPS and as such, staffs, coordinates, and approves publications for each JNWPS method and in accordance with Air Force directives to include compliance with all nuclear surety requirements and weapon system safety rules.

2.13.5. The AFMC organization responsible for program management reviews nuclear mishap reports pertaining to material or technical data deficiencies, takes corrective actions, when appropriate, and reports summary as required by AFI 91-204. AAC/NW reviews all nuclear mishap reports for nuclear surety impact and identifies any nuclear surety concerns to HQ AFSC/SEW and the applicable program management organization. AAC/NW will assist HQ AFSC/SEW and the program management organization in resolving any specific nuclear surety concern.

2.13.6. AAC/NW verifies Air Logistics Centers have a process and procedures in place to identify nuclear safety certified modifications and replacements.

2.13.7. AAC/NW will maintain an engineering liaison office with United States Air Forces in Europe (USAFE). The office is OL-ELO, Ramstein AB, GE.

2.16. Commanders at centers/wings must ensure individuals are properly trained before they work with nuclear weapons, nuclear weapon systems, or certified critical components; perform nuclear-related duties; or control entry no-lone zones.

2.16.1. Initial and annual training must include, as a minimum, topics reflected in the basic instruction, paragraph 2.16. Initial and annual nuclear surety training must be documented and maintained in the appropriate records.

2.16.2. Additional topics will include: PRP process, Intrinsic Radiation Program, Two-Person Concept, etc. Lesson plans and tests must be developed and tailored to the specific center/wing/unit's nuclear surety operations and activities.

2.16.3. Lesson plans, tests, etc., must be approved/disapproved by the wing/center WSM. A copy of the approved plans, tests, etc., must be sent to HQ AFMC/SEW.

2.17. The center/wing WSM may schedule, coordinate, or organize the Nuclear Surety Council as directed by center/wing commander.

2.17.1. Unit/squadron commanders, WSMs, etc., should be represented or members of the council, as they are usually the certifying official for PRP.

2.17.2. Unit/squadron commanders must develop and implement unit nuclear surety program.

2.18. HQ AFMC/SEW uses the USAF Nuclear Surety Plaque as an award for recognizing the deserving center/wing/unit for outstanding nuclear surety practices and accomplishments. Nomination procedures and selection criteria are established according to AFI 36-2833, *Safety Awards*. Center/wing/unit nominations are received at HQ AFMC/SEW, where a selection board reviews nominations, and recommendations are then provided to HQ AFSC and AF/SE for approval/disapproval.

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